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MONTHLY LABOR REVIEW

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Bureau of Labor Statistics
January 1986

In this issue:
State labor legislation in 1985

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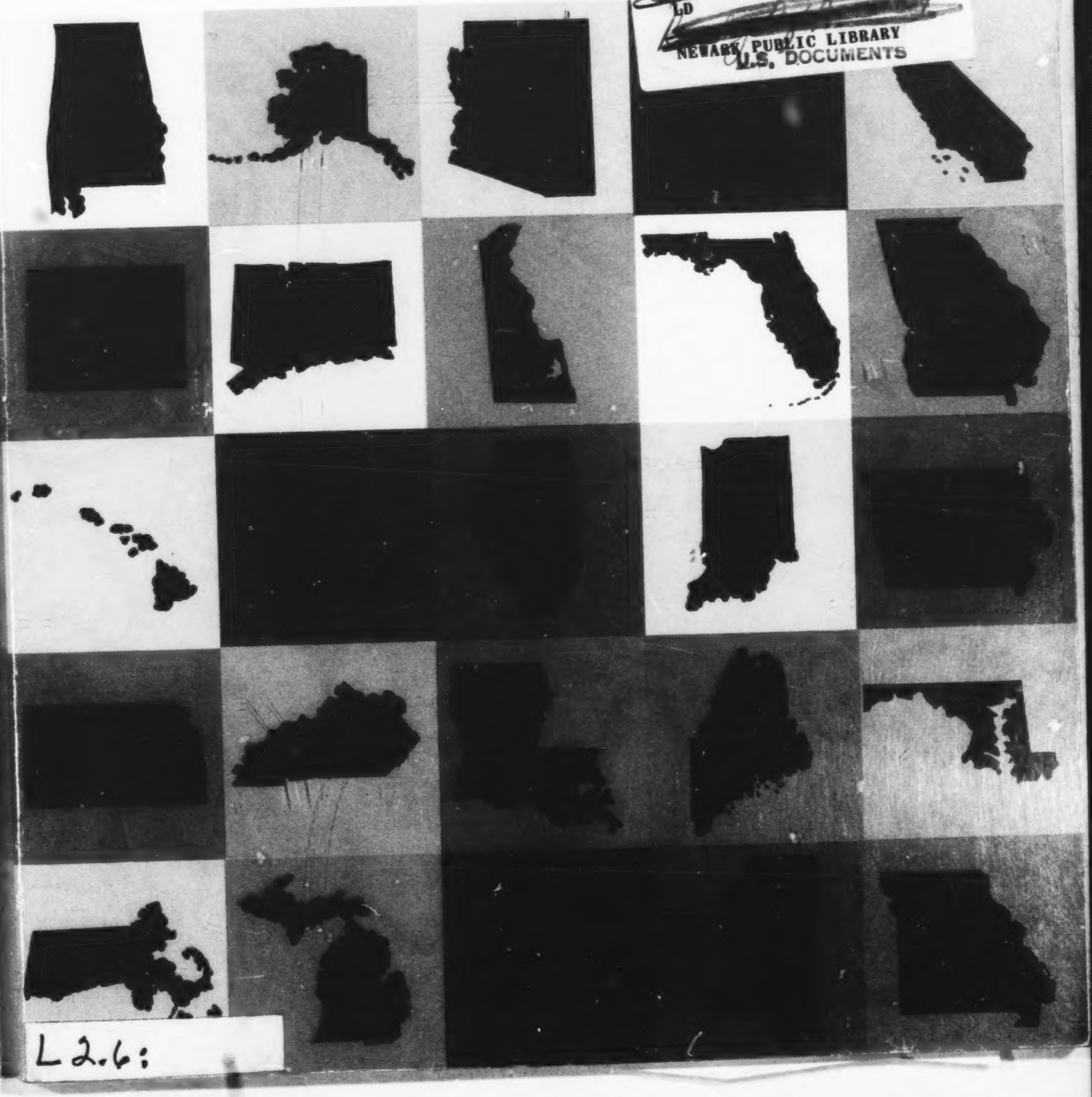

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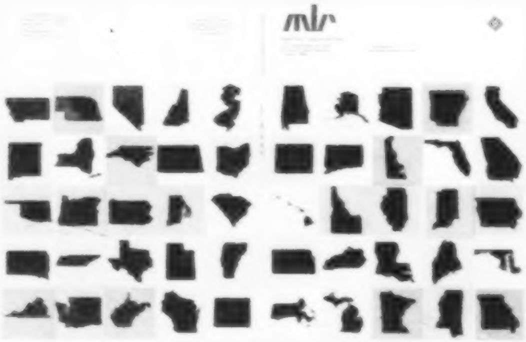

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MONTHLY LABOR REVIEW

JANUARY 1986
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Robert W. Fisher, Executive Editor

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Labor Month In Review

OCCUPATIONAL ILLNESS. Federal and State labor and health officials met in Albuquerque, NM, December 11 and 12, to explore ways of improving statistics on diseases related to the workplace. The symposium featured speakers with backgrounds in economics, statistics, epidemiology, medicine, public health, law, management, and labor. It was the first symposium of its kind for the Bureau of Labor Statistics, in which the National Center for Health Statistics (NCHS), Occupational Safety and Health Administration (OSHA), and the National Institute for Occupational Safety and Health (NIOSH) also participated. Some excerpts:

Toney Anaya, governor of New Mexico: "Occupational disease and death result in profound human suffering and depletion of economic resources and deserve the same attention given to other causes of death and illness." Anaya pointed to the particularly high risk of exposure which the proliferation of toxic and hazardous substances brought into the workplace after World War II. "Unfortunately, the greatest barrier to preventing occupational exposures is that the cause of illness or death most often is not even recognized, let alone reported."

Janet Norwood, Commissioner of Labor Statistics: "The Bureau's Annual Survey of Occupational Injuries and Illnesses provides comprehensive information on injuries and is useful in evaluating workplace safety, but the data do not adequately measure the health status of workers due to problems of detection, recognition, and causation. To improve measurement of occupational illness and disease, government will need the commitment and cooperation of workers, employers, physicians, insurance companies, and others involved."

Marcus Key, Professor of Epidemiology, University of Texas School of Public Health, outlined the history of occupational medicine, identifying development phases of occupational health in the United States, and describing the interaction of State labor and health departments with the Federal Government in these activities. He proposed that we apply what is already known in this area and begin with appropriate follow-up studies on certain diseases or exposures.

David Wegman, School of Public Health, University of California at Los Angeles, spoke on the recognition and diagnosis of occupational disease. He distinguished between "occupational" and "work-related" disease—the former more readily traceable to specific agents, the latter multifactorial in cause—and noted the importance of predisease medical screening and signs of biological changes for facilitating the recognition and diagnosis of occupational disease.

Edward Baker, Assistant Director of NIOSH, listed some criteria for guiding occupational health surveillance work and research. An important tool is the job-hazard matrix which might be used at the local level to facilitate the identification of occupational hazards and associated health risks.

Joseph DuBois, of OSHA's policy office spoke on three major data sources maintained by OSHA: exposure sampling information required for the regulatory process; compliance data gathered through 400 industrial hygiene inspections over the last 10 years; and data bases and sources maintained by OSHA's Technical Data Center. He urged researchers and analysts to utilize these data.

Manning Feinleib, Director of NCHS, presented an overview of the various surveys and statistical data bases of NCHS. Of particular interest to the symposium were the utility and scope of the National Health Interview Survey, the Health Examination Surveys, and the National Health and Nutrition Examination Surveys. Even more significant, NCHS, in conjunction with the Heart, Lung, and Blood Institute and the Bureau of the Census, is conducting a prospective cohort study of about 1 million persons responding to the Current Population Survey to obtain important information on worker mortality over time.

Proceedings of the symposium will be available later this year. Inquiries should be addressed to: OSHS, Bureau of Labor Statistics, Washington, D.C. 20212; telephone (202) 272-3467. ☐

Changes in Current Labor Statistics

This issue of the *Monthly Labor Review* introduces an expanded and revised Current Labor Statistics section.

Major changes include new tables of comparative labor force, price, wage, and productivity indicators (1-3); export and import price indexes (36-41); international comparisons (45-47); and occupational injury and illness data (48). The section omits some consumer and producer price detail which will continue to be published in the BLS periodicals *CPI Detailed Report* and *Producer Price Indexes.*

Data in the new Current Labor Statistics tables are drawn directly from the Bureau's LABSTAT data base, using two computer languages developed by BLS—Table Producing Language (TPL) and Print Control Language (PCL). The system for extracting the tables was developed by Victor Stotland and Steve Levenson of the Bureau's Office of Technology and Operations Review and Cynthia Mabry of the Office of Publications, with the participation of Gilbert Sturman, Chief of the Division of Production Services. Robert Fisher, Executive Editor of the *Review*, oversaw the project. BLS program offices, which manage the LABSTAT data base, cooperated closely.

Where data were not available for inclusion in the Current Labor Statistics section of this issue, hyphens (-) appear in the data cells. Future issues will include these data.

The editors invite comments and suggestions from users of the Current Labor Statistics section.

Labor and management continue to combat mutual problems in 1985

Competition, deregulation, and changes in products and consumer tastes were among problems facing bargainers; management demanded two-tier wages, lump-sum payments, and alternatives to traditional health plans, while labor focused on preserving jobs and aiding displaced workers

GEORGE RUBEN

Labor-management relations in 1985 were about the same as they have been since 1982. Wage settlements continued to be modest, because of management's pressure for restraint to aid in overcoming competitive problems. Union priorities focused on preserving jobs or aiding displaced workers. Continued moderate increases in consumer prices and employment enhanced the bargaining environment. Major collective bargaining settlements (involving 1,000 workers or more) reached in private industry during the first 9 months of the year provided for wage adjustments averaging 2.9 percent annually over the life of the contract, compared with 3.4 percent the last time the same parties negotiated, generally 2 to 3 years ago.[1]

The competitive problems that have caused the difficulties in some industries in recent years include increasing penetration of U.S. markets by foreign competitors, aided by lower production costs and the "strong dollar" that has hindered domestic firms' ability to sell abroad; intense competition among companies in the deregulated transportation industries; and changes in production and distribution methods, and in customer preferences. All of these foreign and domestic pressures forced employers to extend their cost control measures beyond wage restraint, as they closed marginal facilities, cut employment, and adopted new technology and processes.

At the bargaining table, labor and management continued to adopt "two-tier" compensation systems to limit labor cost increases. Such systems provide for permanent or temporary lowering of wages and/or benefits for new employees while maintaining or increasing compensation for workers already on the payroll. Despite unions' contention that the systems are not good for morale, two tiers are acceptable to current employees when the only other method of aiding an employer would be to cut or freeze compensation for all employees. Unions' concern about morale stems from the fact that employees will be compensated at different levels for the same work and because of the problems that could develop when the lower tier workers in a bargaining situation attain majority control.

In 1985, two-tier systems were adopted in major settlements covering 700,000 workers (already on the payroll), compared with 800,000 workers in 1984.[2] These totals are based on a definition of "two-tier" that includes both temporary and permanent systems. Some analysts would not include temporary systems because new employees do attain parity with current employees after a specified period. Of course, any system, whether temporary or "permanent," is subject to modification or elimination in a future settlement.

Another cost-saving approach that continued in 1985 was the adoption of lump-sum payments in lieu of specified wage increases. Typically, a 3-year contract with such a

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George Ruben is coeditor of *Current Wage Developments*, a monthly publication of the Bureau of Labor Statistics.

provision might provide for one specified wage increase and two lump-sum payments, or two specified wage increases and one lump-sum payment, at 1 year intervals. One cost savings to employers results because lump-sum payments may not be taken into account in calculating the level of certain benefits such as pensions.

During 1985, major settlements for at least 700,000 workers established lump-sum payments, compared with 800,000 in 1984.

The third approach to holding down cost increases is adoption of contract provisions intended to hold down employer costs for health insurance. Typical measures include offering alternatives to "traditional" plans, requiring second opinions before nonemergency surgery, monitoring hospital stays and procedures, and increasing employee deductibles and co-insurance payments. During 1985, such measures were adopted in major settlements for at least 400,000 workers, compared with at least 500,000 in 1984.

These and other solutions to the problems faced by the employers and unions that bargained in 1985 reflected attempts by the parties to accommodate each other's needs.

Automobiles

Profits at General Motors Corp., Ford Motor Co., and Chrysler Corp. continued at high levels during the first 9 months of the year, but these companies and the other domestic vehicle producers continued to operate under a variety of economic forces that precluded any clear projection of their eventual role in the increasingly internationalized industry. Some important developments in 1985 included continuation of the Japanese producers' voluntary limit on exports to the United States, but at a higher level; some shifting of their sales emphasis from small, low profit vehicles to the larger, higher profit vehicles that had been the province of U.S. producers; expansion of the Japanese presence in the U.S. both in vehicle and parts production; a growing number of joint ventures between domestic and foreign producers, using facilities located here or abroad; and the movement of new nations into the U.S. market. From the viewpoint of the United Auto Workers, the dominant union in domestic automobile manufacturing, some of these events raised the possibility of further erosion of membership, while others offered opportunities for joining U.S. manufacturers in attempts to cut the share of the market held by foreign firms, and organizing their employees in the United States.

Chrysler agreement. The largest settlement in the industry, involving 70,000 workers, was at Chrysler Corp., where the UAW negotiated a return to compensation parity with GM and Ford. However, the new Chrysler agreement will expire in September 1988, a year after the Ford and GM agreements, raising the possibility of future divergences on wages and benefits. From the 1950's until 1979 when Chrysler and the UAW negotiated the first of several concessionary contracts to relieve the company's financial difficulties, the three companies had common contract expiration dates and virtually identical wage and benefit provisions. The company negotiator said the differing expiration was vital because it will enable Chrysler—a considerably smaller company with a narrower product line—to tailor contracts to its own needs.

The Chrysler workers' determination to regain parity was impelled by Chrysler's return to profitability that began in 1983. At that time, the workers negotiated a narrowing of the disparity. In 1984, Chrysler earned a record $2.4 billion profit, followed by $1.42 billion in the first 9 months of 1985.

The 1985 settlement, which ended a 2-week strike, provided for an average 2.25-percent immediate wage increase, an October 1986 lump-sum payment equal to 2.25 percent of each employee's earnings during the preceding 12 months, and a 3-percent pay increase in September 1987. A union official said the 3-percent increase was important because, "it becomes the pattern for the first year" of the contracts to be negotiated at Ford and GM in 1987.

The provision for automatic quarterly cost-of-living pay adjustments was revised to match that at GM and Ford—1 cent an hour for each 0.26-point movement in the BLS Consumer Price Index for Urban Wage Earners and Clerical Workers (1967 = 100), subject to a 24-cent diversion from the allowance over the contract term to help offset benefit cost increases.

In a partial return of the compensation concessions of 1979–82, Chrysler agreed to immediate payments of $2,120 to employees, $1,000 to retirees, and $600 to surviving spouses.

The workers, who had given up a profit-sharing plan in 1983 (before any payouts) in exchange for increases in hourly pay, will receive $500 payments in each of the first 2 years in lieu of profit-sharing distributions. As part of their 1988 bargaining on a new contract, the parties will establish a profit-sharing plan that will assure a first-year payment of at least $500. In a change that was technically not part of the contract, Chrysler agreed to give the employees immediate access to the 183.8 shares of company stock they had been credited with in 1982 in return for their compensation concessions. The shares, valued at $6,900 at the time of the 1985 settlement, previously were available to employees only when they retired or quit their jobs.

Other terms included:

- A lengthening of the pay progression schedule for new employees, matching the changes negotiated at GM and Ford.
- A $187 million Chrysler obligation to a new Job Security Program similar to that at the other companies.
- Further discussions on Chrysler's demand for a reduction in the number of job classifications, which the company contended was vital to increasing productivity.

- Immediate increases in pensions to the GM-Ford level, with a provision that Chrysler workers will also automatically gain any pension improvements scheduled for the first year of the 1987 Ford and GM contracts.

GM's Saturn project. GM announced it would proceed with its Saturn project, a $3.5 billion attempt to eliminate the cost advantages of foreign small car producers. The new, wholly owned production subsidiary, to be located in Spring Hill, TN, will feature state-of-the-art manufacturing methods and a variety of changes in labor-management relations probably never before achieved in one contract.

The initial accord between Saturn and the UAW, which does not have a set expiration date, but can be amended or terminated at any time, provides for:

- Permanent job security for at least 80 percent of the employees, with the other employees subject to layoff only under "catastrophic" conditions to be jointly defined by the company and unions.
- A cooperative work structure comprising work unit members (individuals), work units (integrated groups of about 6 to 15 members), several intermediate joint bodies and, at the top, a joint Strategic Advisory Committee responsible for long-range planning.
- Annual salaries for production workers, rather than the usual payment by the hour. During the period ending 1 year after production of the first for-sale vehicle, annual salaries will be equivalent to $13.45 an hour for operating technicians and $15.49 for skilled technicians. During this period, workers also will receive quarterly payments reflecting compensation changes for UAW-represented workers at other GM plants. Thereafter, annual salaries will be calculated according to an hourly rate equal to 80 percent of the average of five domestic producers. The resulting salaries, which will be subject to periodic adjustment by the Strategic Advisory Committee, will be supplemented by a reward system under which members can earn more or less than comparable GM employees, depending on such factors as the attainment of individual and group production objectives and the profits available for distribution.
- Establishment of a single job classification for production workers and three to five classifications for skilled workers.
- Elimination of time clocks and separate cafeteria and parking facilities for manufacturing and office workers.

GM-Toyota joint venture. In California, New United Motor Manufacturing, Inc., and the UAW negotiated an initial contract for 1,200 workers. New United is a joint venture of GM and Toyota Motor Corp., using Toyota methods to produce vehicles for sale by both corporations. This agreement, like the Saturn agreement, calls for increased cooperation between management and the UAW. One provision cited as "unprecedented" by the union, requires New United to take "affirmative action," including reducing salaries of officers and management employees and returning to the bargaining unit any work that had been contracted out, before laying off UAW-represented employees. Other terms included: wage rates of $13.28 for assemblers and $15.95 for top-rated skilled workers, slightly higher than at GM and Ford; cost-of-living pay adjustment and benefit provisions similar to Ford and GM employees; a 30-minute paid lunch period, unique to the industry; joint committees to resolve problems resulting from employee inability to meet output standards, to implement a comprehensive health care program, and to investigate the circumstances of potential discharges or suspensions of workers; and seniority as the determining factor in transfer and reassignments, if other factors are equal.

American Motors. Unlike the other U.S. producers, Amercian Motors Corp. was still suffering from a sales slowdown in 1985, losing $118.5 million during the first 9 months and holding only 2 percent of the market. Under these conditions, and a company threat to close its Milwaukee and Kenosha, WI, plants, the 8,000 Auto Workers agreed to cut compensation to the level of GM and Ford. In return, American Motors agreed to keep the plants open for the remaining life of its only two car models, the subcompact Encore and Alliance. The company, which is 46 percent owned by the Renault automobile firm of France, indicated that further concessions will be needed if it begins producing the larger cars that have become more popular in the wake of stabilized fuel prices.

The concessions included pay cuts averaging 60 cents an hour, reductions in paid vacations, decreases in the number of company-paid union stewards, and changes in work rules. AMC did agree to a Job Security Program similar to those negotiated at Ford and GM in 1984, and to three lump-sum payments during the 3-year agreement.

Earlier in 1985, AMC and the UAW negotiated a contract for the company's profitable Jeep production plant in Toledo, OH, that was similar to the Ford and GM contracts. (See *Monthly Labor Review*, December 1984, pp. 46–49.)

Mazda to open plant in U.S. In a settlement with Mazda Motor Co., the UAW agreed to compensation levels lower than in the Ford and GM contracts to induce Mazda to locate some production in the United States, rather than continuing to produce all its vehicles in Japan. The new plant, in Flat Rock, MI, is expected to have an advantage of about $6 an hour when it opens in 1987. A union official said the concession was granted "to keep jobs for our people." The plant is expected to produce 240,000 cars a year.

Transportation

In 1985, there were contract settlements in three major transportation industries: trucking and airlines—which shared problems resulting from deregulation—and railroads, which had their own problems, including outmoded equipment and facilities, competition from trucking, and some work rules that originated in the days of steam locomotives.

Airlines. As 1984 closed, so did the Civil Aeronautics Board, which until recently had regulated airline route allocations, fares, and other aspects of the industry. The closing was mandated by the Airline Deregulation Act of 1978, which did provide for the Department of Transportation to continue limited activities, such as negotiating international matters with foreign nations.

As a result of the deregulation, the industry has been going through a period of adjustment, including the entry of new firms, mergers, cutbacks in employment, and some heated collective bargaining over employer calls for concessionary settlements to aid their financial condition.

In collective bargaining settlements during the year—

- United Airlines, the Nation's largest air carrier, and the Air Line Pilots agreed on a 4-year contract, ending a 29-day strike. The contract provided for a two-tier pay system under which new employees would receive 40 percent less than pay levels in the old agreeement. The system will run for 5 years and then be subject to binding arbitration if the parties are unable to agree on its continuance or modification. All pilots will receive a 9.5-percent pay increase over the term.
- American Airlines and the Allied Pilots Association agreed on a pay adjustment to narrow the differential between new and incumbent employees resulting from a two-tier system adopted in 1983. In addition, 4,500 pilots—new and incumbent—received a 4-percent increase to bring them up to the level of American's major competitors. In the settlement, negotiated under a reopening provision, the pilots agreed to work overtime in certain months, if necessary. Previously, the pilots could not fly more than 75 hours in a month, which had forced American to cut flights in two recent months because the pilots had used up their flying time.
- American Airlines and the Transport Workers negotiated a 3½-year agreement that provided for $500 lump-sum payments on September 1, 1985, and March 1, 1986; a $1,000 payment on March 1, 1987; a 5-percent wage increase on March 5, 1988, and a 9-year progression schedule for workers hired during the prior contract (the schedule remained at 12 years for workers hired during the 1985 contract term). The accord covered 12,500 mechanics and other ground service employees.
- Pan American World Airways and the Air Line Pilots agreed on a 32-month contract that provided for wage increases totaling about 25 percent.
- Pan Am and the Transport Workers settled for 6,000 ground-service workers, ending a 27-day strike. Wages were increased about 20 percent, including a 14.5-percent increase scheduled for 1982 that was deferred to aid the company. Employees also received one-time bonuses of $1,000 or $600, the pay progression schedule was stretched to 7 years (from 3 or 4) for new employees, job assignments were broadened, and Pan Am was permitted to hire more part-time employees.
- Pan Am and the Independent Flight Attendants agreed on a 3-year contract that provided for wage increases totaling about 21.5 percent, including a 12-percent pay increase scheduled under prior contracts but deferred to aid the company. The accord, covering 5,700 employees, also established lower pay rates for new employees.

Elsewhere in the industry, the Air Line Pilots' 2-year-old strike against Continental Airlines ended on October 31 by order of a U.S. bankruptcy judge. The order came after 2 weeks of discussions in which representatives of the airline and the union agreed on seniority protection for strikers who return to work at Continental and severance pay for those who do not.

The strike began when Continental, after declaring bankruptcy, resumed operations, cut pay about 40 percent and hired new employees. The Machinists union and the Union of Flight Attendants, Local 1, also participated in the walkout but returned to work under Continental terms in April. A union official said one reason for the return was that "financially our members could not deal with it any longer." The mechanics and related employees received $70 a week strike pay from their union and the flight attendants received nothing from theirs, and the pilots received $2,400 a month.

In September, Continental filed a plan for emerging from bankruptcy protection, after earning $50.3 million in 1984 and $50.4 million in the first half of 1985.

In apparent reaction to its experience in the United Airlines and Continental Airlines strikes, the Air Line Pilots Association announced plans to build a $100 million "war chest" to repel employer attacks on the wages and benefits of its members. The fund, to be used for such purposes as strike benefits to the union's members and loans and grants to other supporting unions, will be accumulated by increasing dues to 2.35 percent of income, from 1.35 percent.

Trucking. The trucking companies and the Teamsters union negotiated under the same conditions as in the 1982 talks: continuing business and job terminations resulting from the influx of thousands of firms into the industry since the 1980 deregulation. Generally, the entering firms are nonunion and have lower operating costs than members of Trucking Management, Inc., and other employer associations that bargain with the Teamsters. The organized industry's problems are illustrated by the fact that Trucking Management, Inc. had 487 member companies in 1979, 286 in 1982, and only 35 in 1985. (Part of the drop resulted from some companies' decision to join other associations or bargain independently with the union.)

The April settlement, ratified by a 62,296 to 54,873 vote, addressed members' concern over the growing number of some companies' decision to join other associations or bargain independently with the union.)

The April settlement, ratified by a 62,296 to 54,873 vote, addressed members' concern over the growing number of unionized firms opening nonunion trucking subsidiaries. The new job security provisions provide that—

- Employers may not divert work performed by Teamsters to any other corporate entity or operation controlled by the employer or the employer's parent company.
- Employers may not farm out dock work except as allowed by past practice.
- When employer business expansions include terminals adjoining theirs, all employees working at the new terminal will automatically be covered by the union's National Master Freight Agreement. If the added terminal is not adjacent, the employees will be covered by the agreement only if a majority sign cards authorizing Teamsters representation.
- Grievances over application of job security provisions will be processed under an accelerated procedure.

In the economic area, the 3-year contract provided for an April wage increase of 50 cent an hour which included 31 cents which would have been payable if the settlement had provided for a cost-of-living adjustment based on the formula in the preceding agreement, which expired on March 31. Similarly, there will be 50-cent wage increases on April 1 of 1986 and 1987 each including 31 cents designated as a cost-of-living adjustment, but not actually contingent on the movement of the Consumer Price Index. (Equivalent increases applied to over-the-road drivers, who are paid on a mileage basis.) Under the 1982 contract, the employees did not receive a specified pay increase, and all but 47 cents of the $1.40 in automatic annual cost-of-living adjustments (based on the movement of the CPI) was diverted to help employers defray the cost of maintaining pension and health and welfare benefits.

New employees are to be paid 70 percent of the top rate for their job and progress to the top rate in three equal annual steps over a 3-year period. Opponents of the settlement called this a two-tier pay system that shortchanged new employees and could have a divisive effect on morale. The union contended that it was not a true two-tier system because the lower pay is not permanent.

The pay rate for all casual employees was reduced to $11 an hour immediately (from $13.21); it will rise to $11.50 on April 1, 1986, and to $12 on April 1, 1987. As before, they will not receive benefits.

Later in the year, 20,000 drivers of automobile-hauling trucks ratified a 3-year contract, ending a 19-day strike. Terms for these drivers also represented by the Teamsters, included $1.80 an hour in specified wage increases; continuation of the provision for automatic annual cost-of-living adjustments, but payable only to the extent that a calculated adjustment exceeds 70 cents; and increased local union control over whether employers should be granted reduced pay rates on "back hauls"—instances in which drivers deliver a load of vehicles to a destination and are able to obtain a load of vehicles for the return trip.

Railroads. Bargaining in the railroad industry seemed to be more drawn-out than usual, as talks that began early in 1984 appeared likely to extend into 1986 for some of the 12 unions. The unhurried pace of negotiations in the industry results from the Railway Labor Act assurance of retroactivity of economic terms to the date specified in bargaining notices served by unions and management. The first settlement in 1985 was between the United Transportation Union and the National Railway Labor Conference for 90,000 operating employees. Based on past practice, relevant provisions of the agreement would serve as a pattern for the other unions.

The agreement, negotiated and ratified in October, resolved a major issue by providing that the 6,000 firemen and 2,000 hostlers (railyard train operators) would be phased out through attrition. This approach followed the recommendations of an emergency board appointed by President Reagan to study the issue. In June, the union and the Conference had negotiated wage and benefit contract changes, and a provision for further bargaining on the firemen-hostlers phaseout issue, subject to binding arbitration if they could not reach agreement. The firemen and hostlers rejected this accord, apparently because of incorrect reports that their jobs would be eliminated by November 1, 1985. As a result, terms for all 90,000 workers were rejected because union procedures require that settlements be approved by all eight operating crafts in the union.

Rail management had been seeking elimination of firemen's jobs for a number of years, contending that they have no useful function. During the days of steam locomotives, which ended about 25 years ago, the firemen shoveled coal into the boiler.

Other terms, which were essentially identical in the rejected and approved agreements, included—

- A six-stage total wage increase of about 10.5 percent (an average of about $1.37 an hour), beginning with a 1-percent increase on November 1, 1985, and ending with a 2.25-percent increase on January 1, 1988.
- A $565 lump-sum payment in lieu of making the initial wage increase retroactive to the July 1, 1984, effective date specified in the contract amendment notices.
- Continuation of the provision for automatic cost-of-living pay adjustments, payable only to the extent that the calculated amounts exceed the specified wage increases effective on the same dates, and also subject to maximum limits.
- An 8-percent increase in the distances crew members must travel during a work shift to qualify for a basic unit of pay, with pay calculations to be based on presettlement

rates, rather than reflecting the 10.5-percent negotiated raise. (Management had pressed for larger increases in qualifying distance, contending that the original requirements set during the days of slower steam locomotives, now resulted in excessive earnings for some employees.)

- A 5-year pay progression schedule for new employees, compared with the previous 1-year schedule.
- Elimination of cabooses on certain types of freight trains.

Elsewhere in the railroad industry, Conrail and the various unions negotiated a 12.5-percent pay increase retroactive to July 1, 1984. This partly restored the earnings the employees gave up in 1981 when they agreed to an immediate 12.5-percent pay cut. Meanwhile, the U.S. Department of Transportation continues efforts to sell its 85 percent share of Conrail. (The remaining 15 percent was distributed to the employees when they agreed to wage concessions.)

Electrical equipment

Preserving jobs was the major issue in negotiations between a coalition of unions and the General Electric Co. and Westinghouse Electric Corp. According to the unions, since the 1982 settlement their membership had dropped to 80,000, from 100,000, at GE and to 34,000, from 41,000, at Westinghouse. Much of the reduction occurred because of the termination of some types of products, such as lamps (at both companies) and consumer appliances (at Westinghouse).

The lead-off GE settlement, which came at the June 30 expiration of the 1982 contracts, contained several provisions intended to preserve jobs and incomes of workers affected by production cutbacks. The contract called for:

- Increasing recall rights to 5 years for workers laid off after 1 year of service (previously, recall rights ranged from 1 year for employees with 1 to 2 years of service to 5 years for those with 5 or more years).
- Extending coverage of the recall program to employees laid off as much as 6 months prior to announcement of a plant closing.
- Extending laid-off workers' transfer rights to any of up to three GE plants within 250 miles of the plant where the layoff occurred.
- Increasing the pay-rate guarantee to 39 weeks, from 26, for workers transferred to lower rated jobs as a result of layoffs.
- Revising the pension plan to extend benefit eligibility to more employees hit by cutbacks and to raise the benefits. ("Normal" pensions also were increased.)
- Instituting an agency shop provision requiring all present and future employees to join the union or pay the union an amount equal to the union dues. This means that an additional 3,000 to 4,000 workers at GE will pay for union services.

Other provisions of the 3-year contracts included an immediate lump-sum payment and a type of two-tier system under which new employees will have to wait 8 months longer to attain the maximum pay rate for their job (the lump-sum payment was equal to 3 percent of the employee's hourly pay rate multiplied by 2,080, the number of hours the workers were expected to be compensated for in the first contract year), 3-percent specified wage increases in the second and third years and revision of the cost-of-living pay formula in the third year to provide for semiannual adjustments calculated at 1 cent an hour for each 0.15-percent rise in the BLS Consumer Price Index for Urban Wage Earners and Clerical workers (the existing formula of 1 cent for each 0.175-percent movement in the index continued during the first 2 years), and improved benefits, such as normal pensions and health insurance modified to provide for precertification of hospital admission, reviews to determine the appropriate length of stay and the level of care, and requirements that patients obtain second opinions prior to certain surgical procedures.

The terms of the settlement at Westinghouse in late July were essentially identical to those at GE.

Farm and construction equipment

Domestic farm and construction equipment producers and their employees continued to experience difficulties during the year, resulting from the growing internationalization of production and sales and world-wide production overcapacity, particularly in view of the continuing slump in the U.S. farm economy. The fact that only International Harvester bargained in 1985 was indicative of the breakup of pattern bargaining in the farm and construction equipment industry, as management and the UAW attempt to deal with the varying difficulties afflicting the companies. Management attempted to cope with difficulties in the industry in several ways:

- Caterpillar Tractor Co., the world's largest producer of construction equipment now facing a growing challenge from Komatsu Ltd. of Japan, continued an austerity program that by yearend was expected to reduce its salaried work force by 20 percent, or 6,200 employees, from the 1982 level and its hourly work force by 34 percent, or 18,000 employees. The company also adopted a new method for determining pension liabilities, resulting in a second quarter expenditure $26 million lower than for the second quarter of 1984.
- Allis-Chalmers Corp., also operating at a loss, closed two plants and sold its remaining farm equipment business to a subsidiary of Klookmen-Humboldt-Deutz AG of West Germany.
- International Harvester Co., the only major farm equipment company to bargain in 1985, settled with the Auto Workers on terms that continued even after the business was sold to Tenneco Inc.'s J.I. Case Co. unit. The 3-year accord restored some of the concessions the workers had accepted in 1982. Under a new Job Content Protection Program featured in the contract, if straight-time hours

worked by UAW members in a product line decline from one 6-month period to the next, the company must reduce overtime hours; cut contracting out of work that had previously been performed by UAW-represented workers; or compensate workers in training and retaining programs at regular straight-time rates.

After Case purchased the Harvester plants, it negotiated changes in contract terms with the UAW to attain uniformity with other Case plants already under UAW contracts.

Rubber

Bargaining between the major rubber companies and the United Rubber Workers was calm and conciliatory, and resulted in wage and benefit gains for the 36,000 workers. A major reason for the ready attainment of settlements was that the companies were operating at a profit, in contrast to the 1982 bargaining round when the industry was in a severe sales slump.

The bargaining on national wage and benefit provisions formally began in March, but there was an important earlier development: In December 1984, Uniroyal, Inc., and the Rubber Workers negotiated a comprehensive cost-containment health care plan to accompany the parties 1985 settlement on wages and other benefits. Costs of the existing health care plans, financed by the companies, reportedly ranged from $2.25 to $2.75 an hour and were rising 8 to 10 percent a year.

Health care cost containment was to be accomplished at Uniroyal by such measures as requiring: "precertification" review for nonemergency hospital confinements; second surgical opinions for certain operations; outpatient x-ray and laboratory tests for nonemergency surgery; and filling of most prescriptions through a mail order drug service.

There were some variations in the cost-containment approaches at the other companies. For example, at Goodyear Tire and Rubber Co., workers can choose either a comprehensive medical plan that includes a savings program or a "medical" necessity program featuring no deductibles or employee co-payments. Goodyear also established a wellness program," featuring periodic health examinations, automobile seat belt usage campaigns, smoking cessation clinics, and stress reduction assistance.

As for wages, the agreements provided for specified increases totaling 43 cents an hour and for continuation of the provision for automatic quarterly cost-of-living adjustments. Benefit changes included a $3.50 increase, to $20, in the pension rate for each year of service.

For the third consecutive bargaining round, B.F. Goodrich Co. settled first on overall terms, followed by Goodyear, Firestone Tire and Rubber Co., and Uniroyal.

At the local level, there were layoffs and plant closings as the companies continued their efforts to increase their 90 percent plant utilization rate. In line with this, employees of Goodrich's Tuscaloosa, AL, plant agreed to a 7-day-a-week operation of the plant. Under such utilization plans, which now apply to 44 of 51 tire plants in the industry, employees' schedules are rearranged so that the plant can be operated on weekends at straight-time pay rates. The change also results in an increase in the number of employees.

The Rubber Workers union was unsuccessful in a National Labor Relations Board representation election at Firestone's only nonunion tire plant, in Wilson, NC. Out of 1,207 employees eligible to participate, 824 voted for "no union" and 311 voted for the union. Managers of the 11-year-old plant did not actively oppose the union because a provision of the Rubber Workers-Firestone master contract requires company neutrality during organizing campaigns.

Textiles, apparel

These related industries continued to suffer from the same problems: increasing imports, leading to cutbacks in domestic production and employment. According to the Department of Commerce, 250,000 domestic textile and apparel jobs have been lost during the 10 years ending in 1984, while the annual value of imported clothing and textiles grew from $3.8 billion to $18 billion.

Noting the condition of the apparel industry, Ladies Garment Workers' President Sol Chaikin described their settlement for 100,000 women's outerwear workers, "as comparatively the best agreement we've signed for many, many contracts." The 3-year agreement, negotiated in May, deferred the initial 6-percent pay increase to June 1986, to be followed by a 5-percent increase in June 1987. The provision for automatic cost-of-living pay reviews (which had not triggered any adjustments during the 3-year term of the 1982 agreement) was continued and employer financing of benefits was increased by 1 percent of payroll. The 1982 contract had provided for a total of $1.10 an hour in specified pay increases, bringing average pay to $6 - $6.50, according to the union.

In the men's and boys' clothing industry, the Clothing and Textile Workers settled for 100,000 shirt, cotton garment and pants workers. The 3-year accord provided for a lump-sum payment of $500 in September 1985, followed by a payment in November 1987 equal to 6.5 percent of individual employee's basic earnings during the preceding 12 months. Other provisions included a 25-cent-an-hour wage increase, an 11th paid holiday, and a requirement that employers give adequate notice of plant closings, or be subject to damage awards set by arbitrators.

Lum-sum payments in lieu of specified pay increases also were a feature of the Clothing and Textile Workers settlement for 56,000 workers in the men's and boys' tailored clothing industry. The 3-year contract with the Clothing Manufacturers Association provided for payments of $500 in December 1985 and $600 a year later. In addition to an 11th paid holiday and increases in pensions, the contract also provided for establishment of a committee of management, union, and community leaders to study competitive conditions, structural changes, and other developments in the industry.

In the southern textile industry, the Clothing and Textile Workers Union had mixed results. The union settled with J. P. Stevens & Co. for the second time since 1980, when the parties ended their long battle over the union's organizing campaign. However, since the 1980 peace treaty, the union has not been able to expand the number of Stevens employees it represents. The Clothing and Textile Workers also suffered a 1985 setback at Cannon Mills Co., where 5,982 employees voted no to union representation, and 3,530 voted yes.

According to the Clothing and Textile Union, its settlement with nine J. P. Stevens plants in Eastern North Carolina did not provide for any increase in the $6.80 hourly average pay because the union was more interested in protecting job security. (Several weeks after the settlement, Stevens sold its bath and bedding operations—about 80 percent of its assets—to Fieldcrest Mills to "reduce the exposure" of the company to cheap imports.) The job security provisions included extended recall rights after layoffs, increased severance pay, improved training programs, and a requirement that the company give more notice of the sale or closing of plants. There also were improvements in medical benefits and paid vacations.

Elsewhere in the industry, the closing of the Nation's largest rayon mill in Front Royal, VA, was averted when 1,500 employees of Avtex Fibers agreed to a reduction in labor costs. The $1-an-hour cut in pay and reductions in paid vacations and possible automatic cost-of-living adjustments makes the plant "very, very competitive," according to the company president. Avtex guaranteed that the decrease in compensation would be repaid to the employees, with interest, even if the plant is closed or sold.

Steel

Despite the generally favorable state of the economy, the steel industry remained in a recession as a result of worldwide overcapacity, leading to widespread price cutting. This led to bankruptcy filings at Wheeling-Pittsburgh Steel Corp. and other companies; plant closings and cutbacks; concessionary settlements by workers at some plants; layoffs and compensation cuts for nonunion employees; and a termination of the industry's coordinated approach to collective bargaining that has prevailed since 1956.

The decision to terminate joint bargaining with the United Steelworkers was made by the five remaining Coordinating Committee Steel companies—U.S. Steel Corp., Bethlehem Steel Corp., LTV Steel Co., Armco Inc., and Inland Steel Corp. When the unified approach was initiated, there were 12 companies in the employer association; but the number dwindled over the years as a result of withdrawals and mergers. J. Bruce Johnston, U.S. Steel vice president and chairman of the association, said the action reflected "the unprecedented change in the American steel marketplace," including inroads by foreign semi-finished steel, and other types, that is often subsidized by governments, joint ventures between domestic and foreign producers, and financial losses by member companies. He maintained that the United Steelworkers abandonment of pattern bargaining had resulted in less costly settlements at some companies that placed the coordinating companies at a cost disadvantage.

Steelworkers' President Lynn Williams declined to discuss the union's future bargaining strategy. He did say that the union would not permit concessions resulting from its continuing negotiations with financially beleaguered Wheeling-Pittsburgh Steel Corp. to serve as a pattern for 1986 settlements with other companies.

A series of events in the crisis at Wheeling-Pittsburgh began when the company initiated unsuccessful labor cost reduction negotiations with the union, declared bankruptcy and then abrogated the existing contract; was then hit by the first major strike in the industry since the 116-day stoppage that began in 1959 and finally negotiated a concessionary contract with union.

When the negotiations began in late 1984, the workers rejected Wheeling-Pittsburgh's offer of shares of company stock in return for canceling the scheduled restoration of wage and benefit cuts negotiated early in 1983. (In a 1982 settlement, the workers had accepted stock in return for cuts in compensation.) Negotiations then continued intermittently, without progress. Finally, in April, the company filed for protection from creditors under Chapter 11 of the Federal Bankruptcy Code, which gives a company the opportunity to reorganize and return to profitability. The bankruptcy filing, which was the largest in the history of the industry, was the first application of 1984 amendments to the Code that were expected to make it more difficult for employers to void labor contracts as part of a recovery plan. In part, the amendments specify that a company may only propose "necessary modifications" to a contract that are "necessary to assure that all creditors, the debtors and other affected parties are treated fairly and equitably." The law also says that the bankruptcy court may allow the employer to abrogate the contract if it finds that the union rejected compensation concessions "without good cause."

A bankruptcy judge authorized Wheeling-Pittsburgh to end the labor contract, explaining, "The court is not unmindful that rejection will entail short-term sacrifices on the part of the employees but, in the long run, they will benefit by a successful reorganization and a stable wage rate."

Immediately afterward, the company informed the Steelworkers that it was reducing the $21.40 an hour wage and benefit level to $17.50. (Reportedly, the industry average ranges from $23 to $24 an hour.) The union responded with a strike that began in late July and continued to mid-October, when the parties settled. Settlement terms included $18 an hour in wages and benefits, including $1.05 for a new supplemental pension plan; a possible pay increase of up to $1 an hour, calculated at 20 cents for each 1-percent rise in the company's steel price; reopening of negotiations if the company emerges from Chapter 11 status; reduced life and medical insurance; and putting two union representatives (one with voting rights) on Wheeling-Pittsburgh's board of directors.

The company's 11 creditor banks, which had been pressing for a $16.65 an hour average compensation level accepted the $18 level after the company agreed to a $12 million limit on severance payments to workers to be terminated as a result of the closing of the blast furnaces and basic oxygen furnace at the Monessen, PA, plant.

At the end of October, Wheeling-Pittsburgh officially terminated its pension plan, which had been costing the company $2.33 an hour for each employee. As a result of the termination, the Federal Pension Benefit Guaranty Corp. will have to assume the plan's $125 million in unfunded liability. If the Federal District Court decides that the takeover should be effective on or after the April 16 bankruptcy filing, the Pension Benefit Guaranty Corp. can, under the law, claim 30 percent of the company's assets. If it is effective on April 15, as Wheeling-Pittsburgh requested, the Pension Benefit Guaranty Corp. would be one of a number of unsecured creditors. At any rate, workers covered by the plan would receive a smaller pension than they would have if the plan had not been terminated. The supplemental pension plan referred to earlier is designed to make up the difference.

Other significant settlements

Aerospace. Although bargaining was light in the aerospace industry, a settlement between General Dynamics Corp.'s Pomona, CA, plant and the Machinists was notable because it eliminated a two-tier pay system. This could influence the results of the general round of bargaining scheduled to begin late in 1986.

Where two-tier systems have been established in aerospace and other industries, unions have accepted them only because they were viewed as less undesirable than a cut in compensation for both current and future employees. Unions generally oppose such systems because of the possibility of friction between employees receiving different rates of compensation for performing the same duties.

The settlement at General Dynamics operations also eliminated a system adopted in 1982 under which all employees (new and current) in lower pay grades received smaller cost-of-living pay adjustments than those in higher pay grades. In addition to holding down the company's labor cost increases, this variation in cost-of-living adjustments was intended to relieve the compression of the percentage pay differential between lower and upper pay grades that had developed over the years as a result of giving all workers the same pay increases.

Shipbuilding. Although a few of the Nation's 92 shipyards had substantial backlogs of Navy work, the overall condition of the industry could only be viewed as bleak as the other yards competed for a decreasing amount of work. Since 1981, when the Federal Government ended its $300 million a year subsidization of commercial shipbuilding, only five large vessels have been completed in the United States. The most successful foreign competitors are Japan and South Korea, which control more than half the world's ship production. Reportedly, these two nations can produce an oceangoing vessel at one-third the cost and in half the time of U.S. yards.

The predictable impact on domestic yards, which has been under way for several years, included shutdowns, several layoffs, bankruptcies, and employer demands for employee compensation concessions to aid in competing for the limited work.

An important contract in 1985 was a concessionary settlement by employees of the Bath Iron Works Corp. that ended a 99-day strike at three shipyards in Maine. Bath said the concessions were vital because it had gone below its labor costs in calculating its winning bid on a naval contract, based on its understanding that the members of the Marine and Shipbuilding Workers would later agree to lower compensation.

The 3-year accord provided for a wage freeze; three lump-sum payments totaling $2,000; $200 payments for each 6 months of perfect attendance; and adoption of a two-tier pay system under which new employees will move to the top rate for their job in three $1 an hour steps over 3 years, instead of a single 50-cent step after 35 working days. Elsewhere in the industry—

- General Dynamics Corp. announced that it will close its 101-year-old Quincy, MA, yard in 1986, with a loss of 4,200 jobs. The company said the action was necessary because it had run out of production contracts. General Dynamics pledged $10 million for aiding the workers, who are represented by the Marine and Shipbuilding Workers.
- On the West coast, concession negotiations involved about 10,000 workers in several States, but there were only a few instances where concessions were actually implemented. At Northwest Marine Iron Works and Dillingham Ship Repair in Portland, OR, a Metal Trades Council accepted 26-percent pay cuts and reductions in night and weekend premiums that will apply only in bidding on specific naval contracts. About 700 workers were involved.
- Tacoma Boatbuilding Co. of Tacoma, WA, filed for protection from creditors under Chapter 11 of the Bankruptcy Code and said its labor costs must be cut at least $3 an hour "to have a realistic opportunity of achieving a successful reorganization." At the time of filing, in September, the company had 800 employees down from 1,850 earlier in the year, including 600 represented by unions.

Dockworkers. The International Longshoremen's Association and the New York Shipping Association negotiated an agreement to improve the competitive position of the Port of New York and New Jersey by reducing the amount shippers must pay into the local union's benefit fund for each ton of containerized cargo handled. The Port Authority had pressed for a reduction after a Federal Maritime Commission administrative law judge found that the local fee was out of line with those in other ILA ports.

Under the revised formula, shippers will pay $5.65 for each ton of cargo moving more than 220 miles to or from the port, or about $160 for each container. The previous rate was $8.90 a ton or about $250 for each container. This reduced the cost advantage of the other ILA ports—which generally base their benefit assessments on hours worked rather than tonnage—by about 50 percent.

Following the reduction decision, the Port Authority released a report indicating that the share of the Nation's cargo handled by the port had declined to 10 percent, from 20 percent 10 years ealier and 50 percent at the end of World War II. The report also showed that there were 32,000 longshore workers employed in the port in 1960, compared with 5,000 active and 3,000 inactive workers currently on the union rolls.

Elsewhere, ILA Local 3000 members in New Oreleans agreed to cuts in crew sizes in an effort to draw more business to the port and counter increasing competition from Teamsters' crews. In another amendment to their contract, Local 3000 waived a $1 an hour wage increase for unloading bulk grain ships that had been scheduled to go into effect in October. The local has about 1,600 members but only about 500 to 600 work daily. A union official said that at its peak, the daily work force averaged more than 5,000.

Parts of the modification agreement were patterned after an earlier settlement for dockworkers in Miami, FL.

Postal Service. Negotiations between the U.S. Postal Service and its four major unions culminated in arbitration awards announced in December 1984 and January 1985. The stalemate leading to the first general use of the arbitration provisions of the Postal Reorganization Act of 1970 resulted from the Postal Service's demand for wage cuts and other cost-savings measures. The quasi-governmental agency had announced that it would unilaterally impose a 20-percent cut in pay rates for new employees beginning in August, but the Congress prevented the action. Still the talks were not fruitful, leading to the arbitration.

In the first award, the arbitration panel concluded that the postal workers' pay had pulled ahead of comparable workers in private industry but said that the discrepancy should be corrected through a policy of "moderate restraint" over a number of years. To begin, the panel awarded a 2.7-percent specified pay increase in each year of the 3-year award. The provision for automatic cost-of-living pay adjustments, which protects the employees earning against 60 percent of any rise in prices, also was continued.

To reduce a compression of the pay rates between workers in the lowest and highest job grades, the panel awarded the percentage wage increases (rather than flat dollar amounts for all workers), and added new higher pay progression steps for the top jobs and new lower starting steps for the lower jobs.

Other terms included a tenth paid holiday, increased uniform and work clothing allowances, and establishment of a joint committee to consider that establishment of a systemwide health care plan for all 600,000 workers covered by the awards.

The four unions are the American Postal Workers' Union; the National Association of Letter Carriers; the Mail Handlers Division of the Laborers International Union; and the Rural Letter Carriers.

Government. In January, 1.4 million Federal white-collar employees received a 3.5-percent pay increase that normally would have been effective in October 1984 but was delayed by President Reagan under authority of the Federal Pay Comparability Act of 1970. The 2 million military personnel also received the equivalent of 3.5 percent increase in January, under laws linking their pay levels to those for the white-collar employees. About 450,000 blue-collar employees also received up to a 3.5-percent increase sometime during the fiscal year ending September 30, 1985. Their pay is raised at various times during the year based on the results of local surveys of wages for similar private industry jobs. However, their potential increase was "capped" at the level for the white-collar employees.

The balance of the year proved to be less auspicious for Federal employees. In a February budget message to the Congress, the President called for a 5-percent cut in pay in January 1986 and a cut in the "expensive, overly generous retirement system." The President's Pay Agent (a triad consisting of the Secretary of Labor, the Director of the Office of Management and Budget, and the Director of the Office of Personnel Management) reported that an 19.1-percent pay increase would be necessary to bring the white-collar employees to pay parity with employees in similar jobs in private industry, based on the annual National Survey of Professional, Administrative, Technical and Clerical Pay conducted by the Bureau of Labor Statistics. However, the President again used his authority under the law to propose a pay freeze rather than a cut. This meant that the next general salary change under the Act could not occur before October 1986.

The President's proposal on retirement benefits were considered by Congress but no major changes had been enacted at this writing.

Wage and benefit increases for State and local government workers were essentially the same in 1984 and 1985. This is apparent from the Bureau of Labor Statistics' Employment Cost Index, which showed that during the third quarter of the calendar year—when most governments begin their fiscal year—State and local government workers pay increased 3.5 percent in 1985, compared with 3.4 percent in 1984. Compensation—pay plus benefits—rose 3.4 percent during the third quarter of 1985, compared with 3.5 percent in the third quarter of 1984.

Supreme Court rulings

The Supreme Court issued decisions in a number of labor cases in 1985, but its February ruling in *Garcia v. San Antonio Metropolitan Transit Authority* had the most widespread implications for employers and employees. In the case, the Court held that provisions of the Federal Fair Labor Standards Act applied to the State and local governments, not just to private employers. The ruling reversed a 1976 decision in which the Court had exempted "traditional" and "integral" State and local government services from minimum wage and overtime pay provisions of the Act.

In mid-November, President Reagan signed an amendment to the Fair Labor Standards Act permitting government units to continue granting compensatory time off, at the rate of $1\frac{1}{2}$ hours for each hour of work in excess of 40 per week. After employees accumulate 240 hours of compensatory time (480 hours for public safety and seasonal workers), the government unit must begin paying them at time and one-half rates for hours worked in excess of 40 per week.

The Court upheld provisions of the shippers and the International Longshoremen's Association labor contract reserving the handling of certain containerized cargo to ILA members. The decision ended 10 years of legal challenges to the container-handling rules, which were adopted in 1974 in an effort to preserve the jobs of ILA members in the face of the rapid movement toward cargo containerization.

Under the contract rules, ILA members have the right to "stuff" or "strip"—load or unload—consolidated container cargoes moving to or from points within 50 miles of a port where the union has jurisdiction, except where the cargo is to be warehoused for a minimum of 30 days.

In other cases, the Court ruled that:

- Unions cannot prevent their members from resigning and returning to work during a strike.
- Before public employees can be fired, they must be informed of the charges against them and be given the opportunity to respond. The ruling was particularly applicable to State and local government workers not represented by unions. Federal employees and union-represented State and local government workers usually already have such protection under legislation or labor contracts.
- Federal employees who are represented by a union in grievance proceedings cannot be afforded more procedural safeguards than nonunion workers.
- States may require employer-sponsored health insurance plans to cover particular ailments.
- Plan trustees have the right to examine the payroll records of companies paying into multiemployer employee benefit funds.
- Federal minimum wage law applies to commercial ventures of religious organizations.
- Employees can be forced to retire before age 70 only if the employer can show that an earlier age is "reasonably necessary to the normal operation of the particular business" and that "all or nearly all employees above [the] age lack the qualifications."

Affirmative action

The major developments in efforts to attain equal employment opportunities regardless of race, sex, or religion was the Equal Employment Opportunity Commission's shift away from the 20-year-old policy of using class action suits, quotas, and goals in attaining equality. Essentially, the Commission's position was that equality of opportunity is a valid and worthy objective, but it should not be attained by using methods amounting to "reverse discrimination."

The policy change was challenged by civil rights groups, which contended that it was a step backward and that, "If race caused it [discrimination], if sex caused it, you must look to race and sex to remedy it."

The first major indication of the policy change occurred in February, when the Commission announced that it would focus on aiding specific people in overcoming discrimination, rather than initiating broad actions against employers or industries. Accordingly, the Department of Justice asked 50 States, counties, and cities to remove numerical goals and quotas from their affirmative action plans.

Following this, the Justice Department took legal action against the City of Indianapolis, IN, to invalidate quotas that had been established to help women, blacks, and Hispanics obtain city jobs. The Department apparently based its case on a 1984 Supreme Court ruling upholding the seniority rights of a group of white firefighters in Memphis, TN, facing dismissal under an affirmative action plan.

Comparable worth. In another aspect of equal employment opportunity, the Administration moved away from supporting the concept of "comparable worth." In general, backers of the concept, also described as "pay equity," contend that the accepted principle of equal pay for the same job should be extended to provide equal pay for different jobs that require equivalent training, skill, judgment, and other factors that make them of comparable worth to the employer. In practice, this would generally result in pay increases for women in "traditional" women's jobs, such as secretaries, nurses, and librarians. Despite the Administration's position and an appeals court ruling overturning a 1983 decision in a Washington State case that had triggered much of the pressure for widespread adoption of the approach, about 25 States had initiated studies of pay relationships among their employees and several others had implemented plans to eliminate disparities. Several cities also legislated or negotiated such plans. To date, the concept had been essentially limited to government workers, but a few private employees, including American Telephone & Telegraph Co., are studying their pay structures.

In the Washington State ruling, a three-judge panel of the 9th U.S. Circuit Court of Appeals reversed a district court judge's order that the State immediately raise the salaries of 15,000 of its women employees to implement an earlier finding of pay discrimination. (See *Monthly Labor Review*, February 1984, p. 66.) In its ruling, which is being appealed by the State, County, and Municipal Employees union, the appeals court said, "The state did not create the market disparity and has not been shown to have been motivated by impermissible sex-based considerations in setting salaries."

Despite the ruling, the union and the State were continuing negotiation on how to allocate $41.6 million the legislature had provided to eliminate the pay disparity.

One indication of the Federal Government's opposition to the comparable worth concept occurred in June, when the Equal Employment Opportunity Commission said it would not act on behalf of women who allege discrimination in pay under the concept. The decision came in a case in which an Illinois housing authority had been charged with paying its mostly female administrative staff less than its mostly male maintenance staff, despite claims that the skill, effort, and responsibility were comparable.

However, the Commission did say that it would act in cases where it can be shown that employers intentionally pay women and men different amounts for comparable work.

In April, the U.S. Commission on Civil Rights also rejected the comparable worth concept. The Civil Rights Commission conceded that a wage gap exists between men and women but claimed that "gap is not entirely due to discrimination, so it is wrong to eradicate it in the name of anti-discrimination."

One of the negotiated pay equity plans was in Los Angeles, CA. It was part of a new 3-year collective bargaining agreement providing for wage and benefit improvements for 30,000 city employees. Of that number, about 3,900, most of them women, will receive an additional 10- to 15-percent pay increase, in steps, over the term. The adjustments, costing $12 million, apply to clerks and librarians.

In Minnesota, the State Legislature appropriated $11.8 million to complete pay equity adjustments to State employees, following a $21.8 million appropriation in 1983 to start the process. Meanwhile, the State's local governments were proceeding under a 1984 State law requiring them to complete pay equity studies of their employees by October 1985 and make any corrective pay adjustments by 1987.

AFL-CIO rejuvenation program

The year 1985 marked the 50th anniversary of the merger of the American Federation of Labor and the Congress of Industrial Organizations, an undertaking to improve the economic and social condition of workers by giving them more influence in the Nation's affairs. Over the years, the level of acceptance and influence of unions has varied with changes in economic, social, and political conditions. The past few years clearly have been a period of decline, conceded by the Federation when it said "unions find themselves behind the pace of change." This finding, and proposals for reversing the decline, were contained in a report, "The Changing Situation of Workers and Their Unions," concluding a 2-year study by the AFL-CIO Committee on the Evolution of Work.

On an optimistic note, the Committee said that current "prophesies of doom and despair" were similar to those in the 1920's and 1930's, when unions were in decline but regained strength by altering strategies.

The Committee recommended a number of changes in strategy to reverse the decline in membership and influence:

- New methods of advancing the interests of workers by adopting new bargaining approaches seeking out and addressing issues of concern to workers; establishing new categories of membership for workers not in an organized bargaining unit; expanding use of electronic media; undertaking comprehensive "corporate campaigns" to increase pressure on anti-union employers; and re-examining the use of the organizing committees used in past campaigns.
- Increasing members' involvement in their unions by increasing opportunities for them to participate in union affairs; increasing interaction between members and national union leaders; orienting new union members; and increasing the training of union officials and members.
- Improving the labor movement's communications by better publicizing its accomplishments; training union spokespersons in media techniques; informing news reporters about unions on a continuing basis; determining the value of advertising in improving the public's understanding of unions' and informing the public of violation of workers rights to form unions.
- Improving organizing activity by carefully selecting and training organizers; making greater use of modern technology; increasing union leaders' and members' involvement in organizing efforts; selecting organizing targets with greater care to increase the changes of success; devoting more efforts to small units of workers; experimenting with new organizing techniques, such as focusing on a major issue; assisting workers in new bargaining units in negotiating initial contracts; and attempting to enroll employees who are represented by a union but are not union members.
- Structural changes to enhance the labor movement's overall effectiveness by setting guidelines and encouraging mergers; providing AFL-CIO staff aid in completing mergers; establishing mechanisms for resolving organizing disputes among unions; utilizing advanced business methods in increasing internal union efficiency; and increasing unions' financing and support of State-level multiunion organizations.

The AFL-CIO has begun to implement the Committee's recommendations. One program "One on One," is designed to increase union vitality by having local union officials discuss labor issues with individuals or small groups of members. Another program is intended to improve unions effectiveness in dealing with the media by training 1,000 volunteers as union spokespersons.

The Federation is also preparing a package of benefits such as life insurance, legal insurance, and low-cost credit cards to be used by individual unions in inducing workers to become "associate members." This recruitment will be limited to individual workers not covered by collective bargaining agreements.

Internal union affairs

During the year, there were a number of merger developments, some of which began before the AFL-CIO committee's call for merger and increased organizing efforts to strengthen the labor movement:

- Leaders of the International Typographical Union were moving toward merging with the Graphic Communications International Union as part of an effort to attain "One Big Union" in the printing industry.
- The Upholsterers International Union became the Upholstery and Allied Industries division of the Steelworkers union.
- The Auto Workers union lost about 10 percent of its membership as its 120,000 Canadian members established a separate union. The split, described as amicable by both sides, can be traced to the changing economic relationship between the two nations and the resulting differences in collective bargaining goals. The allocation of strike funds and assets between the two unions was approved in 1985, but the separation is still subject to approval at the UAW's international convention in 1986.

Organizing, the other way to increase union size and strength, drew increased attention in 1985. One area of attention was the State of Ohio, where a number of unions vied for the right to represent 14 units of State government employees. An estimated 200,000 State and local government workers gained the right to bargain collectively under a 1983 law.

In the private economy, the Service Employees and the Food and Commercial Workers were in the midst of a drive to organize the 87,000 employees of the Beverly Enterprises nursing home chain. At midyear, the unions reported that they had gained the right to represent 9,000 workers and had negotiated about 80 contracts.

In terms of size, the biggest organizing challenge faced the Communications Workers, which announced that it, in concert with a few other unions, was planning a "long term" worldwide effort to organize the 340,000 employees of the International Business Machines Corp. First, the union will attempt to organize one of IBM's major competitors, Northern Telecom Inc., and other high technology firms.

Leadership changes in the labor movement in 1985 included

- Kenneth J. Brown retired as head of the Graphic Communications Union and Recording/Financial Secretary James J. Norton became acting president until a January 1986 election.
- J. C. Turner retired as president of the Operating Engineers and vice president Larry L. Dugan, Jr,. was selected to succeed him. Dugan's term will run through January 1, 1989.
- William G. Lindner, president of the Transport Workers, died and was succeeded by executive vice president John D. Lawe.
- Communications Workers President Glenn E. Watts retired and Morton Bahr, a union vice president from New York, was elected to succeed him.
- Jesse M. Calhoun retired as president of the Marine Engineers and the union's executive board elected C. E. De Fries to succeed him. De Fries had headed the union's Pacific Coast District.
- Lawrence A. Holley retired as president of the Aluminum, Brick and Glass Workers and vice president Ernie La Baff was elected to succeed him.
- Boris Block retired as secretary-treasurer of the United Electrical Workers union and Amy R. Newell, a staff organizer and contract negotiator, was elected to succeed him. □

FOOTNOTES

[1] Preliminary statistical information for all of 1985 is scheduled to be released on January 27, 1986. Both the first 9 months and full-year figures exclude possible pay adjustments under cost-of-living formulas because such adjustments are contingent on the future movement of a consumer price index.

[2] This article is essentially based on information available early in December for bargaining units of 1,000 workers or more.

Collective bargaining during 1986: pressures to curb costs remain

With contracts expiring in steel, construction, and telecommunications, the bargaining calendar in private industry is heavy but relatively light in State and local government; contract talks in industry will be held against a background marked by modest settlements and few strikes

DAVID J. SCHLEIN, PHYLLIS I. BROWN,
AND FEHMIDA SLEEMI

Contracts for about 3.8 million of the 9.1 million workers under major collective bargaining agreements (covering 1,000 workers or more) in private industry and State and local governments will expire or be reopened in 1986. The bargaining calendar in private industry is heavy; contracts for more than two-fifths of the 7.0 million workers under major agreements are up for negotiation. In State and local government, however, the calendar is relatively light: one-third of the 2.1 million workers under major agreements have contracts scheduled for renegotiation. In 1985, by comparison, one-third of private industry employees and more than half of the State and local government workers under major agreements were involved in contract talks.

Information on 1986 bargaining is based on data available to the Bureau of Labor Statistics on September 30, 1985. The proportion of workers under contracts that expire or reopen in 1986 would increase if settlements reached during the fourth quarter of 1985 result in contracts that expire during 1986. In State and local government, for example, 374,000 workers are under contracts that expire before the end of 1985 and for which settlements had not been reached as of September 30. In the event that all these contracts are settled during the fourth quarter and call for termination or reopening during 1986, bargaining activity for the year in State and local government would be heavy, involving about one-half the workers under major agreements.

Management and labor representatives, who will negotiate as 661 private industry and 238 State and local government major agreements expire or reopen this year, will face some issues that are common and some that are unique to their industry or individual bargaining unit. (See tables 1 and 2.)

Economy continues strong

During 1985, the national economy remained basically healthy. Some areas improved; others caused concern among economic observers. On the bright side:

- The unemployment rate in September 1985 was 7.1 percent, compared with 7.5 percent a year earlier.
- The Consumer Price Index for all Urban Consumers (CPI-U) increased 3.2 percent during the 12 months ending September 1985—the slowest price rise since 1967.
- The composite index of leading economic indicators, compiled by the U.S. Department of Commerce to forecast movement in aggregate economic activity, suggests continuing but slow growth into 1986.

Worrisome aspects of the economy include a national debt nearing $2 trillion, a trade deficit running at an annual rate of $125 billion as of mid-1985, and a strong dollar that makes it harder to sell American products abroad and easier to sell imported goods here. Indeed, many of the industries that will be bargaining this year—especially aluminum, farm machinery, steel, and copper mining—have been suffering from foreign competition. Domestic competition—from nonunion firms—will be of concern to bargainers in

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David J. Schlein and Fehmida Sleemi are economists and Phyllis I. Brown is a social science research analyst in the Office of Wages and Industrial Relations, Bureau of Labor Statistics.

Table 1. Calendar of major collective bargaining activity
[Workers in thousands]

Year and month	Agreement expirations and/or scheduled wage reopenings[1]		Principal industries negotiating in month
	Number	Workers covered	
All years[2]	2,025	9,130	…
Total 1986[3]	800	3,770	…
January	34	87	Petroleum refining
February	32	109	Food stores
March	62	216	Glass containers
April	100	244	Construction
May	106	334	Construction, aluminum, lumber
June	223	798	Construction, farm machinery and equipment, hospitals, State and local governments
July	64	212	…
August	96	1,125	Steel, telephone communications, electrical products, local government
September	64	203	Food stores, longshoring (East and Gulf Coast)
October	39	166	Aerospace, food stores
November	24	71	…
December	50	191	State and local government
Total 1987[4]	587	2,469	…
January	29	70	…
February	26	74	…
March	54	111	Construction
April	46	131	Construction, food stores
May	68	180	Construction
June	185	764	Construction, State and local government
July	37	165	Parcel delivery
August	36	191	Food stores, local government
September	31	592	Automobiles, State and local government
October	24	57	Local government
November	16	44	…
December	23	122	Local government
Total 1988[5]	266	1,610	…
January-June	225	1,345	…
July-December	41	264	…
Total 1989 and later	18	59	…
Year unknown or in negotiation[6]	330	1,329	…

[1] Includes all private nonagricultural industries and State and local governments.

[2] Totals are less than the sum of the parts because 65 agreements covering 258,000 workers have both reopenings and expirations in the reference period. Includes 576 State and local government agreements covering 2,140,000 workers.

[3] Includes [illegible] agreements covering [illegible] workers which have wage reopenings scheduled in 1986. Includes 250 State and local government agreements covering 737,000 workers.

[4] Includes 14 agreements covering 38,000 workers which have wage reopenings scheduled in 1987. Includes 177 State and local government agreements covering 744,000 workers.

[5] Includes 3 agreements covering 12,000 workers which have wage reopenings scheduled in 1988. Includes 74 State and local government agreements covering [illegible] workers.

[6] Includes agreements which were due to expire between Oct. 1 and Dec. 31, 1985; agreements which expired prior to Oct. 1, 1985 but new agreements were not reached by then; agreements which expired prior to Oct. 1, 1985 but for which necessary information had not been fully gathered; and agreements that have no fixed expiration or reopening date.

NOTE: Because of rounding, sums of individual items may not equal totals.

retail food stores, as well as those in construction which also faces slack demand in some parts of the country.

Some negotiators will be assessing wage and compensation structures that were first put in place the last time they bargained, usually in 1983 or 1984. These include annual lump-sum payments to workers and two-tiered wage systems, in which employees hired after a specified date are temporarily or permanently on a lower pay scale than those hired earlier. Other employers may wish to initiate these types of compensation.

Additional potential subjects for bargaining abound. To cite a few: Controlling the cost of employee benefits (especially health care); job security and job retraining; quality of work life; and altering work rules and job classifications for greater flexibility and efficiency.

Bankruptcies and corporate takeovers

Other developments will color the bargaining scene. A company filing for reorganization under Chapter 11 of the Bankruptcy Code can, under 1984 amendments to the code, ask the court for relief from the terms of a collective bargaining contract if it fails to reach agreement with the union on a contract modification. Some employees have participated in stock purchase plans of employers in financial difficulty in an attempt to save the corporation. Others have received stock in exchange for taking pay cuts. Unions have played an active role in some corporate takeover battles and have seats on the boards of some companies.

On the more traditional side of labor management relations, the number of major stoppages (involving 1,000 workers or more) continued a decline that began in 1980. In almost all preceding years back to 1947,[1] there were at least 200 and as many as 470 major strikes or lockouts. The number declined annually from 235 in 1979, to 187 in 1980, and to 62 in 1984, the fewest in 37 years and, based on events through the end of October, may hit a new low in 1985. Linked to the decline in stoppages is the increasing practice of workers to continue to work after a contract has expired, either under terms of the old contract or the employer's last best offer. At the end of September 1985, for example, 95 percent of the employees under private industry contracts that had expired and not been renewed were at work rather than on strike.

Nonunion wage gains again higher

In private industry, negotiators on the union side of the table will be bearing in mind the smaller wage and benefit increases that union workers have received compared to their nonunion counterparts during the last 2 years. The third quarter of 1985 was the seventh consecutive quarter in which wages and benefits increased more for nonunion than union workers, according to the Bureau's Employment Cost Index.

Bargainers will also be looking at recent settlements in other situations. Since the beginning of 1982, major settlements in private industry have, on average, provided record or near-record low wage adjustments since the series began in 1968. For the first 9 months of 1985, for example, settlements called for average wage adjustments of 2.3 percent the first year and 2.9 percent annually over the life of the contract. These figures highlight the tendency of recent settlements to provide smaller wage adjustments in the first contract year than subsequently. Prior to 1983, most settlements provided the largest wage adjustment in the first year.

Major settlements in State and local government since the beginning of 1984, when these data were first compiled, through the third quarter have averaged 4.7 percent the first contract year and 5.2 percent annually over the life of the contract.

Negotiators will also be considering what their expiring contracts yielded. Contracts expiring in 1986 specified wage adjustments averaging 3.1 percent a year over their term. When cost-of-living adjustments (COLA) made through October 1985 are included, the average rises to 3.6 percent. The following tabulation shows average annual wage adjustments alone and combined with COLA's in private and State and local government contracts expiring in 1986 (percentages calculated through the third quarter of 1985):

	Specified wage adjustment	*Specified wage adjustment plus COLA*
Contracts expiring in 1986	3.1	3.6
With COLA	1.9	3.1
Without COLA	4.0	—
Private industry	2.7	3.3
With COLA	1.9	3.1
Without COLA	3.6	—
State and local government	5.1	5.1
With COLA	4.4	4.9
Without COLA	5.1	—

In private industry, the specified adjustments under expiring contracts averaged 2.7 percent annually; when COLA's through September 1985 are included, they averaged 3.3 percent. These are the smallest adjustments under expiring contracts since the Bureau began tabulating these data 12 years ago. If the current trend in the Consumer Price Index continues, 1986 will be the fourth consecutive year in which total adjustments in expiring private industry contracts with COLA's will be less than specified adjustments in those without COLA's. Many contracts, however, provide for COLA review just prior to their 1986 expirations, so the difference in adjustments between those with COLA's and those without may narrow.

In State and local government contracts, specified adjustments in expiring contracts were 5.1 percent. COLA's cover such a small proportion of State and local government workers that their impact is minor.

All of these developments will contribute to the bargaining environment in 1986, but parties to contract negotiations will also have to contend with problems that are specific to their own situations. Principal industries involved in 1986 negotiations are: petroleum (January), farm machinery (March and June), health care (March through October), aluminum (May), copper (May), construction (spring and summer), State and local government (summer), steel (July), telecommunications (August), longshoring—East and Gulf Coast (September), and aerospace (fall). Some of the issues that will face labor and management in these industries are discussed below. The article concludes with highlights of wage changes and COLA reviews scheduled for the year under terms of major contracts negotiated earlier. (See table 3 for information on principal contracts.)

Petroleum refining

Contracts covering approximately 45,000 petroleum refinery employees and the major oil refining companies[2] will expire on January 8, 1986. Most of the Nation's refinery workers are represented by the Oil, Chemical and Atomic Workers Union (OCAW); others are represented by the Operating Engineers, Teamsters, Seafarers and independent or single-company unions.

This year's contract negotiations will take place in about the same economic environment as during the round of talks in 1984, although the institutional setting will be somewhat different. Approximately 140 refineries have closed between 1981 and the first half of 1985, with a corresponding drop in employment from 214,000 to 180,000 workers. Demand for U.S. petroleum products peaked at 18.4 million barrels per day in 1978 and fell steadily to 15.2 million in 1983. The fall in demand has been generally attributed to a shift from oil to other fuels (for example, coal and natural gas) for industrial uses, increased home insulation, and more fuel-efficient automobiles. Petroleum product demand increased slightly to 15.7 million barrels per day in 1984, but it was met mostly by imports, which increased by 15 percent. Domestic production increased by only 1 percent even though the industry was operating at only about 75 percent of capacity. Union sources fear that increasing imports will close more domestic refineries. Company mergers and takeovers have changed the bargaining structure of the industry.

On the employer side, merger activity has been brisk since 1981. In 1984 alone, for example, Texaco bought Getty, Mobil acquired Superior, and Phillips bought Aminoil. No recent merger, however, will have a greater impact on this year's bargaining than the 1984 purchase of Gulf by Chevron. Although negotiations have typically been conducted locally by each individual bargaining unit since 1975, the Gulf and OCAW agreements have served as the pattern for the rest of the industry. The OCAW will attempt to establish a pattern again this year, but it is not clear whether the union will be successful or, if it is, which company will emerge as the pattern setter for the industry.

The last round of settlements, in 1984, involved 338 separate contracts covering 50,000 workers. The Gulf OCAW accord provided wage increases of 1.5 percent in the first year and 2.5 percent in the second year and raised Gulf's monthly contributions to the family health insurance plans.

Although the Gulf settlement set the basic pattern for contracts in the industry, agreements with Texaco, Sun Oil,

Table 2. Major collective bargaining agreements scheduled to expire or with wage reopenings, by year and industry

[Workers in thousands]

Industry	Total[1]		Year of expiration, scheduled wage reopening, or both							
			1986[2]		1987[3]		1988 and later[4]		Unknown or in negotiation[5]	
	Number of agreements	Workers covered	Number of agreements	Workers covered	Number of agreements	Workers covered	Number of agreements	Workers covered	Number of agreements	Workers covered
Total[6]	2,025	9,130	990	3,770	587	2,488	281	1,898	333	1,399
All private nonfarm industries	1,449	6,981	661	3,025	410	1,744	207	1,298	209	1,027
Manufacturing	573	2,730	283	1,025	143	802	98	525	81	331
Food and kindred products	69	175	27	53	24	60	7	37	12	27
Tobacco manufacturing	5	17	4	15	–	–	1	2	–	–
Textile mill products	8	31	2	6	3	18	1	4	2	8
Apparel and other finished products	38	341	4	10	3	6	22	225	8	101
Lumber and wood products, except furniture	9	51	7	47	3	5	1	2	–	–
Furniture and fixtures	5	10	2	3	1	2	1	5	1	1
Paper and allied products	45	71	26	41	14	22	5	7	1	1
Printing, publishing, and allied industries	21	37	6	10	13	23	1	3	3	4
Chemicals and allied products	31	63	11	21	8	14	3	7	10	23
Petroleum refining and related industries	16	31	16	31	1	2	–	–	–	–
Rubber and miscellaneous plastics	12	30	1	1	1	4	10	30	–	–
Leather and leather products	8	20	3	6	4	8	1	4	–	–
Stone, clay, glass, and concrete products	25	66	12	43	4	8	2	2	7	12
Primary metals industries	61	401	48	379	9	11	3	9	2	5
Fabricated metal products	29	81	15	32	5	14	4	6	5	8
Machinery, except electrical	40	122	19	75	8	30	6	8	6	9
Electrical machinery equipment and supplies	59	315	27	106	13	53	12	128	8	25
Transportation equipment	77	850	25	129	25	576	16	57	11	88
Instruments and related products	8	18	6	13	1	6	–	–	2	5
Miscellaneous manufacturing industries	9	13	2	2	2	2	2	3	3	6
Nonmanufacturing	876	4,250	369	2,004	267	882	109	733	128	696
Mining, crude petroleum and natural gas production	12	131	6	15	–	–	1	105	5	11
Construction	387	1,084	198	606	131	294	40	98	29	85
Transportation, except railroads and trucking	60	258	20	108	17	66	6	34	12	46
Railroads	26	378	–	–	–	–	1	8	25	370
Trucking	15	289	1	1	2	75	6	191	4	16
Communications	41	718	26	677	9	31	4	8	3	6
Utilities, gas, and electric	74	244	31	104	23	69	12	38	12	48
Wholesale trade	10	41	6	10	3	5	1	25	–	–
Retail trade, except restaurants	128	592	48	338	45	236	22	81	16	56
Restaurants	14	44	7	22	2	3	1	8	4	12
Finance, insurance, and real estate	24	119	9	43	8	21	2	32	5	24
Services, except hotels and health services	35	158	15	75	10	28	5	37	6	18
Hotels	16	114	6	26	5	29	4	63	2	5
Health services	34	142	19	105	12	22	2	4	5	7
State and local government	576	2,149	230	741	177	744	74	405	124	[illegible]

[1] Totals are less than the sum of the parts because 65 agreements covering [illegible] workers have both reopenings and expirations in the reference period. Includes 576 State and local government agreements covering 2,149,000 workers.

[2] Includes 65 agreements covering [illegible] workers which have wage reopenings scheduled in 1986. Includes 230 State and local government agreements covering [illegible] workers.

[3] Includes 14 agreements covering 38,000 workers which have wage reopenings scheduled in 1987. Includes 177 State and local government agreements covering 744,000 workers.

[4] Includes 3 agreements covering 12,000 workers which have a wage reopening scheduled in 1988. Includes 74 State and local government agreements covering 405,000 workers.

[5] Includes agreements which were due to expire between Oct. 1 and Dec. 31, 1985; agreements which expired prior to Oct. 1, 1985, but new agreements were not reached by then; agreements which expired prior to Oct. 1, 1985, but for which necessary information had not been fully gathered; and agreements that have no fixed expiration or reopening date.

[6] Includes all private nonagricultural industries and State and local government.

NOTE: Because of rounding, sums of individual items may not equal totals.

and Union Oil, differed from the Gulf accord, and introduced a two-tiered classification. Company bargainers are expected to try to maintain the two-tiered wage structure, or introduce it where it does not exist, while the OCAW will probably try to eliminate it.

Demands for the coming negotiations adopted by the U.S. National Oil Bargaining Committee of the OCAW emphasize job security and health insurance. They include:

- A 2-year contract.
- "No retrogression" or concessions on current rights and benefits.
- "Substantial" wage increases for all classifications.
- Increased employer contributions to health insurance.
- Improvements in layoff protection, recall rights, severance pay, and transfer and relocation rights.

Construction

Approximately 606,000 construction workers are covered by collective bargaining agreements that will expire or be subject to reopening in 1986. They make up 57 percent of all construction workers under major agreements. Most of the 198 contracts will terminate between April and June.

Table 3. Duration and wage adjustment provisions of selected[1] major collective bargaining agreements

Industry[2] and employer	Union[3]	Number of workers[4]	Duration of agreement[5]	Month of 1986 COLA	Month and amount of 1986 specified wage increase
Private sector					
Manufacturing					
Food and kindred products					
California Processors, Inc. and others	Teamsters (Ind.)	20,000	July 1, 1985 to June 30, 1986	......	July: 10 to 45 cents
Nabisco, Inc.	Bakery, Confectionery and Tobacco Workers	9,000	Sept. 1, 1985 to Sept. 1, 1987	......	Mar.: 10 cents June: 10 cents Sept.: $1,000 lump sum payment
Anheuser-Busch, Inc.	Teamsters (Ind.)	9,000	Jan. 1, 1985 to Feb. 28, 1988	......	Mar.: 65 cents
Wholesale bread and cake bakeries (East Central States)	Bakery, Confectionery and Tobacco Workers	8,000	June 10, 1984 to June 13, 1987	......	June: 40 cents
Sugar plantation companies (HI)	Longshoremen and Warehousemen (Ind.)	7,500	Feb. 1, 1985 to Jan. 31, 1986	......	......
Tobacco manufactures					
Philip Morris, U.S.A.	Bakery Confectionery and Tobacco Workers	10,300	Feb. 1, 1983 to Jan. 31, 1986	......	......
Dan River Inc.	Textile Workers	7,500	June 17, 1985 to June 22, 1987[6]	......	......
Apparel and other finished products made from fabrics and similar products					
Atlantic Apparel Contractors Assn.	Ladies' Garment Workers	25,000	June 1, 1985 to May 31, 1988	......	June: 6 percent
Affiliated Dress Assn. Manufacturers Inc.	Ladies' Garment Workers	20,000	June 1, 1985 to May 31, 1988	......	June: 6 percent
Greater Blouse, Skirt, and Undergarment Assn.	Ladies' Garment Workers	19,900	June 1, 1985 to May 31, 1988	......	June: 6 percent
New York Coat and Suit Assn. and American Cloak and Suit Manufacturers Assn.	Ladies' Garment Workers	15,000	June 1, 1985 to May 31, 1988	......	June: 6 percent
Lumber and wood products, except furniture					
Western States Wood Products Employers Assn.	Woodworkers; Carpenters and Joiners	36,000	June 1, 1983 to May 31, 1986	......	......
Paper and allied products					
International Paper Co., Multiple Mill Group	Paperworkers; Electrical Workers (IBEW)	6,000	June 1, 1983 to May 31, 1986	......	......
Printing, publishing, and allied industries					
Metropolitan Lithographers Assn. (New York City)	Graphic Communications	5,000	July 1, 1984 to June 30, 1987	......	July: 5.3 percent
Rubber and miscellaneous plastics products					
Goodyear Tire and Rubber Co.	Rubber Workers	16,000	Apr. 22, 1985 to Apr. 20, 1988	Jan., Apr., July, Oct.	Apr.: 10 cents
Firestone Tire and Rubber Co.	Rubber Workers	8,500	Apr. 22, 1985 to Apr. 20, 1988	Jan., Apr., July, Oct.	Apr.: 10 cents
B. F. Goodrich Co.	Rubber Workers	7,200	Apr. 22, 1985 to Apr. 20, 1988	Jan., Apr., July, Oct.	Apr.: 10 cents
Leather and leather products					
Brown Shoe Co.	Clothing and Textile Workers; Food and Commercial Workers	6,000	Sept. 1, 1984 to Aug. 31, 1986	......	......
Stone, clay, glass, and concrete products					
Owens-Illinois, Inc.	Glass, Pottery, Plastics	8,000	Apr. 1, 1983 to Mar. 31, 1986	......	......
Brockway Glass Co.	Glass, Pottery, Plastics	7,000	Apr. 1, 1983 to Mar. 31, 1986	......	......
Primary metal industries					
U.S. Steel Corp. (production and maintenance)	Steelworkers	102,000	Mar. 1, 1983 to Aug. 1, 1986	......	Feb.: 45 cents
Bethlehem Steel Corp.	Steelworkers	40,000	Mar. 1, 1983 to Aug. 1, 1986	......	Feb.: 45 cents
Jones and Laughlin Steel Corp.	Steelworkers	32,000	Mar. 1, 1983 to Aug. 1, 1986	......	Feb.: 45 cents
Republic Steel Corp.	Steelworkers	30,400	Mar. 1, 1983 to Aug. 1, 1986	......	Feb.: 45 cents
Inland Steel Co., Indiana Harbor Works	Steelworkers	21,100	Mar. 1, 1983 to Aug. 1, 1986	......	Feb.: 45 cents
Fabricated metal products, except machinery and transportation equipment					
American Can Co.	Steelworkers	5,000	Mar. 8, 1983 to Feb. 16, 1986	......	......
Machinery, except electrical					
Caterpillar Tractor Co.	Automobile Workers	20,400	Apr. 25, 1983 to June 1, 1986	Mar.	......
Deere & Co.	Automobile Workers	16,000	June 1, 1983 to June 1, 1986	Mar.	......
International Harvester Co.	Automobile Workers	12,000	Oct. 1, 1984 to Sept. 30, 1987	Mar., June, Sept., Dec.	......
Briggs and Stratton Corp.	Allied Industrial Workers	8,200	Oct. 28, 1983 to July 31, 1986	......	......
Timken Co.	Steelworkers	8,000	Aug. 28, 1983 to Aug. 25, 1986	......	July: 46 cents
Electrical and electronic machinery, equipment, and supplies					
General Electric Co.	Electronic Workers (IUE); Electrical Workers (UE–Ind.); Electrical Workers (IBEW); others	80,000	July 1, 1985 to June 28, 1988	June, Dec.	June: 3.0 percent
AT&T Technologies	Electrical Workers (IBEW)	38,200	Aug. 7, 1983 to Aug. 6, 1986	......	......

Table 2. Continued—Duration and wage adjustment provisions of selected[1] major collective bargaining agreements

Industry[2] and employer	Union[3]	Number of workers[4]	Duration of agreement[5]	Month of 1986 COLA	Month and amount of 1986 specified wage increase
General Motors Corp.	Electronic Workers (IUE)	24,000	Nov. 12, 1984 to Sept. 14, 1987	Mar., June, Sept., Dec.	....
AT&T Technologies	Communications Workers	20,300	Aug. 7, 1983 to Aug. 6, 1986	....	....
Westinghouse Electric Corp.	Electronic Workers (IUE); Electrical Workers (UE–Ind.); Electrical Workers (IBEW); others	19,200	July 22, 1985 to Aug. 28, 1988	Jan., July	July: 3 percent
Transportation equipment					
General Motors Corp.	Automobile Workers	350,000	Oct. 15, 1984 to Sept. 14, 1987	Mar., June, Sept., Dec.	Oct.: lump-sum payment[7]
Ford Motor Co.	Automobile Workers	114,000	Oct. 28, 1984 to Sept. 14, 1987	Mar., June, Sept., Dec.	Oct.: lump-sum payment[7]
Boeing Co.	Machinists	28,000	Oct. 4, 1983 to Oct. 3, 1986	Jan. Apr., July	....
Newport News Shipbuilding and Dry Dock Co.	Steelworkers	18,200	Nov. 1, 1983 to May 31, 1987	....	May: 7 percent
Rockwell International Corp.	Automobile Workers	16,000	July 1, 1984 to June 30, 1987	Jan., Apr., July, Oct.	July: 3 percent
Measuring, analyzing, and controlling instruments; photographic, medical and optical goods; watches and clocks					
Honeywell Inc.	Teamsters (Ind.)	6,000	Feb. 1, 1984 to Jan. 31, 1987 (Feb. 1, 1985)	....	....
Nonmanufacturing					
Bituminous coal and lignite mining					
Bituminous Coal Operators Assn.	Mine Workers, United (Ind.)	105,000	Sept. 28, 1984 to Jan. 31, 1988	....	Jan.: 5 cents Apr.: 5 cents July: 5 cents Oct.: 30 cents
Building construction—general contractors and operative builders					
Associated General Contractors; and others (Southern CA)	Carpenters	20,000	July 1, 1983 to June 30, 1986	....	....
Building construction agreement (New York City)	Carpenters	20,000	July 1, 1984 to June 30, 1987	....	July: $1.10
Building Industry Assn. and others (Northern CA)	Carpenters	16,000	June 16, 1983 to June 15, 1986	....	....
Associated General Contractors; and others (outside agreement–Southern CA)	Laborers	15,000	July 1, 1983 to June 30, 1986	....	....
Associated General Contractors (outside agreement–Northern CA)	Laborers	15,000	Jan. 15, 1983 to June 15, 1986	....	....
Construction other than building construction—general contractors					
Associated General Contractors (Northern CA)	Carpenters	15,000	Sept. 1, 1983 to June 15, 1986	....	....
Associated General Contractors (Central and Western WA)	Carpenters	14,000	June 1, 1983 to May 31, 1986	....	....
Associated General Contractors (Northern CA)	Operating Engineers	12,000	June 16, 1983 to June 15, 1986	....	....
Associated General Contractors (Upstate NY)	Carpenters	10,000	Apr. 1, 1985 to Mar. 31, 1988	....	June: 85 cents
Labor Relations Div. of the Ohio Contractors Assn.	Laborers	10,000	May 1, 1983 to Apr. 30, 1986	....	....
Construction—special trade contractors					
Plumbing and Piping Industry Council; and independent companies (plumbers–Los Angeles)	Plumbing and Pipe Fitting Industry	11,000	July 1, 1983 to June 30, 1986	....	....
New York Electrical Contractors Assn., Inc. (New York City)	Electrical Workers (IBEW)	10,000	June 10, 1983 to June 12, 1986	....	....
Associated General Contractors; 7 other Assns.; and independent contractors	Iron Workers	10,000	July 1, 1983 to June 30, 1986	....	....
Electrical Contractors Assn. of the City of Chicago	Electrical Workers (IBEW)	8,100	June 1, 1985 to May 31, 1987	....	June: $1.10[8]
Mechanical Contractors Assn. (Chicago)	Plumbing and Pipe Fitting Industry	8,000	June 3, 1985 to May 31, 1988	....	....
Railroad transportation					
Council	Transportation	8,400	July 1, 1984 to June 30, 1988	Jan.	Jan.: 2 percent July: 1.5 percent
Local and suburban transit and interurban highway passenger transportation					
Greyhound Lines	Transit Union	12,700	Nov. 1, 1983 to Oct. 31, 1986	May, Aug.	....
Motor freight transportation and warehousing					
National Master Freight Agreement (local cartage)	Teamsters (Ind.)	160,000	Apr. 1, 1985 to Mar. 31, 1988	....	Apr.: 50 cents

Table 3. Continued—Duration and wage adjustment provisions of selected[1] major collective bargaining agreements

Industry[1] and employer	Union[2]	Number of workers[3]	Duration of agreement[4]	Month of 1986 COLA	Month and amount of 1986 specified wage increase
United Parcel Service	Teamsters (Ind.)	71,000	Sept. 1, 1984 to July 31, 1987	Sept.	Sept.: 50 cents
National Master Freight Agreement (over-the-road)	Teamsters (Ind.)	50,000	Apr. 1, 1985 to Mar. 31, 1988	......	Apr.: 50 cents
National Master Automobile Transporters Agreement	Teamsters (Ind.)	21,000	June 1, 1985 to May 31, 1988	June	June: 60 cents
Joint Area Cartage Agreement (Chicago)	Teamsters (Ind.)	10,000	Apr. 1, 1985 to Mar. 31, 1988	......	Apr.: 50 cents
Water transportation					
Pacific Maritime Assn.	Longshoremen and Warehousemen (Ind.)	9,750	July 1, 1984 to July 1, 1987	......	July: 95.6 cents
New York Shipping Assn.	Longshoremen's Association	8,500	Oct. 1, 1983 to Sept. 30, 1986	......	......
American Maritime Assn. (unlicensed seamen)	Seafarers	8,000	June 16, 1984 to June 15, 1987	Jan., July	......
Great Lakes Assn. of Stevedores	Papermakers	6,000	Apr. 1, 1984 to Dec. 31, 1986	......	Apr.: $1
West Gulf Maritime Assn.	Longshoremen's Association	5,000	Oct. 1, 1983 to Sept. 30, 1986	......	......
Transportation by air					
United Airlines	Machinists	15,500	Nov. 1, 1983 to Oct. 31, 1986	......	Sept.: 2.9 percent
American Airlines	Transport Workers	12,000	Sept. 1, 1985 to Mar. 1, 1989	......	Mar.: $500 lump sum payment
Eastern Airlines	Machinists	12,000	Feb. 1, 1985 to Dec. 31, 1987	......	Feb.: 6 percent
United Airlines	Air Line Pilots	8,500	Apr. 1, 1983 to May 1, 1986	......	......
Republic Airlines	Air Line Pilots	6,300	May 31, 1984 to Dec. 31, 1986	......	......
Communication					
American Telephone & Telegraph Co.	Communications Workers	500,000[9]	Aug. 7, 1983 to Aug. 9, 1986	......	......
New England Telephone and Telegraph Co.	Electrical Workers (IBEW)	23,700	Aug. 7, 1983 to Aug. 9, 1986	......	......
General Telephone Co. of California	Communications Workers	21,000	Mar. 4, 1983 to Mar. 4, 1986	......	......
AT&T Technologies (installers and job clerks)	Communications Workers	14,000	Aug. 7, 1983 to Aug. 9, 1986	......	......
Illinois Bell Telephone Co.	Electrical Workers (IBEW)	13,800	Aug. 7, 1983 to Aug. 9, 1986	......	......
Electric, gas, and sanitary services					
Pacific Gas and Electric Co.	Electrical Workers (IBEW); Marine Engineers; others	22,400	Jan. 1, 1984 to Dec. 31, 1987	Jan.	Jan.: 3 percent
Consolidated Edison Co. of New York Inc.	Utility Workers	18,000	Aug. 21, 1983 to June 17, 1986	......	Mar.: 2 percent
Commonwealth Edison Co.	Electrical Workers (IBEW)	11,500	Apr. 1, 1985 to Mar. 31, 1988	......	Apr.: 4.8 percent
Niagara Mohawk Power Corp.	Electrical Workers (IBEW)	8,000	June 1, 1984 to May 31, 1986	......	......
Southern California Gas Co.	Utility Workers	7,100	Apr. 1, 1984 to Mar. 31, 1986	......	......
Wholesale trade-nondurable goods					
Industrial Employers and Distributors Assn. (CA)	Teamsters (Ind.) Longshoremen and Warehousemen (Ind.)	25,000	June 1, 1985 to May 31, 1988	June	June: 12 cents Dec: lump-sum payment[10]
General merchandise stores					
Meijer, Inc. (MI)	Food and Commercial Workers	11,000	Dec. 30, 1984 to Sept. 19, 1987	Oct.	Apr.: lump-sum payment[11] Oct.: 20 cents
Montgomery Ward and Co.	Teamsters (Ind.)	9,800	Aug. 1, 1983 to July 31, 1986	......	Jan.: 4 percent
R H Macy and Co., Inc.	Retail, Wholesale and Department Store	8,000	Feb. 1, 1985 to Jan. 31, 1988	......	Feb.: 40 cents
Woodward & Lothrop, Inc. (Washington, DC area)	Food and Commercial Workers	5,500	Feb. 1, 1983 to Jan. 31, 1986	......	......
Food stores					
Food Employers Council, Inc. (Southern CA)	Food and Commercial Workers	65,000	July 30, 1984 to Aug. 2, 1987	......	Feb.: 1.2 percent July: 1.6 percent
Food Employers Council (Northern CA)	Food and Commercial Workers	22,000	Mar. 1, 1983 to Feb. 28, 1986	......	......
Shoprite, Pathmark, Grand Union and Foodtown stores (NJ)	Food and Commercial Workers	21,000	Apr. 8, 1984 to Apr. 3, 1987	......	Apr.: 37.5 cents Dec.: 12.5 cents
Waldbaum, Food-a-rama, Bohack, and others (NY)	Retail, Wholesale, and Department Store	18,000	Sept. 30, 1983 to Sept. 30, 1986	......	Mar.: average 31.3 cents
Jewel Food Stores (IL)	Food and Commercial Workers	16,650	June 21, 1985 to Oct. 4, 1988	......	......
Eating and drinking places					
Restaurant-Hotel Employers' Council	Hotel Employees and Restaurant Employees	17,700	Mar. 15, 1982 to Mar. 15, 1986 (Mar. 15, 1985)	......	......
Restaurant-Hotel Employers' Council	Hotel Employees and Restaurant Employees	17,700	Mar. 15, 1982 to Mar. 15, 1986 (Mar. 15, 1986)	......	......
Restaurant-Hotel Employers' Council	Hotel Employees and Restaurant Employees	8,000	Mar. 15, 1985 to Mar. 15, 1988 (Mar. 15, 1986)	......	Apr.: 3.0 percent (average)
San Mateo Hotel-Restaurant Employers' Assn.	Hotel Employees and Restaurant Employees	5,200	Jan. 1, 1984 to Dec. 31, 1986	......	Jan.: 20-62 cents
Bob's Big Boy Restaurants	Bob's Big Boy Union (Ind.)	5,800	Jan. 1, 1984 to Dec. 31, 1986	......	Jan.: 1.5 percent July: 1.5 percent
Insurance					
John Hancock Mutual Life Insurance Co.	Food and Commercial Workers	5,000	July 1, 1984 to June 30, 1987	......	Sept.: lump-sum payment[12]

Table 3. Continued—Duration and wage adjustment provisions of selected[1] major collective bargaining agreements

Industry[2] and employer	Union[3]	Number of workers[4]	Duration of agreement[5]	Month of 1986 COLA	Month and amount of 1986 specified wage increase
Real Estate					
Realty Advisory Board on Labor Relations (apartment agreement) (NY)	Service Employees	30,000	Apr. 21, 1985 to Apr. 20, 1988	Apr.	Apr.: 30 cents
Realty Advisory Board on Labor Relations (commercial agreement.) (NY)	Service Employees	18,000	Jan. 1, 1984 to Dec. 31, 1986	Jan.	Jan.: 57.5 cents
Building Managers Assn. of Chicago	Service Employees	6,000	Mar. 28, 1984 to Sept. 28, 1986	....	....
Hotels, rooming house, camps, and other lodging places					
Hotel Assn. of New York City	Hotel and Motel Trades Council	25,000	June 1, 1985 to May 31, 1988	....	Aug.: 5.6 percent
Nevada Resort Assn.	Hotel Employees and Restaurant Employees	25,000	May 2, 1984 to May 4, 1989	....	May: 15 cents
Casino hotels in Atlantic City	Hotel Employees and Restaurant Employees	12,000	Sept. 15, 1983 to Sept. 15, 1988 (Sept. 15, 1986)	....	....
Greater Chicago Hotel and Motel Assn.	Hotel Employees and Restaurant Employees	9,000	Apr. 1, 1983 to Dec. 31, 1987	....	Jan.: 25.5 cents–tipped 12.5 cents–nontipped
Council of Hawaii Hotels	Hotel Employees and Restaurant Employees	8,100	Mar. 1, 1984 to Feb. 28, 1987	....	Mar.: 5 percent
Personal services					
New York City laundries	Clothing and Textile Workers	5,000	Dec. 1, 1984 to Nov. 30, 1987	....	Dec.: $10 week–inside employees, $20 week–drivers
Business services					
Service Employers Assn. (New York City)	Service Employees	36,000	Jan. 1, 1984 to Dec. 31, 1986	Jan.	Jan.: 57.5 cents
Massachusetts Maintenance Contractors Assn. (building cleaning)	Service Employees	7,000	Sept. 1, 1984 to Aug. 31, 1987	....	Sept.: 20 cents
Associated Guard and Patrol Agencies (Chicago)	Service Employees	6,000	Jan. 1, 1985 to Dec. 31, 1986	....	Jan.: 10 cents
Motion pictures	Stage Employees and other unions				
Alliance of Motion Picture and Television Producers		30,000	Aug. 1, 1985 to July 31, 1988	....	Aug.: $1
Amusement and recreation services, except motion pictures					
Phonograph Record Labor Agreement	Musicians	6,000	Dec. 1, 1983 to Nov. 30, 1986	....	....
Health services					
League of Voluntary Hospitals and Homes (New York City)	Retail, Wholesale and Department Store	50,000	July 1, 1984 to June 30, 1986	....	....
Greater New York Health Care Facilities Assn.	Service Employees	15,000	Apr. 1, 1984 to Mar. 31, 1986	....	....
Association of Private Hospitals (New York, NY)	Service Employees	7,000	Aug. 1, 1984 to July 31, 1986	....	....
Kaiser Permanente (clerical, service, maintenance and technical)	American Nurses Association (Ind.)	6,650	Apr. 1, 1984 to Mar. 31, 1987	....	....
Kaiser-Permanente Medical Care Program (Northern CA)	Service Employees	6,400	Oct. 30, 1983 to Oct. 25, 1986	....	....
State and local government					
State					
New York State (professional and technical employees)	State, County and Municipal Employees	51,000	Apr. 1, 1985 to Mar. 31, 1988	....	Apr.: 5 percent
New York State institutional services	State, County and Municipal Employees	41,000	Apr. 1, 1985 to Mar. 31, 1988	....	Apr.: 5.5 percent
New York State (administrative)	State, County and Municipal Employees	37,700	Apr. 1, 1985 to Mar. 31, 1988	....	Apr.: 5.5 percent
Massachusetts State	State, County and Municipal Employees and Service Employees	28,050	Apr. 1, 1983 to Mar. 31, 1986	....	....
New York State operational services (blue collar)	State, County and Municipal Employees	25,500	Apr. 1, 1985 to Mar. 31, 1988	....	Apr.: 5.5 percent
Pennsylvania State (clerical, administrative, and fiscal)	State, County and Municipal Employees	18,600	July 1, 1985 to June 30, 1988	....	July: 33 cents
New York State security services	State, County and Municipal Employees	15,000	Apr. 1, 1985 to Mar. 31, 1988	....	Apr.: 5.5 percent
Oregon State Employees Unit	Service Employees	15,500	July 1, 1985 to June 30, 1987	....	July: 3 percent
Pennsylvania State (human services)	State, County and Municipal Employees	15,400	July 1, 1985 to June 30, 1988	....	July: 33 cents
Florida State (professional unit)	State, County and Municipal Employees	15,000	July 1, 1985 to June 30, 1987 (July 1, 1986)	....	Jan.: 5 percent
Local					
New York City Board of Education (teachers)	Teachers	58,500	July 1, 1984 to June 30, 1987	....	July: 5.5 to 8.1 percent
New York City (clerical)	State, County and Municipal Employees	38,400	July 1, 1984 to June 30, 1987	....	July: 6 percent
New York City Transit Authority	Transport Workers	28,500	Apr. 1, 1985 to Mar. 31, 1988	....	Apr.: 6 percent
Chicago Board of Education (teachers)	Teachers	28,000	Sept. 5, 1985 to Aug. 31, 1987	....	Sept.: 3 percent
New York City Police Dept.	Patrolmen's Association (Ind.)	17,800	July 1, 1984 to June 30, 1987	....	July: 6 percent
Minnesota State (multidepartment)	State, County and Municipal Employees	17,300	July 1, 1985 to June 30, 1987	....	July: 4 percent
Nassau County (general unit)	State, County and Municipal Employees	14,050	Jan. 1, 1985 to Dec. 31, 1987	....	Jan.: 6 percent

Table 3. Continued—Duration and wage adjustment provisions of selected[1] major collective bargaining agreements

Industry[2] and employer	Union[3]	Number of workers[4]	Duration of agreement[5]	Month of 1986 COLA	Month and amount of 1986 specified wage increase
Philadelphia School District (teachers)	Teachers	13,000	Sept. 1, 1985 to Aug. 31, 1988	....	....
Philadelphia city employees	State, County and Municipal Employees	13,050	July 1, 1984 to June 30, 1986	....	....
New York City (social services employees)	State, County and Municipal Employees	12,500	July 1, 1984 to June 30, 1987	....	July: 5.5 percent

[1] Selection based on contracts with the highest employment (minimum 5,000) in the industrial classification.

[2] Based on 1972 standard industrial classification.

[3] Unions are affiliated with the AFL-CIO, except where noted as independent (Ind.).

[4] Number of workers at time agreement was reached.

[5] Contract effective date to expiration date or first reopening date.

[6] Subject to reopening during agreement term at not less than 6 months intervals.

[7] Equal to 2.25 percent of qualified earnings during 52 pay periods ending in September 1986.

[8] Allocation between wages and benefits will be determined by the union.

[9] Based on the corporate structure and employment level at the time of the 1983 collective bargaining settlement. On Jan. 1, 1984, AT&T was divested of its various operating companies under a settlement of an anti-trust action.

[10] Equal to 24 cents for each hour worked from June 1, 1986, to Nov. 30, 1986.

[11] Varying by job classification and based on hours worked from Oct. 6, 1985 to Apr. 15, 1986.

[12] Based on income during preceding 12 months and length of service.

Typically, most of the construction workers under collective bargaining agreements are employed in commercial construction (for example, office buildings, highways) rather than residential construction. Negotiations in the industry are usually conducted by local or regional branches of national employer associations, such as the Associated General Contractors of America or the National Electrical Contractors Association. Individual companies join such associations for a variety of business-related purposes, including collective bargaining. Workers are generally organized along craft lines, and negotiations are frequently on a craft-by-craft basis. Nevertheless, settlements reached by the various crafts in a locality are often similar in size, reflecting the economic situation of the local construction industry.

The economic health of the industry, while not good, has shown some improvement since 1982. In October of that year, the rate of unemployment in the industry hit a historic 23.7 percent. It dropped to 13.7 percent 2 years later, and has been hovering around that level since then. The value of new nonresidential construction, which ranged between $60 and $65 billion a year from 1981–83, rose to $74 billion in 1984 and was at $65 billion at the end of the third quarter of 1985.

In addition to having to deal with the problems of reduced construction activity and the consequent loss of job opportunities, unionized firms and their employees have faced increased competition from nonunion firms. Employers and workers have tried to adjust to both situations. Some unionized employers have used "double breasting"—forming new, nonunion firms—to avoid having to abide by the terms of union contracts and thus to be better able to compete with nonunion firms. Unions have agreed to reduce or freeze pay and benefits and to modify work rules to reduce labor costs. Some contracts permit a dual wage scale, with a lower rate to be paid on small projects where competition from nonunion firms tends to be heaviest. Similarly, on federally financed construction, if the prevailing wage rate that must be paid under the Davis-Bacon Act is determined to be less than the union scale, some contracts allow the employer to pay the lower rate, to be able to compete for the job. New "helper" classifications have been developed for workers who do not perform all the duties of the craft and are paid less than full craft rates. More direct approaches to reducing labor costs—wage and benefit cuts and freezes—have also been negotiated.

Since 1983, substantial proportions of workers covered by major construction contracts have had their wages cut or frozen for the term of the agreement—37 percent in 1983, 46 percent in 1984, and 30 percent during the first 9 months of 1985. The cuts and freezes, coupled with comparatively modest increases for the remaining workers, yielded average wage adjustments over the contract term that, since 1983, have been small relative to earlier years. During the first 9 months of 1985, contract settlements called for wage adjustments averaging 2.1 percent annually over their term. By comparison, adjustments specified in the contracts they replaced averaged 3.3 percent annually over their term, and 1982 settlements called for wage adjustments that averaged 6.3 percent a year over the life of the contract.

There is nothing on the horizon to indicate that 1986 bargaining in construction will produce settlements very different from those reached beginning in 1983.

Aluminum

Contracts between major aluminum producers and the United Steelworkers of America and the Aluminum, Brick and Glass Workers International Union are scheduled to expire in May 1986. These agreements cover about 45,000 workers.

The three largest companies, Aluminum Co. of America, Reynolds Metals Co., and Kaiser Aluminum and Chemical Corp. have traditionally been the pattern setters for smaller firms. The 3-year contracts negotiated in May 1983 gave no specified wage increases. They modified the quarterly cost-of-living adjustment to provide wage changes of 1 cent an hour for each 0.3-point movement in the Consumer Price Index (1967 = 100) for the first 2 contract years, and 1 cent for each 0.26-point change in the third contract year. Sunday premium pay was reduced from half to time and one-quarter. The eligibility period for extended vacation was increased from 5 years of service to 7.

After suffering heavy losses due to the depressed aluminum market, Kaiser Aluminum sought to modify the terms of the 1983 agreement to achieve additional labor cost savings. A new 3-year contract reached with the Steelworkers, effective April 1, 1985, reduced compensation by an average of $4.50 an hour, and established an employee stock purchase plan to be financed by diverting money stemming from any quarterly cost-of-living adjustment.

Earning levels among aluminum producers reflect their product mix. Companies such as Aluminum Co. of America and Reynolds Metals Co., have achieved a profitable product mix, while others, including Kaiser Aluminum, are facing financial difficulties. Despite the recent labor cost cuts, reduced employment and modernization of plant and equipment, Kaiser has not been able to make a profit.

Two forces are hurting the aluminum industry. First, few new markets have opened up since 1980, and the current annual growth rate for the industry is less than 3 percent. Second, foreign producers have expanded rapidly and obtained a competitive edge because of the strong U.S. dollar and labor and production costs that are lower than in the United States.

The domestic industry is doing what it can to meet foreign competition and halt the erosion in profits. Some aged, high cost domestic ingot plants have been closed, and products have been upgraded through expanded research and plant modernization. Producers can be expected to try to reduce labor costs, while union representatives will probably focus on job security.

Farm machinery

Contracts covering approximately 50,000 workers in the troubled farm machinery industry are scheduled to expire in March and June. Negotiations are slated between the International Union, United Automobile, Aerospace and Agricultural Implement Workers of America (UAW) and the Caterpillar Tractor Co., Deere and Co., and Klockmen-Humboldt-Deutz AG of West Germany, which acquired Allis-Chalmers Corp. farm machinery operations in 1985. Agreements with J. I. Case (a subsidiary of Tenneco's Inc.), which acquired International Harvester's farm machinery operations in January 1985, will not expire until 1987.

The farm machinery industry has suffered economic difficulty since the record sales of the 1970's. The 1980's have seen depressed farm values and low commodity prices discourage farmers' investment in new equipment. Voluntary and foreclosure sales of farms have resulted in a supply of used machinery at low prices. The strong dollar has hindered sales abroad, and there is increasing competition in both overseas and domestic markets from foreign manufacturers such as Kubota. American companies have reacted by curtailing output, offering substantial discounts on their products, and negotiating labor cost reductions.

Efforts to negotiate reduced labor costs began in 1982 with an early reopening of the UAW International Harvester contract. A new 29-month agreement did not provide any specified wage increases over its life, deferred the first 3 quarterly COLA payments for 18 months, and eliminated paid personal holidays. The accord also established an employee profit-sharing plan. In contrast, the subsequent 1984 agreement provided wage increases of 31 cents per hour effective October 1984, and 2.25 percent effective October 1985, and restored the COLA clause, paid holidays, and other benefits.

In February 1983, Allis Chalmers also negotiated a cost-reducing agreement which froze wages, suspended the COLA clause for 5 months, reduced holidays from 15 to 10 per year, and eliminated vacation and Christmas bonuses.

Caterpillar sought a similar labor cost saving contract. The May 1983 pact that ended a 7-month strike, froze wages but continued the COLA clause and established a profit-sharing plan. Contract provisions were introduced to improve job security. These included: advance notice prior to plant shutdowns or outsourcing, the use of a "master" recall list for hiring, and additional employer contributions to the Supplemental Unemployment Benefit (SUB) fund.

Deere and Co. settled with the UAW in July 1983 under terms similar to the Caterpillar agreement. However, the accord also provided a one-time "settlement bonus" of 40 hours' pay and a special 3.9 percent "COLA" payment.

Given the continued economic hardships faced by farm machinery producers, 1986 contract talks can be expected to emphasize job security provisions and labor cost-saving issues.

Health care

Contracts covering 106,000 of the 140,000 health care workers under major agreements are due to expire during 1986. If past practice is followed, two contracts will directly or indirectly set wages and working conditions for about 72,500 workers. A contract between the Greater New York Health Care Facilities Association and the Service Employees International Union (SEIU) expires in March. It covers 15,000 workers at about 55 nursing homes. When it was negotiated in June 1984, it also set the pattern for an additional 7,500 employees at 30 nursing homes which "followed suit," although they were not members of the association. Similarly, an August 1984 contract between the 50-member League of Voluntary Hospitals and Nursing Homes in New York, and District 1199 of the Retail, Wholesale, and Department Store Union (RWDSU) representing 38,000 employees of the League was a pattern setter for an additional 12,000 workers at 12 hospitals.

The industry has been under pressure from both State and Federal governments to hold down costs and to change its methods of pricing health care to patients. In 1983, the

Federal Government established reimbursement schedules for health care under Medicare and Medicaid under which the Government will pay only specified predetermined amounts for such services. Costs above the amount must be absorbed by the health facility, but if costs are below the amount, the difference is retained by the facility.

The 1984 settlements in New York reflected cost-containment pressures. Although wage and benefit increases were negotiated along with improvements in working conditions, they were contingent on Federal and State increases in Medicare and Medicaid reimbursement schedules. The increases were never approved and consequently the negotiated contract improvements were only partially effected.

The failure to fully implement the terms of the 1984 contracts will influence bargaining in the health care industry in New York. In the rest of the country, where 40,000 workers are under major contracts that will be negotiated, the issue of cost control will be a concern. Other problems will be addressed as well—job security, staffing patterns, contracting out of work, and the use of unpaid volunteers, for example.

In addition to RWDSU and SEIU, the American Nurses Association and the National Union of Hospital and Health Care Employees (which broke away from the RWDSU in 1984) will be bargaining over 24 contracts covering hospitals, nursing homes, clinics, and other health care facilities throughout the country.

Steel

Contracts between steel producers and the United Steelworkers of America, that originally covered approximately 275,000 workers (including those temporarily laid off), are scheduled to expire on July 31, 1986. Among the major companies that will be negotiating are Bethlehem Steel Corp., Inland Steel Co., U.S. Steel Corp., Armco Inc., National Steel Corp., LTV Steel Corp., and Laclede Steel Co. For the first time in three decades, all the companies will be bargaining separately.

Depressed economic conditions in the U.S. steel industry have contributed to the demise of one of its most venerable practices—coordinated bargaining between the United Steelworkers of America and the major steel producers. Industry-wide bargaining provided individual major steel producers a united voice in the negotiation but at the same time deprived them of the ability to alter labor costs to meet individual company circumstances. It enabled the United Steelworkers to maintain wage uniformity across the industry, shielding wages from competition. Twelve companies participated in the process in 1956 when the unified approach was initiated. Subsequently, the number of companies that bargain together shrank to nine in 1980 and to seven when the last national agreement was negotiated in 1983. When it dissolved in May 1985, the coordinated bargaining committee consisted of five members, U.S. Steel Corp., Bethlehem Steel Corp., Armco Inc., Inland Steel Co., and LTV Steel Corp.

In the last 3 years, the U.S. steel industry has experienced staggering losses, layoffs, and plant closings as a result of its continued inability to compete with foreign producers in shrinking overseas and domestic markets because of outdated equipment, and higher labor costs. The industry's financial losses totaled nearly $7.1 billion between 1982 and 1984. Overall employment has declined from 256,000 in 1983, when the expiring contracts were negotiated, to 200,000 early in September 1985.

Steel imports in 1983 and 1984 depressed domestic steel shipments and prices. Imports accounted for 20.5 percent of the U.S. market in 1983 and captured a record high of 26.4 percent of domestic consumption in 1984. U.S. steel producers together with United Steelworkers of America, members of Congress, and local public officials mobilized support for Federal legislation to limit steel imports to 15 percent of the U.S. market. In September 1984, President Reagan announced a program to reduce annual imports of finished steel products to 18.5 percent for a period of 5 years. In the first 9 months of 1985, however, imports accounted for about one-fourth of the market, depressing the demand for domestic steel.

Steel companies have initiated various approaches to deal with their distressed situations. For example, Wheeling-Pittsburgh, the seventh largest steel maker, borrowed heavily for modernization and entered into a joint venture with Japan's Nisshiu Steel Co. Two renegotiations of contracts with the Steelworkers resulted in wage and benefit cuts in exchange for the establishment of an employee stock ownership plan. All these efforts were not sufficient to solve the company's financial problems. The company filed for bankruptcy after heavy losses in the first quarter of 1985. While operating under Chapter 11 of the Federal Bankruptcy Code, Wheeling-Pittsburgh won court approval to annul its labor pact. The company's move to reduce wages and benefits by 18 percent, to $17.50 an hour, was rejected by the 8,200 Steelworkers. They walked off their jobs on July 21, 1985, in the steel industry's first major walkout since the 116-day industrywide strike in 1959.

On October 26, 1985, the Steelworkers ratified a new contract reducing compensation to $18 an hour. The accord replaced the company's pension plan with a less costly one and provided workers a greater role in the company's financial management. The pact linked wages to the price of steel—for each 1-percent rise in the company's steel price, workers will receive 20 cents more an hour, for a maximum of $1 an hour. Implementation of this contract required the approval of the Federal bankruptcy court and the main creditors of the company.

Other companies have adopted measures such as reducing excess capacity, selling profitable operations to acquire working capital and entering new ventures with foreigners. Armco, for example, closed a steel mill in Houston, sold coal reserves and announced the sale of its aerospace business in August 1985. Inland closed its operation at Indian Harborworks in Chicago; LTV idled its operation in Aliquippa, PA, and put its specialty steel-producing company up for sale as part of a restructuring of its steel operations; U.S. Steel is negotiating a partnership with South Korea's Pohang Iron and Steel Co.

The expiring agreement was negotiated in February 1983 and replaced a contract that still had 5 months to run. Faced with the need to deal with rapidly rising unemployment and financial losses, the Steelworkers and the members of the Coordinated Bargaining Committee had agreed to early contract talks in mid-1982. After twice failing to reach agreement, the employers and union settled on a 41-month contract that provided labor cost cuts in return for improvements in job security and increased aid to laid-off workers. The contract temporarily cut wages $1.25 an hour and eliminated the 6-cent cost-of-living increases paid but, under the terms of the superseded 3-year agreement, not incorporated in the wage rate. The quarterly cost-of-living payments were suspended until July 31, 1984. The extended vacation plan was eliminated. Vacations, holidays, and Sunday premium pay were temporarily reduced. The companies raised their contributions to supplemental unemployment benefits by 50 cents an hour.

Although specific goals for the coming negotiations have not yet been set, the continued economic difficulties of the industry and their effect on the companies and the workers will be the focus of attention. Reducing labor costs and protecting job security will undoubtedly be major issues. Unlike the negotiations over the last three decades, 1986 bargaining will see each major producer trying to achieve contract terms best suited to its own circumstances.

Copper

Approximately 14,000 workers in the copper industry are covered by collective bargaining agreements scheduled to expire in May 1986. The major companies that will be involved in the negotiations are Kennecott Corp; Magma Copper Co.; Inspiration Consolidated Copper Co.; American Smelting and Refining Co. (ASARCO); and U.S. Metals Co. A coalition of unions, led by the United Steel Workers, will represent the workers at these contract talks.

The copper industry has been plagued by falling prices and falling demand, resulting in net losses in 1984 for the large copper producers—Kennecott, ASARCO, and Phelps Dodge. In 1980, metal mining in the United States was a $8.5-billion enterprise. By 1983, it had shrunk to $5.9 billion. U.S. copper producers cut output in 1983 to 1 million metric tons from 1.6 million tons in 1982. Nevertheless, copper supplies have continued to pile up due to abundant foreign copper. Substitution of plastic and optic fibers for copper and a decline in the grade of the available ore are other factors weakening the copper mining industry in the United States.

The industry's most visible problem is prices. Price setting, once the province of North American oligopolies, shifted in the 1980's to the floor of world commodities exchanges, chiefly the London Metal Exchange. Copper prices have dropped as copper output increased in Third World countries. In 1984, the price of copper fell below 70 cents a pound or 15 to 17 cents below the break even point for the best U.S. mines.

The 1983 contracts negotiated by Kennecott, Magma Copper Co., American Smelting and Refining Co., Inspiration Consolidated Copper Co., and U.S. Metal Co. established a pattern for most of the copper mining and processing industry. The agreement froze wages for its 3-year term but continued the quarterly cost-of-living adjustment providing 1 cent for each 0.3-point change in the CPI. Benefits were frozen for incumbent workers and reduced for anyone hired after July 19, 1983.

Contract talks failed to yield an agreement with Phelps Dodge Corp., resulting in a strike by a 12 union coalition led by the Steelworkers that began on June 30, 1983. Phelps Dodge, the Nation's No. 2 copper producer, had temporarily shut down all its mining operations between April 1982 and the end of the year, putting 3,800 employees out of work. When negotiations began in 1983, the company proposed to abolish the cost-of-living adjustment clause, freeze wages, and reduce benefits. The union refused to deviate from the terms of the earlier settlement with Kennecott and the Nation's other top copper producers. Phelps Dodge has continued operating its mines despite the strike. Elections to decertify the union have been held. The union lost these elections but the results are being appealed.

As bargainers prepare for 1986 negotiations, U.S. copper producers are still confronted by falling prices, heavy losses, and a depressed market for their products. They are expected to seek cuts in wages and benefits. The unions intend to maintain the tradition of pattern bargaining and will attempt to gain job security provisions.

Telephone communications

No industry will have a more dramatically different bargaining setting in 1986 compared with earlier years than the telephone industry. Instead of bargaining over a single national agreement on wages and benefits for American Telephone and Telegraph Co., the industry may see bargaining over more than 20 separate agreements. This change stems from the January 1984 breakup of AT&T from a single national company providing local and long distance service, into a company providing national long distance and allied services—AT&T Information Systems (ATTIS)—and seven independent regional companies consisting of 22 local operating companies. In August 1983, before the divestiture, a 3-year national agreement was reached with AT&T by the Communication Workers of America (CWA), the International Brotherhood of Electrical Workers, and the Telecommunications International Union. The agreement, which remained in effect for the companies created by the breakup of AT&T, was negotiated after a 22-day strike. The major issues that faced the bargainers were job security and income protection in light of expected cuts due to the divestiture. The accord provided:

- A new personal or career development training program financed by the company to provide training which would be considered when transferring employees;
- An improved Supplemental Income Protection plan for workers who leave the company due to technological change or other reasons resulting in layoffs or involuntary reassignments to lower-paying jobs or to work locations requiring a change in residence;
- Improved reassignment pay protection for downgraded employees.

The pact provided an immediate 5.5 percent pay increase for workers at the top of the progression scale, smaller increases for those at lower steps, and no increase in starting rates. All employees, including those working at starting rates, were guaranteed an increase of at least $2.50 a week. In August of 1984 and 1985, there were additional increases of 1.5 percent at the upper rates, lesser increases at intermediate rates, but no change in starting rates. The COLA formula was unchanged.

Since the last negotiation and the breakup of AT&T, there have been significant cuts in employment. Local companies have reduced employment by about 40,000, largely through the use of new technology, increased contracting out of jobs, and the use of smaller crews of craftworkers to cover larger geographic areas. In August 1985, ATTIS announced it was going to lay off about 10,000 workers. This led the CWA to take a strike vote—an unusual event during the term of an agreement. The union maintained that the company was violating contract provisions on subcontracting and a 1982 promise not to lay off workers for 7 years. A strike was averted on October 30, 1985, when the company announced a reduction in the number of layoffs contemplated, and agreed to provide the union with information on subcontracting.

This summer's negotiations will cover about 486,000 employees of the former AT&T. Companies involved are: ATTIS, composed of Bell Laboratories, Western Electric, and the Long Lines Department (a total of 174,000 employees) and seven regional companies: U.S. West (34,000 employees), Ameritech (43,000 employees), Bell Atlantic (30,000 employees), Nynex (29,000 employees), Bell South (68,000 employees), Southwestern Bell (51,000 employees) and Pacific Telesis (57,000 employees). These 7 regional companies consist of the 22 independent Bell operating companies, each of which retains local regulated monopolies to provide local telephone service and provide other services on a competitive basis, such as selling telephone equipment and publishing the "Yellow Pages" directory. CWA will be led in negotiations by President Morton Bahr, the former head of CWA's New York District, who was elected to succeed the retiring Glenn Watts in July 1985.

The structure of the coming talks is still uncertain. While CWA will not attempt to negotiate a national contract, it is still seeking a national patttern. It has set up two separate bargaining councils—one to bargain with ATTIS and one to bargain with the regional companies. CWA will bargain nationally with ATTIS and hopes to bargain separately with each of the seven regional companies. However, several regional companies are resisting this effort and want to negotiate a separate agreement for each operating company in the region.

CWA intends to maintain uniform benefits and wages across the country but may have problems doing so because of diverse local cost conditions, the varying financial strength of each company, and the rapid creation of new jobs and skills that could make it difficult to compare job titles, duties, and lines of promotion across companies.

Another major focus of bargaining will be the union's desire to negotiate for job security as opposed to the companies' interest in reducing employment through job restructuring and technological change. Other major bargaining issues will include improved health insurance, improved safety on the job, and participation in "quality of worklife" programs.

Other telecommunication companies will also be bargaining in 1986. Contracts with General Telephone and Electric expire in the spring; they cover about 40,000 workers.

Aerospace

About 100,000 aerospace workers are covered by major collective bargaining agreements scheduled to expire this fall and during the first half of 1987. Among the major aerospace companies that will be negotiating are the Boeing Co., McDonnell Douglas, Bendix Aerospace (a subsidiary of Allied Corp.) Rockwell International Corp., Lockheed Aircraft Corp., United Technologies, and General Dynamics Corp. The two major unions involved are the International Association of Machinists and Aerospace Workers (IAM) and the International Union of United Automobile, Aerospace and Agricultural Implement Workers of America (UAW).

Since the last round of negotiations in 1983, the aerospace industry has had an increase in production of military goods and a growth of conglomerates and joint ventures. In 1984, the industry had the largest sales volume (in current dollars) in its history. Weak commercial aircraft sales (in 1984, 185 commercial transports were delivered compared to 702 in the peak year of 1968) were more than offset by increased sales of military aircraft, missiles, and space products.

Several factors have contributed to the increase in merger activity and joint ventures. Excess capacity, reduced demand for civilian aircraft, high interest rates, and uncertainty about fuel costs and new technology have beset the industry. Furthermore, aerospace companies often make large up-front investments which yield low-volume production runs. Through joint ventures, development and production costs are shared. The result has been increased coproduction among U.S., European, and Japanese firms.

The number of U.S. aerospace companies has declined in recent years because of mergers. Some examples in 1985 include Rockwell International's acquisition of Allen Bradley, Textron's purchase of AVCO, and Allied Corp.'s buyout of the Signal Companies. Recent mergers have also diversified nonaerospace companies such as Chrysler Corp., which purchased Gulfstream Aerospace, and General Motors, which acquired Hughes Aircraft.

Recent rounds of negotiations have been on a company-by-company basis with the earliest settlements usually establishing a pattern for the rest of the industry. Specific terms and expiration dates, however, have varied.

During the last round of bargaining that began in October 1983, the Boeing Co. and the IAM settled on a 3-year agreement. The contract called for no specified wage increases but provided an annual lump-sum payment each December of 3 percent of earnings during the 12 months ending the previous October. Employees received a 3-percent COLA "prepayment" each October, which was offset by quarterly COLA adjustments. In an effort to slow wage compression between grades, employees in specified lower grades did not receive the prepayments in 1984 and 1985. The accord also established a two-tiered wage structure, reduced pay scale for employees in lower grades and introduced a "new technology" clause which provided employee training. This settlement, with some modifications, established a general framework for most agreements in the industry. McDonnell–Douglas reached a similar agreement with the UAW in 1984, after a 117-day strike over the issue of lump-sum payments. The UAW opposed them because they were not incorporated into basic wage rates and thus the hourly wage base remained the same. Also, lump-sum payments may not be reflected in some benefits. McDonnell–Douglas later negotiated a 3-year contract with the IAM, replacing the contract that expired in May 1984.

Negotiations this year will be influenced by strong profits in the industry and forecasts of record sales. Civilian aircraft sales are anticipated to improve as airlines move to replace outdated equipment to take advantage of lower operating costs of new equipment. Military and space sales are also expected to increase. However, the Defense Department will probably encourage aerospace contractors to keep costs from rising. Two-tier wage structures are likely to be an issue in light of the decisions to drop them at Hughes Aircraft in 1984 and at General Dynamics in 1985. Lump-sum payments are also expected to be a topic for negotiation.

Longshoring

Contracts covering 50,000 dockworkers in 36 East and Gulf Coast ports are scheduled to expire on September 30, 1986. Negotiations are expected to begin in April between the International Longshoremen's Association (ILA) and the

Table 4. Scheduled deferred wage changes in 1986 under major collective bargaining agreements, by industry

Selected industry	Number of agreements	Number of workers (thousands)	Mean change							Median change		Mean increase
			Total		Agreement with COLA			Agreement without COLA				
			Cents	Percent[1]	Cents	Percent[1]	Cents	Percent[1]	Cents	Percent[1]	Cents	Percent[1]
Total[2]	780	3,726	52.4	4.3	41.1	3.6	56.7	4.5	45.2	4.0	52.7	4.3
All private nonagricultural industries	580	2,568	48.7	3.9	41.2	3.6	55.2	4.1	45.0	3.6	50.0	4.0
Manufacturing[3]	200	928	40.7	3.7	38.0	3.4	46.1	4.4	45.0	3.4	40.7	3.7
Food and kindred products	26	67	38.6	3.6	25.9	2.5	49.3	3.9	41.5	4.0	38.9	3.8
Apparel and other finished products	23	129	36.6	4.8	36.5	4.9	38.4	5.1	34.4	5.0	38.6	4.9
Rubber and miscellaneous plastics products	7	30	13.0	1.3	10.0	0.8	29.0	3.3	10.0	0.8	13.0	1.3
Metalworking	91	560	41.8	3.4	39.7	3.2	50.5	4.9	45.0	3.4	41.0	3.4
Nonmanufacturing[4]	350	1,632	54.8	4.1	48.4	4.1	58.7	4.1	50.0	3.9	55.4	4.1
Construction	150	[illegible]	77.8	4.5	90.5	5.2	77.6	4.5	65.0	4.0	77.8 4.5	
Transportation, communications, and gas and electric utilities	70	502	59.1	3.9	48.1	3.7	63.1	4.0	50.0	3.7	59.1	3.9
Wholesale and retail trade	79	380	31.5	3.7	17.8	1.6	34.2	4.0	29.4	3.8	32.9	3.8
Finance, insurance and real estate	12	72	49.5	5.9	54.4	5.7	24.2	2.8	51.2	5.7	51.0	5.4
Services	37	219	58.2	4.7	58.0	6.1	58.0	4.3	44.9	5.0	58.2	4.7
State and local government	200	1,158	58.6	5.0	37.5	2.9	59.6	5.0	50.4	5.0	58.6	5.0

[1] Percent of straight-time average hourly earnings.

[2] Includes all private nonagricultural industries and State and local government.

[3] Includes workers in the following industry groups for which data are not shown separately to ensure confidentiality of earnings data: Tobacco (2,000); lumber (4,000); leather (8,000); paper (65,000); printing (18,000); chemicals (16,000); leather (12,000); stone, clay, and concrete (19,000); instruments (1,000); and miscellaneous manufacturing (5,000).

[4] Includes 100,000 workers in the mining industry for which data are not shown separately to ensure confidentiality of data.

NOTE: Workers are distributed according to the average adjustment for all workers in each bargaining situation considered. Deferred wage increases include guaranteed minimum adjustments under cost-of-living clauses. Because of rounding, sums of individual items may not equal totals.

employer associations representing ocean-going carriers, stevedoring firms, marine terminal operators, and others that move ocean passengers and freight.

The ILA will bargain over a master agreement with a steering committee representing 10 associations and companies. The master agreement covers issues such as wages, hours of work, contract duration, and employer contributions to pension, health, and welfare funds. After a master agreement is reached, local agreements must be negotiated at all ports. They deal with the guaranteed annual income (GAI) plan, holidays, vacations, working conditions, and the amount of pension and welfare benefits paid out.

After more than 10 years of litigation that twice involved the U.S. Supreme Court, rules requiring that longshoremen handle ocean-going containerized cargo within 50 miles of port, first negotiated in 1974, will not be an issue this year. In June 1985, the Supreme Court found that issues involving handling of containerized cargo were legitimate topics for bargaining and permitted the implementation of the rules.

Table 5. Distribution of workers scheduled to receive deferred wage increases in 1986 under major collective bargaining agreements, by industry and amount of increase

(Workers in thousands)

Increase	All industries	Private nonagricultural industries			State and local government
		Total	Manufacturing	Nonmanufacturing	
CENTS PER HOUR					
Under 15 cents	118	97	38	59	21
15 and under 20	77	72	18	54	5
20 and under 25	144	105	31	74	39
25 and under 30	219	189	51	138	30
30 and under 35	346	253	193	60	93
35 and under 40	280	166	85	81	113
40 and under 45	244	145	51	94	100
45 and under 50	707	544	355	189	162
50 and under 60	690	526	38	488	164
60 and under 70	198	117	24	93	81
70 and under 80	242	80	27	53	162
80 and under 90	123	50	16	34	74
90 and under 100	42	21	1	20	21
100 and under 110	84	77	6	71	6
110 and under 120	63	50	—	50	13
120 and over	136	62	1	61	74
PERCENT[1]					
Under 2 percent	227	194	76	119	33
2 and under 3	344	272	51	220	72
3 and under 4	1,241	1,067	493	574	174
4 and under 5	538	455	164	291	82
5 and under 6	934	423	107	315	511
6 and under 7	347	94	17	77	253
7 and under 8	67	48	25	23	19
8 and under 9	19	12	1	11	7
9 and under 10	7	7	—	—	—
10 and under 11	6	—	—	7	6
11 and under 12	13	13	1	12	—
12 and over	2	2	—	2	—
Number of workers (in thousands)	3,714	2,556	936	1,620	1,159
Number of agreements	785	546	238	308	239

[1] Percent of straight-time hourly earnings.

NOTE: Workers are distributed according to the average adjustment for all workers in each bargaining situation considered. Deferred wage increases include guaranteed minimum adjustments under cost-of-living clauses. Because of rounding, sums of individual items may not equal totals. Dashes indicate no workers.

Table 6. Deferred wage increases scheduled in 1986 in major collective bargaining situations, by month

(Workers in thousands)

Effective month	Workers covered[1]	Principal industries
January–December[2]	3,714	
January	587	Bituminous coal, State and local government
February	403	Steel, food stores
March	135	Food stores
April	787	Trucking, bituminous coal, construction, State and local government
May	183	Construction
June	439	Construction, apparel
July	1,150	Bituminous coal, construction, food stores, electrical products, State and local government
August	145	Motion pictures, hotels
September	330	Parcel delivery, State and local government
October	188	Bituminous coal
November	57	...
December	101	Food stores, construction

[1] Includes 1,159,000 workers under state and local government agreements.

[2] This total is smaller than the sum of individual items because 422,000 workers are scheduled to receive more than one increase. It is based on data available as of Oct. 1985, and thus may understate the number of workers scheduled to receive deferred increases for the entire year; 13,500 workers are scheduled to have a deferred wage decrease in 1986.

In 1983, negotiation of a 3-year master contract was completed more than 4 months before the October 1, 1983, expiration date of the existing contract. It provided wage increases of $1 an hour on October 1 of 1983, 1984, and 1985 and a $1.25-an-hour increase in employer payments to benefit funds over the life of the contract. However, while local issues were still being negotiated, the Federal Maritime Commission asked for a Federal injunction to stop the implementation of containerized cargo rules. The ILA suspended local talks, but a strike was avoided by the negotiation of a stopgap 106-day master agreement which allowed local talks to continue. The containerization issue was subsequently partially resolved, and the terms of the original agreement were carried out.

Among the issues addressed by the local negotiations in 1983 was the GAI plan, which guarantees eligible workers a specified number of hours of pay per year, whether or not they work. The number of guaranteed hours, which varies from port to port, was raised in some ports but lowered in others.

At this time, the major bargaining issues for 1986 remain unclear. The ILA has expressed concern that "dummy" companies have been established by employers using nonunion workers. Both parties are intent on maintaining the competitive position of the ports in which they operate.

State and local government

There are 239 major State and local government contracts scheduled to reopen or expire during 1986. The agreements cover 741,000 workers. These include 53 State contracts covering 273,000 workers and 186 local agreements involving 468,000 workers. Of the total, 127 contracts for 370,000 workers terminate in June. Expiring contracts cover about one-third of the workers under major agreements in both State and local government.

About half the workers covered by expiring or reopening State contracts are in general administration, 9 percent work for higher education institutions, and the balance are employees in a variety of activities, including hospitals, social services, and protective service agencies. Three States account for about one-half of all State workers under major contracts slated for bargaining in 1986: New Jersey (57,000 workers), Massachusetts (51,000), and Illinois (29,000).

On the local government level, 59 percent of the workers under expiring contracts are in education, 23 percent are in general administration, and 13 percent are in protective services. Bargaining will be widely scattered—no single jurisdiction will account for as much as 6 percent of the workers for whom new contracts will be negotiated.

During the first 9 months of 1985, major contract settlements provided first-year wage adjustments of 4.7 percent in both State and local government, and average annual adjustments of 4.8 percent in State government and 5.6 percent in local government over their term.

Concern for limiting labor cost increases was reflected in many agreements. Some provide two-tiered wage and benefit structures, in which new hires receive lower wages and/or benefits than incumbent employees. Others establish or increase worker copayments for health and other benefits.

Workers in public education constitute the largest bloc of employees (273,000) for whom new agreements will be negotiated. The vast majority are teachers. Depending on the jurisdiction, contracts may cover all employees—teachers, aides, custodians, and so on—or there may be a separate agreement for each job classification. The National Education Association (Independent) and the American Federation of Teachers (AFL-CIO) are the dominant unions representing workers in public education.

During the first 9 months of 1985, settlements in primary and secondary education called for average wage adjustments of 5.3 percent the first year and 6 percent a year over the contract duration. Wages will continue to be a concern for both employees and employers in 1986 for the usual economic reasons. Another issue, however,is the shortage of qualified teachers in some school systems and the role that higher pay could play in attracting sufficient people to the profession. By 1995, 639,000 additional educators will be needed, according to a recent forecast.[3] Bargaining will focus on a variety of other issues as well, including merit pay, class size, and noninstructional duties for teachers.

On April 1, 1984, Ohio passed a law giving approximately 52,000 State and 134,000 local government employees the right to bargain over wages and benefits and a limited right to strike. Seven unions and employee associations are competing to represent workers in a number of bargaining units defined along functional lines (for example, hospitals, highway maintenance, educa-

Table 7. Prevalence of cost-of-living adjustment clauses in major collective bargaining agreements, October 1985

1972 SIC Code	Industry¹	All agreements: Number	All agreements: Workers covered (thousands)	Agreements with COLA clauses: Number	Agreements with COLA clauses: Workers covered (thousands)	Agreements with COLA clauses: Percent workers covered by COLA clauses
	Total	2,025	9,130	447	3,524	39
	Private nonagricultural industries	1,449	6,981	434	3,458	50
10	Metal mining	10	24	8	21	88
11	Anthracite mining	1	1	1	1	100
12	Bituminous coal and lignite mining	1	105	—	—	0
15	Building construction general contractors	137	452	7	41	9
16	Construction other than building construction	97	311	10	53	17
17	Construction-special trade contractors	153	301	9	22	7
20	Food and kindred products	69	175	13	26	15
21	Tobacco manufacturing	5	17	5	17	100
22	Textile mill products	8	31	1	5	16
23	Apparel and other finished products	36	341	25	218	64
24	Lumber and wood products except furniture	9	51	1	2	3
25	Furniture and fixtures	5	10	1	2	16
26	Paper and allied products	45	71	—	—	0
27	Printing, publishing, and allied industries	21	37	10	17	47
28	Chemicals and allied products	31	63	6	12	18
29	Petroleum refining and related industries	16	31	—	—	0
30	Rubber and miscellaneous plastics	12	39	9	32	82
31	Leather and leather products	8	20	—	—	0
32	Stone, clay, glass, and concrete products	25	98	22	92	94
33	Primary metals industries	61	401	48	365	91
34	Fabricated metal products	29	61	21	51	84
35	Machinery, except electrical	40	122	29	99	81
36	Electrical machinery equipment and supplies	59	315	43	272	86
37	Transportation equipment	77	850	61	784	92
38	Instruments and related products	8	18	2	4	23
39	Miscellaneous manufacturing industries	9	13	1	2	12
40	Railroad transportation	26	378	19	349	92
41	Local and urban transit	6	22	2	14	65
42	Motor freight transportation	15	283	9	116	41
44	Water transportation	16	69	4	19	27
45	Transportation by air	38	166	3	8	5
48	Communications	41	718	23	642	89
49	Electric, gas, and sanitary services	74	244	11	50	20
50	Wholesale—durables	3	6	—	—	0
51	Wholesale trade—nondurables	7	35	1	25	72
53	Retail trade—general merchandise	15	61	2	13	22
54	Food stores	100	476	12	38	8
55	Automotive dealers and service stations	6	8	—	—	0
56	Apparel and accessory stores	2	5	—	—	0
58	Eating and drinking places	14	44	—	—	0
59	Miscellaneous retail stores	5	13	1	4	32
60–65	Finance, insurance, and real estate	24	119	6	55	46
70–89	Services	85	411	8	47	11
	State and local government	576	2,149	13	39	2

¹Includes all private nonagricultural industries and State and local government.

NOTE: Due to rounding, sums of individual items may not equal totals, and percentages may not reflect shown ratios. Dashes indicate absence of cost-of-living coverage.

tions on initial contracts are expected in 1986 and will focus on wages as well as general working conditions, benefits, and promotion opportunities.

Scheduled wage changes in 1986

About 3.7 million of the 9.1 million workers[4] under major collective bargaining agreements are scheduled to receive deferred wage changes in 1986—37 percent of those in private industry and 54 percent of those in State and local government. Except for 13,000 workers in private industry who have a deferred *decrease*, all the workers with wage changes will get increases. (See tables 4, 5 and 6.) Some workers will receive lump-sum payments during the year; such payments are not included in this series.

Deferred changes (increases and decreases) will average 4.3 percent—3.9 percent in private industry and 5 percent in State and local government. In private industry, deferred changes negotiated in 1983 will average 3.7 percent; those from 1984 will average 4.0 percent; and those from 1985 will average 4.1 percent. Comparable data are not available for State and local government.

Contracts with COLA's generally provide smaller deferred wage increases than those without because the COLA clause is expected to generate some additional wage increases. In 1986, deferred wage adjustments will average 3.6 percent for agreements with COLA's, compared to 4.1 percent for those without COLA clauses.

Cost of living adjustments

As of the end of the third quarter of 1985, 3.5 million of the 9.1 million workers under major agreements were covered by COLA clauses. (See table 7.) Almost all are in private industry, where half the workers under major agreements have COLA coverage. Only 2 percent of the workers under major agreements in State and local government have COLA's.

Table 8. Workers under cost-of-living adjustment clauses in collective bargaining situations, 1971–86

[Numbers in millions]

Year[1]	Total of workers	With COLA coverage	
	Number	Number	Percent
1971	10.8	3.0	27.8
1972	10.6	4.3	40.6
1973	10.4	4.1	39.4
1974	10.2	4.0	39.2
1975	10.3	5.3	51.5
1976	10.1	6.0	59.4
1977	9.8	6.0	61.2
1978	9.6	5.8	60.4
1979	9.5	5.6	58.9
1980	9.3	5.4	58.1
1981	9.1	5.3	58.2
1982	9.0	5.1	56.7
1983	8.5	4.9	57.6
1984	7.9	4.5	57.3
1985	7.5	4.2	56.7
1986	7.0	3.5	50.0

[1] Data relate to information available as of October 1 of preceding year.

Both the number and proportion of workers with COLA coverage in private industry decreased gradually from 1979 to 1984. (Comparable data are not available for State and local government.) These decreases stemmed largely from declining employment in industries where COLA clauses were common. During 1985, however, COLA coverage fell sharply (from 56.7 to 50 percent) because settlements for more than 300,000 workers (primarily in trucking and cotton garment manufacturing) dropped COLA clauses. Table 8 shows the number of workers under major private sector contracts and the number and percent covered by COLA clauses, 1971–86.

Table 9. Frequency and timing of 1986 cost-of-living reviews in major collective bargaining situations

[Workers in thousands]

Frequency of review	First quarter		Second quarter		Third quarter		Fourth quarter		Full year[5]	
	Number of agreements	Workers covered	Number of agreements	Workers covered	Number of agreements	Workers covered	Number of agreements	Workers covered	Number of agreements	Workers covered
All agreements[1]										
Total	201	1,464	167	1,370	124	956	91	629	262	1,817
Quarterly	169	1,287	137	1,153	101	794	77	718	175	1,295
Semiannual	18	82	10	96	14	71	9	93	29	179
Annual	14	94	20	121	9	91	5	18	48	325
Other[2]	—	—	—	—	—	—	—	—	10	19
Agreements expiring in 1986[3]										
Total	109	648	67	449	29	84	2	3	117	669
Quarterly	100	580	65	441	27	79	2	3	100	580
Semiannual	5	12	1	3	1	1	—	—	7	15
Annual	4	57	1	6	1	4	—	—	6	65
Other[2]	—	—	—	—	—	—	—	—	4	8
Agreements expiring in later years[4]										
Total	92	816	100	921	95	872	89	626	145	1,148
Quarterly	69	708	72	712	74	714	75	715	75	715
Semiannual	13	70	9	93	13	70	9	93	22	163
Annual	10	38	19	116	8	87	5	18	42	259
Other[2]	—	—	—	—	—	—	—	—	6	11

[1] Includes 8 state and local government agreements covering 25,200 workers.

[2] Includes monthly, combinations of annual and quarterly, combinations of annual and semiannual, and reviews dependent on the levels of the Consumer Price Index.

[3] Includes 3 State and local government agreements covering 8,300 workers.

[4] Includes 5 State and local government agreements covering 16,900 workers.

[5] Agreements that have at least one review in the year.

NOTE: Data include only cost-of-living reviews through the termination of the present agreement; does not assume continuation of reviews after expiration dates. Because of rounding, sums of individual items may not equal totals.

Cost-of-living reviews are made at intervals specified in each clause. Fifty-two percent of the workers covered by COLA clauses will have at least one review in 1986. (See tables 7 and 9.) Annual reviews affect 1.4 million workers, primarily in telephone communications and apparel industries; quarterly reviews cover another 1.4 million workers including those in automobile, steel and aerospace; and semiannual reviews cover 570,000 employees, mostly in the railroad and electrical products industry.

About 3.3 of the 3.5 million private industry and State and local workers with COLA clauses have possible adjustments tied to the movement in the CPI for "all cities." Most of the remainder have clauses based on an index for an individual city.

About one-quarter of a million workers are covered by a contract clause that specifies a "guaranteed" or minimum COLA payment. Adjustments under these clauses were determined at the time the contracts were negotiated and do not depend on the movement of a price index. Therefore, the Bureau of Labor Statistics treats them as specified wage adjustments and not as COLA's. Payments above the specified amount that relate to changes in the CPI are, however, considered COLA's.

Many of the contracts expiring in 1986 have COLA clauses that were modified from earlier agreements to reduce employer costs related to COLA's. Changes included deferral of COLA payments, diversions of COLA adjustments from wages to pay fringe benefits, suspension of payments, formulas that provide smaller increases, and maximum payments or "caps." These modifications are one more issue that bargainers will have to wrestle with in 1986. □

FOOTNOTES

[1] The major companies include Atlantic Richfield, Chevron, Exxon, Mobil, Occidental, Phillips, Shell, Standard Oil of Indiana, Standard Oil of Ohio, Sun Company, Tenneco, Texaco, and Unocal.

[2] Tom Nardone, "The Job Outlook in Brief," *Occupational Outlook Quarterly*, 1984, p. 13.

[3] Employment relates to the number of workers covered by contracts at the time of negotiation.

A note on communications

The *Monthly Labor Review* welcomes communications that supplement, challenge, or expand on research published in its pages. To be considered for publication, communications should be factual and anaytical, not polemical in tone. Communications should be addressed to the Editor-in-Chief, *Monthly Labor Review*, Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C. 20212.

State labor legislation enacted in 1985

In a heavy legislative year, major laws were enacted in many traditional areas, and new measures included restricting door-to-door sales by children and requiring background checks of day care personnel

RICHARD R. NELSON

There was a significant amount of both legislative activity and court action in the States during 1985, covering a wide variety of subjects in the field of employment standards.[1] Major laws were enacted concerning many of the traditional issues such as minimum wage protection, collection of unpaid wages, bans on employment discrimination, public employee collective bargaining, and restrictions on the use of polygraph examinations. Legislation on the rights of employees to receive information and training about toxic substances found on the job site was passed in several additional States, and interest also continued involving pay equity for job of "comparable worth" and the impact on employees of plant closings or relocations. New measures evidenced interest in restricting door-to-door solicitation by children, requiring background clearances of day care employees, and governing the use of video display terminals in the workplace. Three States repealed prevailing wage laws, which set wage rates for publicly funded construction.

Montana, Oregon, and Vermont enacted legislation this year providing for across-the-board minimum wage rate increases effective in 1985 or 1986; a wage order revision in the District of Columbia raised the minimum wage applicable to manufacturing, printing, publishing, and wholesale trade occupations; and mandatory decree revisions in Puerto Rico increased rates applicable to employees of the personal services and communications industries. In addition, minimum wage rates were raised in Arkansas, Illinois, and Maine as the result of automatic increases provided for by previous enactments. The $3.35 per hour Federal standard is now exceeded in Alaska, Connecticut, the District of Columbia, and Maine, and the rate in Vermont is scheduled to increase from $3.35 to $3.45 per hour on July 1, 1986. As of January 1, 1986, 20 jurisdictions have minimum wage rates equal to the Federal standard and Montana will reach this level on October 1, 1986. A new North Carolina amendment requires matching increases up to $3.60 an hour in the State minimum if the Federal rate is increased before July 1, 1987.

Among other minimum wage and overtime actions, the New Hampshire provision permitting a youth rate of 75 percent of the applicable minimum wage rate was limited to those age 16 or under rather than those 17 or under as before, and an Executive Order was issued in Maine in response to the U.S. Supreme Court ruling of February 19, 1985 in *Garcia vs. San Antonio Metropolitan Transit Authority et al*. that State and local governments are subject to minimum wage and overtime provisions of the Federal Fair Labor Standards Act. The Maine order establishes scheduling and other procedures to ensure that the State does not incur Federal overtime liability beyond its ability to pay.

The Oregon wage payment and collection law was amended to extend coverage to public sector employees,

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Richard R. Nelson is a State standards adviser in the Division of State Employment Standards Programs, Office of State Liaison and Legislative Analysis, Employment Standards Administration, U.S. Department of Labor.

and coverage was also extended to additional categories of employees under these laws in Illinois and Iowa. Also, in Oregon, an employer-financed wage security fund was established to pay wage claims of employees whose employers have ceased doing business and do not have sufficient assets to pay the claims. The Labor Commissioner in New York and the Director of Labor and Industries in Washington were authorized to enter into reciprocal agreements with other States for collection of claims or judgments for unpaid wages. In Illinois, wages collected by the Department of Labor which cannot be paid to affected employees will now be deposited into the State's general revenue fund, rather than returned to the employer. Employers in Nevada are now forbidden to require employees to work without wages during a trial or break-in period. In a signficant decision, on September 6, 1985, a U.S. Court of Appeals reversed and remanded a District Court decision which had held that the Federal Employee Retirement Income Security Act of 1974 preempts a California statute barring forfeiture of vacation pay and requiring payment of a pro rata share of such pay on the employee's termination.

State prevailing wage laws, which specify that wage rates paid on publicly funded construction contracts be not less than those prevailing in the locality, continued to be of great interest and controversy with measures to repeal, enact, or amend laws introduced in many States. Currently, 34 States have prevailing wage laws in effect. Laws were repealed this year in Colorado, Idaho, and New Hampshire, and a repeal bill passed the legislature in Louisiana but was vetoed by the Governor. In contrast, a bill to enact a prevailing wage law passed the legislature in Iowa but was blocked by veto. Several major amendments were made to the Oklahoma law including raising the threshold amount for coverage to $600,000, requiring use of rates determined under the Federal Davis-Bacon Act, providing for debarment of contractors in violation of the law, and making the public awarding agency liable for underpayment of wages in certain situations. Amendments in Nevada increased the threshold amount, provided for debarment, and required setting prevailing rates in each county through the use of an annual survey. Dollar threshold amounts were also increased in Connecticut and Wisconsin. The labor commissioner in Montana was given rulemaking authority under the State's law, and New York may now withhold payments due contractors who fail to provide requested payroll records. In Illinois, a Circuit Court judgment, affirmed by a State Appellate Court and currently on appeal to the State Supreme Court, has upheld the right of certain cities and counties with home-rule status under the State constitution to continue to exempt themselves from coverage of the prevailing wage law.

Most States have enacted laws to strengthen enforcement of court-ordered child support, in total or partial compliance with new Federal requirements under the Child Support Enforcement Amendments of 1984.[2] These amendments require that State laws must provide for automatic wage withholding to cover overdue and current child support, must limit the total wages withheld to the garnishable limit set in the Federal wage garnishment law, and must provide a fine against an employer for retaliating against an employee or job applicant because of such withholding.

Again this year, the issue of equal pay for jobs of comparable value in State government was addressed in some of the States. Among the more notable actions taken, the legislatures in Washington and Wisconsin appropriated money for comparable worth implementation, an evaluation of the State job classification system based on comparable worth principles was funded in Wyoming, and in New Jersey, an interim task force report was submitted recommending pay increases for certain employees and implementing legislation was introduced. A study of comparable worth for State employees was authorized in Utah, while North Carolina repealed a 1984 law providing for a similar study and the development of a job evaluation and pay system. Significantly, a 1983 U.S. District Court decision ordering comparable pay for Washington State employees was overturned on appeal in September 1985.

There was little activity this year related to child labor law or regulations with the notable exception of a few measures adopted relating to the employment of minors in door-to-door sales. Such work was prohibited for children under age 15 in Oklahoma and for those under 16 in Oregon. Oregon also issued special rules for the employment of 16- and 17-year-olds in employment of this kind, and Arizona amended its' night work hours restrictions to prohibit work after 7 p.m. in door-to-door solicitation. In other developments, a new Wisconsin law permits minors under age 12 to work in fundraising sales for nonprofit organizations with parental consent, and Illinois adopted new certificate requirements for minors under 16 employed in motion picture, radio, or television productions.

Legislation involving at least one of the various forms of employment discrimination was enacted in 24 jurisdictions in 1985 with primary concentrations being in the areas of discrimination on the basis of age and handicap. Among these, New Jersey prohibited mandatory retirement because of age in both the private and public sectors, except for State police officers, and Montana will no longer require mandatory retirement of firefighters and law enforcement personnel under their retirement systems. Also, a new Oklahoma law bans age discrimination in employment against persons between the ages of 40 and 70, and coverage of Louisiana's law against discrimination because of age was expanded to include employers subject to the Federal Age Discrimination in Employment Act. New laws were enacted or coverage of existing fair employment practice laws amended to provide handicapped persons protection from employment discrimination in Arizona, Nevada, North Carolina, and Wyoming. The Nevada law, banning discrimination by the State and political subdivisions, was also amended to prohibit discrimination on the basis of political affiliation.

Eight additional States enacted laws affording workers the right to be informed of and given training on toxic substances found in the workplace. Some of these laws extended the right to information to the communities in which companies using toxic substances are located, and three States, with prior laws giving protection to employees, enacted separate laws providing exclusively for community right-to-know.[3] These laws on toxic substance information, while originating in only the last few years, have now been enacted in a majority of the States.

Other occupational safety and health measures included a New Hampshire act limiting application of that State's law to public sector employees, an Oregon field sanitation law requiring employers of specified farm workers to provide them with convenient toilet and handwashing facilities and clean drinking water, and other laws relating to asbestos, elevator, mine, boiler, and amusement ride safety. An Executive Order was issued in New Mexico regulating the use of video display terminals by State employees.

Comprehensive new laws in Hawaii and Vermont prohibit employers from requiring employees to take a polygraph test as a condition of employment or continued employment. Other enactments of interest this year include: several laws adopted requiring criminal history checks of prospective child care operators or workers; measures by Connecticut, Maryland, New Jersey, and Washington to aid workers and communities facing mass layoffs or plant closings; a State and Political Subdivision Employees Relations Act in North Dakota giving public employees the right to join employee organizations; a law in Mississippi making strikes unlawful by public employees generally, and specifically by public schoolteachers; a right-to-work law enacted in Idaho; several laws each giving preference to State contractors or residents on public work projects and prohibiting reprisal against public employees who report a violation of law or mismanagement; laws restricting smoking in the workplace; and a new measure in Tennessee making it unlawful to knowingly employ or refer for employment any illegal alien, with employer penalties including having their license revoked and being permanently barred from doing business in the State.

The following is a summary, by jurisdiction, of labor legislation during 1985.

Alabama

Wages. The State comptroller is to adopt statewide policies for the deduction from salaries, upon the request of at least 5 percent of all State employees, of membership dues, voluntary contributions, and group insurance premiums. The deductions are to be appropriately remitted.

Equal employment opportunity. The requirement that teachers retire at age 70 was amended to permit continued employment from year-to-year on application and employer approval, if evidence of physical and mental fitness is furnished.

Background clearance. Employers hiring persons to work in public or private schools, child care, and correctional facilities must request from the public safety department records of all sex crime convictions of prospective employees or volunteers, and current employees and volunteers are to submit a signed statement regarding such convictions. Other employers, using the services of volunteers or employees in positions having supervisory or disciplinary power over children, are also to obtain signed statements disclosing any such prior sex crime convictions.

Occupational safety and health. A new law was adopted to ensure that employees be given information concerning the nature and health effects of the toxic substances with which they work. The Department of Environmental Management is to promulgate and make available to manufacturers and employers a list of toxic substances. Employers are to maintain material safety data sheets for toxic substances used in the workplace, and provide education and training to employees on safe handling, emergency treatment, and the hazards involved. Employees have a right to obtain the data sheets and may refuse to work with substances for which information has not been provided and may not be discharged or otherwise disciplined for requesting information, taking part in any proceeding, or exercising any right under the act.

The Alabama Mining Academy was created. Its purpose will be to assist in the safety and health training of the State's miners, to cooperate with and provide assistance to the State mining industry in developing effective mine health and safety programs, and to improve and expand research and development and training programs aimed at developing a safer, more productive coal industry.

The board of examiners, which certifies competency of certain mine personnel, previously scheduled for termination October 1, 1984 was extended indefinitely and it gained two members.

Employment and training. A joint resolution urged the U.S. Congress to retain the Work Incentive Program and provide a reasonable level of funding for it consistent with program needs and responsibilities for helping recipients of Aid to Dependent Children become wage earners.

Alaska

Equal employment opportunity. The Office of Equal Employment Opportunity was established in the Office of the Governor to administer the equal employment opportunity program for the executive branch of State government and to ensure compliance with affirmative action responsibilities.

Other laws. The Superior Court has invalidated the law requiring preferential hiring of residents from Alaska on public works projects let by the State or a political subdivision. The decision is on appeal to the State Supreme Court. In conjunction with this case, a series of legislative findings were retroactively enacted presenting the legislature's rationale for having established resident preference. The legislature additionally declared its policy that it will grant employment preference to residents when the State is acting as a market participant.

Arizona

Child labor. The general prohibition against employment of children under age 16 after 9:30 p.m. was amended to bar their employment after 7 p.m. in door-to-door sales or deliveries, except for home newspaper delivery.

Equal employment opportunity. The State's antidiscrimination law was extended to protect physically handicapped persons from employment discrimination. In addition, it was made an unlawful employment practice for an employer, labor organization, or employment agency to fail or refuse to reasonably accommodate an individual's handicap.

Background clearance. As a condition of employment, juvenile probation officers, school personnel, day care center personnel, child care personnel, State department of corrections personnel working where youth offenders are confined, day care homes personnel, and recipients of Federal child-care food program monies are now required to submit fingerprints and a statement that they have not been convicted or are not awaiting trial for committing certain specified criminal offenses including the sexual or other abuse of minors.

A separate law now permits employers and potential employers to obtain criminal history record information concerning convictions for sexual offenses and prostitution involving minors under age 15, sexual exploitation of children, and child abuse, for employees or applicants for employment involving regular contact with minors under age 15.

Industrial homework. With specific reference to attempts to stop the home employment of telecommuters, a Concurrent Memorial was adopted asking the President, the Congress, and the U.S. Secretary of Labor to take any action necessary to rescind existing orders and regulations prohibiting commercial homework and to refrain from extending these prohibitions to additional categories of activities.

Other laws. It is now a prohibited personnel practice for public employees who have control over personnel actions to take reprisals against employees who disclose to a public body, information which they reasonably believe evidences a violation of any law or mismanagement, provided the information is not disclosed in a manner prohibited by law or the materials or information has not been deemed confidential by law.

Arkansas

Wages. As provided in a prior law, the minimum wage rate was increased from $3.05 to $3.15 an hour effective January 1, 1985.

Occupational safety and health. An amendment to the law regulating the inspection of boilers permits continuous monitoring of certain boilers by mechanical or electronic devices approved by the Director of the State Department of Labor as an alternative to hourly checking.

Employment and training. The role and function of the Arkansas Industry Training Program were expanded to authorize provision of training for employees of existing business and industry in order to encourage industrial and economic development of the State by upgrading skills and abilities needed to operate more modern and sophisticated equipment and procedures.

An Arkansas Advisory Council on Vocational-Technical Education was created, to be appointed by the Governor. Among its duties are promoting interest in vocational and technical education, assisting in the development of plans required under the Federal vocational education law, evaluating vocational program delivery systems under that law and the Federal Job Training Partnership Act, making recommendations on the adequacy and effectiveness of coordination between vocational education and the Federal act, and advising various Federal and State officials of any findings.

A Riverside Vocational Technical School was established to provide vocational technical training for prison inmates, with administration by the State Board of Vocational Education in cooperation with the Department of Corrections.

California

Wages. Townships were eliminated from the definition of political subdivision for purposes for coverage under the State prevailing wage law.

On September 6, 1985 the Ninth Circuit U.S. Court of Appeals reversed and remanded a District Court decision which had held that the Federal Employee Retirement Income Security Act of 1974 (ERISA) preempts a California statute barring forfeiture of vacation pay and requiring payment of a pro rata share of such pay on the employee's termination. In effect the appellate decision upheld the U.S. Department of Labor's regulation that a practice of vacation pay paid out of general assets does not constitute an "employee benefit plan" subject to ERISA.

Hours. A statutory sunset date of January 1, 1986 was repealed which would have terminated the authority of the Chief of the Division of Labor Standards Enforcement to exempt any employer or employees from any mandatory day or days off requirement contained in any order of the Industrial Welfare Commission.

Agriculture. Commercial packing houses engaged in both the harvesting and packing of citrus fruit or soft fruit for a client or customer will not be included within the definition of farm labor contractor for purposes of coverage under the Farm Labor Contractors' Act.

Coverage of the law requiring minimum health standards in farm labor camps was expanded to provide for the licensing and inspection of more of such camps, and additional protections against evictions of tenants who complain about substandard conditions were adopted.

Equal employment opportunity. It will now be an unlawful employment practice for an employer to discriminate against an employee because of a conflict between the employee's religious observance and any employment requirement, unless the religious observance cannot be reasonably accommodated after exploring all available means. Employees must be given the option of making up work time lost because of religious observance if there is no undue hardship on the employer, or of taking paid or unpaid leave.

A loan guarantee program administered by the Department of Rehabilitation was established to assist employers and employees with disabilities to purchase equipment, aids, and assistive devices in order to engage in employment, or for supported employment for persons with disabilities who are unable to engage in competitive employment and who are not eligible for vocational rehabilitation.

The U.S. Supreme Court ruled in the case of *Atascadero State Hospital and California Department of Mental Health, Petitioners vs. Douglas James Scanlon* that receipt of Federal funds does not in itself constitute a waiver of a State's Eleventh Amendment immunity to suit in a Federal Court for alleged violations of the Rehabilitation Act of 1973.

Background clearance. Among changes to the laws relating to child abuse, the Department of Social Services must request from the Department of Justice any reports of child abuse concerning applicants for licensure or employment in a position having supervisory or disciplinary power over children or who will provide 24-hour care for children in a residential home or facility.

Occupational safety and health. Starting January 1, 1987, any contractor whose operations include asbestos-related work involving 100 square feet or more of asbestos-containing materials must have passed an asbestos certification examination to be developed by the Contractors

State License Board, and must register with the labor department's Division of Industrial Safety. Civil and criminal penalties were established for operating without the certificate or for contracting with an uncertified person. Employers are to train employees, provide necessary equipment to do the work safely, report on asbestos work to be done, and provide health insurance coverage to cover the cost of medical examinations and required monitoring.

Additional circumstances under which the Division of Occupational Safety and Health may issue a "notice" in lieu of a citation will now include violations that do not have an immediate relationship to the health or safety of an employee, and are of a general or regulatory nature, and the employer agrees to correct the violations within a reasonable time and not to appeal the findings of violation.

The Occupational Carcinogens Control Act was moved from the Health and Safety Code to the Labor Code, and civil penalties for serious or repeated violations were substantially increased.

In addition to those materials on the Director of Industrial Relations' list of hazardous substances, any substance within the scope of the Federal Hazard Communication Standard will be considered hazardous under the State Hazardous Substances Information and Training Act. Manufacturers, importers, and distributors of hazardous substances, and employers, must label each container of such material in a manner consistent with Federal standards.

The Department of Health Services must establish, no later than January 1, 1987, the program on occupational health and occupational disease prevention that the legislature previously directed the Department to maintain. The Department is authorized to enter places of employment to conduct investigations relating to the program, and employers must provide certain monitoring data to the Department.

Other laws. Contractors awarded a contract in excess of $5,000 for any public works construction by a State office, department, division, bureau, board, or commission shall, before beginning the work, file a payment bond with the awarding agency. A $25,000 threshold amount remains in effect for a required payment bond for contracts let by all other public entities.

Complaints that an employee has been discharged or otherwise discriminated against because the employee has filed a complaint or claim or instituted proceedings relating to rights which are under the jurisdiction of the labor commissioner, will be investigated by a discrimination complaint investigator instead of by the Division of Labor Standards. Procedures for such investigations were established including the holding of investigative hearings and the issuance and enforcement of cease and desist orders in cases of violation.

Colorado

Wages. The State prevailing wage law was repealed over the Governor's veto.

Other laws. Resident bidders on State or local public works projects will now be entitled to a preference over out-of-State or foreign bidders, equal to the resident preference given to such bidders by their own State or country, except when this preference would cause the denial of Federal moneys or would otherwise be inconsistent with requirements of Federal law.

Connecticut

Wages. The minimum project dollar amount for coverage under the prevailing wage law was increased from $50,000 to $200,000 for new public works construction and from $10,000 to $50,000 for alteration or repair. Also, upon award of a covered contract, the contractor is now obligated to certify under oath to the labor commissioner the pay scale to be used by the contractor and any of his subcontractors.

Child labor. Provisions limiting the permissible daily, weekly, and night work hours of minors under age 18 will no longer apply to those who have graduated from secondary school.

Labor relations. The legislative joint standing committee on labor and public employees is to conduct a study of municipal collective bargaining and binding arbitration including issues such as composition of bargaining units, employees to be covered under collective bargaining, impasse procedures, and the right to strike. The committee is to report its findings and any recommendations for legislation to the general assembly by January 31, 1986.

Plant closings. Employers of 100 or more who close or relocate their establishments must now pay for the continuation of existing group health insurance for each affected employee and dependents for up to 120 days, rather than 90 days as before.

Other laws. Private and public sector employers of 26 employees or more may not require as a condition of employment any employee or job applicant to execute an employment promissory note obligating the employee to pay a sum of money to the employer if the worker leaves the job before a stated period of time. Such a barred note includes any agreement which specifies that the payment constitutes reimbursement for training previously provided.

Employees of public service companies or of their suppliers may now disclose any information involving substantial mismanagement of the company to the Department of Public Utility Control without fear of retaliatory action taken or threatened against them. In addition, the law protecting employees from discharge or discipline for disclosing to public agencies of the State a violation of law by the employer was amended to also cover State employees and to protect disclosure to Federal agencies.

The labor commissioner was directed to establish in the labor department the position of Statewide Coordinator of Services for Displaced Homemakers within the existing displaced homemakers program.

The law requiring employers providing group life, hospital, or medical insurance coverage to furnish each insured employee with notice, within 15 days, of the cancellation or discontinuation of such insurance, and prescribing fines for violation was amended to specify that the labor commissioner has the authority to assess all such fines.

Delaware

Employment and training. An extended workshop employment program was established for severely disabled persons who have completed an accredited program of evaluation and work adjustment training and have been found to be incapable of competitive employment because of the nature and severity of their disability. The program is to be administered by the Department of Labor which is authorized to contract with sheltered workshops to provide the program.

Other laws. A new "Police Bill of Rights" deals with the rights of police officers with respect to the conduct of administrative investigations of them, the insertion of adverse material in the officers' personnel files, and the right to engage in political activity while off-duty. Assignment to work extra duty without compensation as a penalty for a disciplinary infraction was prohibited.

District of Columbia

Wages. A revised wage order, applicable to manufacturing, printing, publishing, and wholesale trade occupations, increased the minimum wage from $3.50 to $3.95 an hour effective August 20, 1985. A minimum rate of $3.70 an hour may be paid to adult learners for not more than 60 days.

Equal employment opportunity. The Pregnancy Anti-Discrimination Act of 1985 amends the Human Rights Act to specify that discrimination on the basis of sex shall include, but not be limited to, discrimination on the basis of pregnancy, childbirth, or related medical conditions. Women with these conditions are to be treated the same for all employment-related purposes, including receipt of benefits under fringe benefit programs, as other persons not so affected but similar in their ability or inability to work.

Florida

Agriculture. The reach of the Farm Labor Registration Law was extended by applying it to contractors with one farm worker or more instead of 10 or more as before. The renewal date for registrations was changed from December 31 for all contractors, to the birthdate or date of incorporation of the registrant, thereby coinciding with registration renewal under the Federal Migrant and Seasonal Agricultural Worker Protection Act. Civil penalties of up to $1,000 may now be assessed for violations of the law or rules, and the Divison of Labor, Employment, and Training may obtain injunctive relief against unregistered contractors.

Background clearance. Extensive amendments, relating to employment in services providing child care and care of the developmentally disabled and others, establish conditions for disqualification from employment because of past criminal activity. Other requirements include security background investigations, fingerprinting, and conformance with standards of good moral character.

Occupational safety and health. The Department of Environmental Regulation was directed to collect, compile, and correlate information necessary to assess the risk potential in the State from the accidental release of toxic or otherwise hazardous substances into the environment. The information is to be gathered from producers, users, transporters, and storers of such substances and is to be disseminated to appropriate State and local agencies, along with the names of contact persons who can be reached in an emergency.

Other laws. Payment bond requirements now permit public work contracts with any county, city, or political subdivision, amounting to $200,000 or less, to be exempted from payment and performance bond requirements. Also, any person entering into such a contract with the State for $100,000 or less will be exempted, and those with contracts, amounting to more than $100,00 but less than $200,000, may be exempted from such bond requirements.

Georgia

Worker privacy. Among several amendments to the law relating to the regulation and licensure of polygraph examiners, procedures were established for administering tests, and examiners are now prohibited from inquiring, during preemployment or periodic employment examinations, into such areas as religious or political beliefs or affiliations, racial matters, sexual preferences or activities, or beliefs or activities regarding labor organizations. Persons examined will now have the right to sue an examiner for damages resulting from improper or negligent testing.

Background clearance. Among changes to the law requiring criminal records checks for directors and employees of day care centers, homes, or institutions that care for children, applications for preliminary records checks must be submitted prior to employment, and 10-year prior employment history records of employees must be on file.

Private employment agencies. The State Employment Agency Advisory Council, scheduled for termination on July 1, 1985, was extended to July 1, 1986.

Occupatonal safety and health. A new safety law regulating amusement ride safety was enacted to be administered by the Department of Labor. The Department is authorized to formulate standards and regulations for the safe assembly, disassembly, repair, maintenance, use, operation, and inspection of amusement rides. Ride owners must obtain a permit for each ride, and the rides must be inspected at least annually. A minimum age of 16 was established for the operator of an amusement ride.

Amendments to the boiler and pressure vessel safety law transfer the power of appointment to the Board of Boiler and Pressure Vessel Rules from the Governor to the Commissioner of Labor, give rulemaking power, previously with the Board alone, to the labor department with the Board's advice, and exempt from coverage boilers and pressure vessels operated and maintained by public utilities.

Employment and training. By resolution, a House Teenage and Youth Unemployment Study Committee was created to study the problem of teenage and youth unemployment and investigate what State actions may be taken to address this problem.

Other laws. Amendments to the State's labor law eliminated specific statutory references to the Labor Departments' Correctional Services Division and to the Employment Security Agency and its director and substituted references to the parent Department of Labor, where the functions remain.

Guam

Other laws. As of June 18, 1984, the U.S. Immigration and Naturalization Service, by rule, transferred from the U.S. Secretary of Labor to the Governor of Guam the authority to make determinations on temporary labor certifications for the importation to Guam of nonimmigrant alien workers and required the Governor to develop systems for determining availability of U.S. workers and prevailing wage rates, subject to approval by the Commissioner of the U.S. Immigration and Naturalization Service. Subsequently, by publication in the Federal Register on January 4, 1985, operating policies and procedures for implementing the Governor's authority were established. Administratively, the program is operated by the Guam Department of Labor.

Hawaii

Wages. It was made an unlawful discriminatory practice under the State's Fair Employment Practice Law for an employee to refuse to hire, employ, bar, or discharge from employment any individual because of a wage assigament to satisfy a child support obligation.

A House resolution was adopted requesting that all employers recognize and adopt the concept of equal pay for work of comparable value to their organizations.

Worker privacy. A comprehensive law was enacted continuing a prohibition against employer use of lie detector tests as a condition of employment or continued employment. The new law, covering employees and prospective employees, includes specific administrative and enforcement provisions, under the jurisdiction of the Department of Labor and Industrial Relations, which has rulemaking authority. The Department is directed to investigate complaints and issue cease orders and may order remedies such as hiring or reinstatement, with or without backpay. Class action complaints may be filed by the Department or the Attorney General. Employers who discharge or otherwise discriminate against employees or prospective employees for refusing to submit to the test or for filing a complaint or who otherwise violate the law may be subject to civil and criminal penalties.

Background clearance. Directors, employees, and staff members of child caring institutions, child placing organizations, foster boarding homes, and youth correctional facilities will now be subject to a criminal history record check obtained by the Department of Social Services and Housing through the Hawaii Criminal Justice Data Center. In addition, employees of detection facilities will be subject to the same record check obtained by the Judiciary through the Data Center.

Private employment agencies. Among changes to the employment agency regulatory law, agencies are prohibited from requiring employers to withhold placement fees from employee's earnings unless requested or authorized in writing by the employee. Applicants for an agency license no longer must pass a certified employment consultant examination if a licensed principal agent is employed to manage the agency, licenses are renewable on a biennial rather than annual basis, and failure to maintain the required surety bond in full will now result in the automatic suspension of the agency license.

Occupational safety and health. A resolution was adopted encouraging the Occupational Safety and Health Division of the State Department of Labor and Industrial Relations to develop specific programs to inform employees about the State's right-to-know rules on toxic materials and harmful agents in the workplace.

The State fire council was placed within the Department of Labor and Industrial Relations for administrative purposes.

Other laws. A Senate Resolution was adopted requesting the Department of Labor and Industrial Relations, with the assistance of the Office of Collective Bargaining, to study the feasibility and appropriateness of statutorily authorizing working parents to take up to 6 months of unpaid vacation leave for parenting purposes, including the impact, if any, of such legislation on the State's collective bargaining laws.

Idaho

Wages. The State prevailing wage law and the public work 8-hour day law were repealed.

Employees may now, by revocable authorization, have wages directly deposited in any bank, savings and loan association, or credit union of their choice in the State.

Upon application of a creditor, courts will now issue a continuing garnishment of wages to remain in effect until the judgment is satisfied.

Hours. The 8-hour a day limit on work in all mines and smelters, except in emergencies, was amended to retain the 8-hour limit for underground mines, but to now permit work up to 10 hours a day in surface mines and in smelters at the regular hourly rate of pay. Work beyond 10 hours a day may not be required except in emergency situations. Work beyond 10 hours a day or 40 hours a week will be considered overtime and paid at time and one-half the regular rate.

Labor relations. A "right-to-work" law was enacted, specifying that membership in or financial support of a labor organization may not be required as a condition of employment or of continuation of employment. However, a court injunction has deferred enforcement until the measure is voted on as a referendum item at the November 1986 general election.

Other laws. A separate provision requiring seating for female employees was repealed.

Illinois

Wages. By prior law, the minimum wage rate rose from $3 to $3.35 an hour, on July 1, 1985. For minors under age 18, the rate increased to $2.85 on that date.

The wage payment and collection act, which previously exempted all public employees from coverage, was amended to now include employees of local governments and school districts. Employees of the State or Federal governments remain exempt.

Any wages collected by the Department of Labor under the minimum wage law, which cannot be paid to the affected employees, will be deposited into the State's General Revenue Fund after 1 year, instead of being returned to the employer as was the prior practice.

On August 12, 1985, a State Appellate Court affirmed a Circuit Court's judgment dismissing the Director of the Department of Labor's complaint for injunctive relief in a case involving a provision of the State constitution permitting municipalities of populations over 25,000, and any county which elects a chief executive officer to become home-rule units by referendum and to exclude themselves from coverage of certain State statutes. This action permits these home-rule units to continue to exempt themselves from coverage of the State prevailing wage law. An appeal has been filed with the State Supreme Court.

Child labor. City or Regional Superintendents of Schools were authorized to issue employment certificates for minors under age 16, permitting them to appear as models or in motion picture, radio, or television productions, if such work does not interfere with required school attendance. The Department of Labor is to issue rules and regulations to protect the health and welfare of child models or actors, and to ensure that the conditions under which they are employed will not impair their health, welfare, development, or proper education. Similar employment certificates were previously authorized for minors under age 16 for appearances in theatrical productions, musical recitals, or concerts.

Equal employment opportunity. The Departments of Employment Security and Rehabilitation Services are to cooperate and to enter into any necessary agreements to provide job placement and referral services to disabled clients of the Department of Rehabilitation including job service registration of such clients with Illinois Employment Security Offices and making available to them job listings maintained by the Department of Employment Security.

Worker privacy. The 1984 law giving private and public sector employees the right to review their personnel records was amended to provide for administration by the Director of Labor instead of only by employee-instituted court action. The Director is authorized to take complaints, conduct investigations, attempt to resolve the complaint by conciliation, and to commence legal action, if necessary. Private right of action is still authorized when these measures fail, and employer retaliation against an employee, who makes a complaint, brings action, or testifies under the law, is now prohibited.

Background clearance. The Department of Children and Family Services will now require that child-care facility license applicants and their employees be investigated as a condition of licensure or employment to ascertain past charges or convictions for criminal sexual or child assault or abuse. The operator of a licensed child-care facility will now have access to all records concerning reports of child abuse and neglect and all reports generated as a result of such reports when a current or prospective employee is the perpetrator in a child abuse or neglect report.

Labor relations. A Labor Management Cooperation Committee was created in the

Department of Commerce and Community Affairs consisting of 12 public members appointed by the Governor, six of them to represent businesses that employ union members and six representing labor, plus six ex officio members including the Director of the Department of Labor. Among its duties, the committee is to improve communications between labor and management on significant economic problems facing the State; encourage and support the development of local labor-management committees at the plant, industry, and area levels; and convene a Statewide conference on labor-management concerns at least once every 2 years. The Director of the Department of Commerce and Community Affairs, with the advice of the Committee, was authorized to provide matching grants and other resources to establish or assist area labor-management committees and other projects which serve to enhance labor-management relations.

The Department of Labor, upon written request of all parties involved, is to provide arbitration services necessary to resolve labor-management disputes. The proceedings are to be subject to the Uniform Arbitration Act.

Unfair labor practice charges under the State Educational Labor Relations Act may now be filed with the Illinois Educational Labor Relations Board by individuals as well as by employers or labor organizations as was previously authorized.

In an effort to avoid strikes in local school districts, a house resolution urges educational employee labor organizations and educational employers of primary and secondary schools to begin renegotiations for their collective bargaining agreements by January 1 of the year in which the agreement expires or at least 6 months before the expiration of their existing agreements.

Occupational safety and health. Beginning July 1, 1986 under a new Illinois Chemical Safety Act to be enforced by the State Environmental Protection Agency, specified businesses must have a written chemical safety contingency plan including a listing of chemical substances which may be released at the facility, information on the probable nature and routes of any sudden releases, response procedures to be followed at the facility and for notifying local emergency response agencies, a list of appropriate persons to act as emergency coordinator, and a list of the facility's emergency equipment. Plant personnel who are responsible for implementing the plan must be trained in the procedures to be followed in case of an accidental release of a chemical substance. After submission to local fire, police, or other emergency response agency, such plans are to be made available for inspection by the public during normal operating hours.

Employment and training. A law was enacted implementing an April 1, 1984 Executive Order creating a separate Department of Employment Security. The Department assumes all powers and duties of the Department of Labor's former Bureau of Employment Security, now abolished. Among its functions, the Department of Employment Security will manage vocational training and retraining programs for the unemployed, State welfare recipients, Vietnam veterans, and the handicapped.

An emergency employment development act was passed under which funds for temporary work relief projects in nonprofit agencies and new job creation in the private sector are to be allocated on the basis of the highest average percentage of unemployed persons within the Job Training Partnership Act delivery area. The funds are to be used as a contribution for wages and fringe benefits in the employment of qualified unemployed workers. Participating businesses must be in compliance with applicable affirmative action, fair labor, health, safety, and environmental standards.

A joint resolution was adopted urging the U.S. Congress to amend the Veterans Educational Assistance Act of 1984 to include apprenticeship and on-the-job training programs.

Indiana

School attendance. The Department of Education is to study the impact of raising the compulsory school attendance age from 16 to 17 and deliver the results to the general assembly by November 1, 1986. The Department is also to prepare a plan incorporating new programs or curriculum changes in order to accommodate the increased number of students and their interests and abilities.

Employment and training. An Indiana Occupational Information Coordinating Committee was established to develop and implement a comprehensive cost effective labor market and occupational information system that, among other functions, will satisfy the needs of State and local employment, training, vocational education and rehabilitation, and economic development agencies.

Other laws. The title of the Division of Labor was changed to the Department of Labor. Prior to this change a Department of Labor existed consisting of the Industrial Board of Indiana and the Division of Labor, two bodies with complete autonomy and separate functions. The Industrial Board will retain that title.

Iowa

Wages. Individuals employed as commission-paid salespersons are now specifically covered by the wage payment/collection law. Also, the exemption from this law for licensed persons employed on a contractual basis for professional services was removed.

Procedures were established for State employees to request a review of the factor determined scores of their jobs under the newly implemented pay grade system based on comparable worth. An interim legislative study committee is to be established to determine whether discrimination remains in compensation for work of comparable worth between jobs held predominantly by women and those held predominantly by men and to review other comparable worth issues.

Equal employment opportunity. "The Bill of Rights of Persons with Mental Retardation, Developmental Disabilities, or Chronic Mental Illnesses" was enacted, including a right to vocational training and a requirement that such persons engaged in work programs shall be paid wages commensurate with the going rate for comparable work and productivity.

Background clearance. Directors and employees of any State-licensed child care center, registered group home, or registered family day care home will now be subject to a criminal records check and a child abuse registry check through the Department of Human Services. The Department will maintain and make public a list of centers and homes with favorable records checks.

Labor relations. Collective bargaining negotiations with certified employee organizations representing Judicial Department employees will now be conducted on a Statewide basis rather than by judicial district, although bargaining units will be organized by judicial district.

A concurrent resolution was adopted directing the legislative council to establish a study committee to conduct a comprehensive study of the collective bargaining process as it relates to elementary and secondary school educators, with a report due by November 1, 1985.

Employment and training. A Small Business New Jobs Training Act was enacted to create jobs by providing education and training of workers for new jobs for new or expanding small businesses through training arrangements between area schools and employers. The program, to be coordinated by the Iowa Development Commission, will give preference to any skilled workers in the community who are unemployed because of plant closing or layoffs.

Other laws. The labor commissioner's term of office will be lengthened from 2 to 4 years effective May 1, 1987.

All public employees are now protected against retaliatory personnel actions for providing information to legislators or public officials or for disclosing waste, mismanagement, violations of law, or violations endangering public health or safety unless such disclosure is prohibited by statute.

Kansas

Labor relations. A House Resolution was adopted commending Idaho for passing "right-to-work" legislation.

Other laws. The life of the Department of Human Resources was extended until 1993. The Secretary of the Department was given more direct administrative control over the Division of Employment Security, the Division of Labor-Management Relations and Employment Standards, including the Agricultural Labor Relations Board and the Public Employee Relations Board, and the Division of Employment and Training. The Secretary, along with the State Board of Education, was authorized to participate in programs funded by the Federal Job Training Partnership Act.

Louisiana

Wages. A bill which would have repealed the prevailing wage law passed the legislature but was vetoed by the Governor.

Undocumented workers. The law prohibiting the employment, recruiting, or referral for employment of undocumented alien workers, was amended to bar prosecution of employers who have been furnished specified documents by all of their alien workers. The Secretary of the Department of Labor is now authorized to assess civil penalties for violations of the Act, and to institute civil court proceedings including the seeking of injunctive relief to restrain and prevent violations.

Equal employment opportunity. Coverage of the law prohibiting discrimination in employment because of age was expanded to include employers subject to the Federal Age Discrimination in Employment Act.

The definition of impairment under the Civil Rights for the Handicapped Act was expanded to include persons with a prior mental disorder or condition.

An Office of Women's Services was established within the office of the Governor. Among its duties are assistance in coordinating State programs serving the needs of women and providing technical assistance to the Governor's commission for women. The office will assume some functions previously allocated to the Department of Health and Human Resources including administration of the displaced homemakers act. It is also to develop nontraditional job training programs for women, particularly geared to economic self-sufficiency and to women with low incomes.

Occupational safety and health. A Hazardous Material Information Development, Preparedness, and Response Act was adopted to create a comprehensive information system containing specific data regarding the presence and location of hazardous materials in the State. An interagency advisory board was created in the office of the Deputy Secretary of the Department of Public Safety and Corrections to make recommendations regarding survey forms, hazardous materials, information dissemination, training, and emergency response plans. Among other provisions, owners or operators must file survey forms with the Department for all hazardous materials manufactured, used, or stored at their facilities and for emissions and must post signs at their facilities indicating that a hazardous material is present on the premises; employees are to be given information on the toxic effects of hazardous materials manufactured, used, or emitted at the facility; procedures were included for the release of trade secret information in emergency situations; and administrative fines may be levied owners and operators who knowingly fail to report required information. The law exempts single business establishments with no more than nine employees and no more than 2 million dollars in average annual gross sales, as well as certain specified retail establishments. Also, local governing authorities are preempted from enacting any ordinance in conflict with the act or which requires more onerous reporting requirements.

Maine

Wages. By prior law, the minimum wage rate rose from $3.35 to $3.45 an hour, effective January 1, 1985. Further increases to $3.55 on January 1, 1986, and to $3.65 on January 1, 1987, are scheduled.

Automobile mechanics not paid on an hourly basis and automobile salespersons were exempted from overtime pay requirements of the State minimum wage law.

An Executive Order was issued in response to the U.S. Supreme Court ruling that State and local governments are liable for overtime payments for their workers under the Fair Labor Standards Act. Under the order, all nonstandard employees who are not eligible for exemption from the Act are to comply with specified hours limitations, emergency scheduling and other procedures to ensure that the total number of hours they work does not incur Federal overtime liability beyond the State's budgeted, authorized ability to pay.

Hours. Employees will not be entitled to at least a half hour for rest time or mealtime after 6 consecutive hours of work, except in emergency situations, unless a collective bargaining or other written employer-employee agreement provides otherwise. Employers are prohibited from discharging or discriminating against employees who file complaints with the Director of the Bureau of Labor Standards or the Attorney General and face possible civil penalties for violation. The law does not apply where fewer than three employees are on duty at a time and where the nature of the work allows frequent breaks during the day.

Equal employment opportunity. The nondiscrimination and affirmative action provisions applicable to State agencies, State-financed agencies, and public contracts were extended to uniformly protect persons who are physically or mentally handicapped, either by covering both types of handicap or by adding the mentally handicapped to the previously covered physically handicapped. In addition, agency equal opportunity officers were renamed affirmative action officers and the Equal Opportunity Specialist in the State Department of Personnel was retitled the State Affirmative Action Coordinator.

A Division of Deafness was created within the Department of Human Services' Bureau of Rehabilitation. Among its power and duties is the duty to provide advocacy for the rights of the deaf and hearing impaired in employment, education, and other areas.

Occupational safety and health. A Community Right-to-Know Act was approved under which the Department of Human Services was directed to establish a community health information clearinghouse on hazardous chemicals in use in the home and the workplace, and was mandated to respond to information requests from State agencies, municipalities, and individuals.

The Commissioner of Labor is to conduct a study of the occupational health and safety conditions to which railroad employees are subject and is to report to the legislature on the result of these findings, on efforts by any Federal or State agency to establish standards for railroad employers, and on the need for State standards, with recommendations for legislation if necessary.

Plant closings. The Department of Labor is now authorized to administer and operate a program of Trade Adjustment Assistance, as provided under the U.S. Trade Act of 1974 (P.L.93–618), to provide training and supportive services for workers displaced from employment because of increased foreign imports.

Employment and training. The Maine Conservation Corps Program due to expire at the end of fiscal year 1985 was continued and amended to, among other things, specify the types of projects that may be undertaken and to establish a volunteer program within the Corps to create, promote, and manage volunteer and intern opportunities with public agencies responsible for the State's natural resources.

Other laws. The law prohibiting employers from requiring employees or accepted job applicants to pay for required medical examinations was amended to specifically include employer-required eye examinations.

Employees of public utilities now have the right to testify on their own time before legislative committees and the Public Utilities Commission regarding the operation of the utility and may not be discharged, threatened, or otherwise discriminated against if the employee has first brought the subject matter or the testimony to the attention of his or her supervisor in writing. False testimony, testimony which violates a collective bargaining agreement, or testimony which discloses trade secrets or corporate strategy that would result in harm to the employer automatically terminates the protection from discharge or discrimination. State employees were also given the right to testify before legislative committees on their own time, with the same protection from retaliation.

Under the "Workplace Smoking Act of 1985," effective January 1, 1986, public and private sector employers will be required to establish, post, and implement written policies restricting or banning smoking in the workplace. The Bureau of Health is responsible for enforcement, and fines of up to $100 may be levied for noncompliance. In addition, it will be unlawful for employers to retaliate, discipline, discharge, or otherwise discriminate against employees who assist in the supervision or enforcement of the law.

Maryland

Wages. Coverage of the wage-hour law was extended to employees of legitimate theaters, by removal of a former exemption, but the exemption continues for employees in motion picture and drive-in theaters. Also, notwithstanding the fact that the law's overtime pay standard does not apply to employees in seasonal or recreational establishments, it was specifically required that time and one-half overtime pay after 40 hours a week be paid to theater craft or trade employees of a concert promoter, music pavilion, legitimate theater, music festival, or theatrical show, other than a nonprofit employer.

On written request of a State employee, organization dues of qualifying organizations will be withheld from his or her wages and remitted to the designated organization. The employee may cancel the payroll deduction at any time.

Equal employment opportunity. By repeal of the June 30, 1985 expiration date, a previously authorized program remains in effect permitting State employees over age 70 to continue employment on a year-to-year basis upon written application and approval, and permitting persons age 70 and over to compete for merit system positions but without being eligible to participate in the State pension system.

Occupational safety and health. The law requiring employers to inform employees of and to train them on toxic substances in the workplace was amended to delete an exception from the law for ingredients used in the production of food stuffs regulated by Federal law, and to exempt from the labeling requirement certain other substances that must be labeled in accordance with other Federal law or regulation.

The Department of Health and Mental Hygiene must consult with the Division of Labor and Industry when the Department adopts rules and regulations to provide public access to information the Department had concerning hazardous or toxic chemicals on hazardous chemical information lists and material safety data sheets. Such information is to be submitted by employers and is to be made available, upon written request, to environmental, civic, or consumer organizations and to individuals living near a business that stores, produces, or locates hazardous or toxic chemicals.

Plant closings. The Secretary of Employment and Training in cooperation with the Governor's Employment and Training Council was directed to develop voluntary guidelines for employers faced with a closing, relocation, or reduction in operations. The guidelines are to include appropriate advance notification to employees, continuation of employee benefits, and mechanisms for employers to use the State's newly created Quick Response Program. This program includes on-site registration for unemployment insurance claims, registration for Federal Trade Readjustment Act services if appropriate, provision of labor market and retraining information, job placement services and information, and retraining referrals. The Department of Employment and Training is to distribute the guidelines to all employers biennially and is to monitor layoffs and employment patterns to identify potential reductions.

Employment and training. The Secretary of Employment and Training may provide grants to private industry councils or administrative entities designated under the Federal Job Training Partnershp Act for operation, in the private sector, of a youth work experience program for specified economically disadvantaged high school juniors and seniors and high school dropouts. Currently employed workers are not to be displaced by those participating under this youth program.

Massachusetts

Equal employment opportunity. The exception from the ban on compulsory retirement for persons aged 65 and over who are employed in executive or high policymaking positions, was amended to except those entitled to an immediate annual retirement benefit of at least $44,000 rather than $27,000, as was previously permitted.

Labor relations. Impasse procedure provisions for both private and public sector labor disputes were amended to provide that any person acting as a mediator who receives information, as a mediator, relating to a labor dispute will not be required to reveal such information in any administrative, civil, or arbitration proceeding.

Other laws. The authority of the labor commissioner to suspend various labor laws, when an emergency exists or there are conditions of hardship in an industry or establishment, was extended to July 1, 1990.

Michigan

Employment and training. The Michigan Youth Corps Act scheduled to expire September 30, 1984, was extended 2 more years to September 30, 1986. The Act provides summer employment and work training for youth.

Minnesota

Employment and training. A Department of Jobs and Training was created, headed by a commissioner, to streamline and coordinate the State's employment, training, and income maintenance programs. The new department will assume both new functions and certain functions previously performed elsewhere in State government, such as by the Department of Human Services and the Department of Economic Security, the latter now dissolved. Responsibilities include the providing of consistent, integrated employment and training services across the State, administering the unemployment insurance laws and public employment offices, and acting as the Governor's agent in administering the Federal Job Training Partnership Act. Also, a Governor-appointed Coordinator of Full Productivity and Opportunity will, among other duties, coordinate the policies and administration of employment and training programs and income maintenance and support services among State agencies. The Commissioner of Labor and Industry, like other State officials who are to submit plans, is to prepare a plan for preparing, recruiting, and placing economically disadvantaged, chronically unemployed, minority, and female individuals in apprenticeship programs and submit the plan to the Coordinator in each even-numbered year, for use in developing a biennial Statewide employment and training plan.

Mississippi

Labor relations. Included in a tax revenue bill is a provision which sets increased minimum salary scales for teachers and other provisions making strikes unlawful by public employees generally, and specifically by public school teachers. Individual violators may be dismissed; employee organizations violating an injunction against a strike face fines of up to $20,000 a day; and members of local school governing boards or public school administrators face penalties for failure to fulfill certain responsibilities in the event of a strike.

Other laws. The law providing a preference for resident contractors in the letting of public contracts was amended to specify that resident contractors will include those nonresidents qualified to do business in the State who have maintained a permanent, full-time office in the State for 2 years prior to January 1, 1986. No time limit was previously specified.

Missouri

Equal employment opportunity. The Missouri Council on Women's Economic Development and Training was created within the Department of Economic Development to promote and increase women's economic and employment opportunities through education and training programs. The Missouri Commission on the Status of Women was abolished.

Background clearance. The Division of Family Services is now to conduct a criminal record review before issuing a license to enumerated child-care providers or other local or State agencies providing or having care or custody of a child for 20 hours or more per week. No license shall be issued if the provider has committed acts which have been harmful or demonstrated to be of harm to a child, and providers are not to employ any person who has committed such acts.

Occupational safety and health. A new law requires every employer to provide information regarding the properties and hazardous nature of toxic substances used or produced in the workplace to the local fire protection service and the State Division of Health through the submission of material safety data sheets or their equivalent, permitting on-site inspection, and by providing the name, address, and telephone number of at least two individuals familiar with the toxic substance who may be contacted in an emergency. Information provided by employers will be available to the general public, upon request, although provision was made for the confidentiality of trade secret information.

Montana

Wages. The minimum wage was increased from $2.75 to $3.05 an hour effective October 1, 1985, with a further increase to $3.35 scheduled for October 1, 1986.

Notwithstanding the requirement in the State wage-hour law for payment of time-and-one-half after 40 hours worked in a week, local departments of public safety may establish work periods other than a 40-hour workweek, if the hours of all work periods in a year do not exceed 2,080 hours. The overtime pay rate for hours worked in excess of the regularly scheduled work period is to be determined by the board of county commissioners.

A new law specifically authorizes the labor commissioner to adopt rules implementing laws governing prevailing wage rates and preference of State residents in public works construction contracts.

Equal employment opportunity. Mandatory retirement because of age of firefighters and law enforcement personnel including highway patrol officers, police officers, sheriffs, and game wardens, is no longer required under their respective retirement systems.

Private parties, in addition to the Human Rights Commission itself, as before, may now petition the district court to enforce an order of the Commission.

Labor relations. Various arbitration provisions were repealed and replaced by the Uniform Arbitration Act making all arbitration agreements between employers and employees valid and enforceable, subject to certain exceptions, and establishing provisions governing arbitration procedures, awards, and appeals.

Occupational safety and health. A new Employee and Community Hazardous Chemical Information Act establishes a program for the disclosure of information about hazardous substances in the workplace. Employers are to compile and maintain a list of all hazardous chemicals present and the work areas in which they are normally stored or used. Employees have a right to this information and may refuse to work with a substance until it is made available upon request. Employees are also entitled to receive education on the chemicals, training in their safe use, and protective clothing where appropriate. Employees may not be subject to any adverse personnel action because they exercise their rights or testify under the act. In addition, employers must make hazardous chemical information available to the clerk and recorder of the county in which the workplace is located and local fire chiefs are to inspect this information and have the authority to make on-site inspections. Manufacturing employers and distributors regulated by Federal Occupational Safety and Health Administration standards and nonmanufacturing employers who choose to comply with those standards are exempt from the State law except with respect to workplace chemical list, material safety data sheet, emergency and community information, and employee rights provisions.

Economic development. In making loans under the Montana in-State investment fund, preference is to be given to investments that will assist enterprises owned by employees or other State residents in providing new jobs or in preserving existing jobs for State residents or in otherwise contributing to the long-term benefit of the Montana economy.

Other laws. By joint resolution, the legislature requested a study by an interim committee of the employment-at-will rule, and the doctrines of wrongful discharge in violation of public policy and the implied covenant of good faith and fair dealing, including the law and court cases in other States. A report, including alternative approaches to such employment problems, is to be submitted to the next legislature.

The responsibility for determining contractor residency for the purpose of giving preference on public contracts to in-State contractors was transferred from the Department of Revenue to the Department of Commerce. Also, an amendment to the law governing the awarding of public works contracts grants resident bidders a 3 percent preference over out-of-State bidders, or the same preference that out-of-State bidders receive over Montana bidders in their State of residence, whichever is greater. Previously only the 3 percent preference applied.

An absolute preference for resident commercial printing establishments in the award of county printing contracts was amended to require that their bids be no more than 5 pecent higher than the bids of competing nonresident establishments. If no bidder qualifies for the resident preference, the contract is to be awarded to the lowest bidder.

Approval for projects funded under the Montana Economic Development Bond Act, the Montana In-State Investment Act, and the Industrial Development Projects Law will now be contingent upon applicants giving State residents a preference in hiring if their qualifications are substantially equal to those of nonresidents.

State and local government buildings in which seven persons or more are employed must now have reserved smoking and nonsmoking work areas in convenient places.

Nebraska

Equal employment opportunity. The Fair Employment Practices Law was amended to prohibit an employer from discriminating against an employee because he or she has opposed any practice or refused to carry out any action unlawful under State or Federal law.

Labor relations. The law governing collective bargaining rights for most public employees was amended to define and exclude supervisors, except firefighters and police officers, from the same bargaining unit as nonsupervisory employees.

Nevada

Wages. Employers must now pay an employee who resigns or quits any wages due by the earlier of either the employee's regular payday or within 7 days after the resignation. Previously, employers were required to pay such employees within 24 hours.

Among amendments to the wage payment and wage-hour laws, the definitions were enlarged and clarified; employers were specifically forbidden to require employees to work without wages during a trial or break-in period; and employers who knowingly issue wage payment instruments against insufficient funds must now reimburse the employee for any charge incurred due to the insufficiency.

Among amendments to the prevailing wage law, the labor commissioner is now to establish a prevailing wage in each county by use of an annual survey of contractors who have performed work in the county. Also, hearing procedures were changed; persons convicted of violating the law may no longer be awarded any public work contract for 2 years following the conviction; and the minimum project dollar amount for coverage under the law was increased from $20,000 to $100,000.

Hours. The provisions covering maximum hours of work permitted in smelters, open mines, surface workings of underground mines, and plaster and cement mills were repealed. The limit of 8 hours within any 24-hour period for work in underground mines, except in emergencies, was retained.

Equal employment opportunity. Coverage of the law prohibiting employment discrimination by the State and political subdivisions was expanded to include discrimination on the basis of physical, aural, or visual handicap and political affiliation, as well as race, creed, color, national origin, age, or sex, as before.

Worker privacy. Employers, or labor organizations which refer persons for employment, must now allow the employee or person referred, upon request, to inspect nonconfidential records containing information used by the employer or labor organization to determine the qualifications of that employee and any disciplinary action taken against him or her. Copies of these records must be furnished, upon request, to current or former employees who have been or were employed for more than 60 days. Provision was also made for the correction of any inaccurate or incomplete information in the records.

Background clearance. The Bureau of Services for Child Care of the Youth Services Division of the Department of Human Resources is now required to investigate the criminal record of adult persons who own, operate, or are employed by child care facilities. Conviction of any of these persons for specified dangerous crimes including sexual assault or abuse of children may cause the Bureau to deny an application for a license or to suspend or revoke any license that has been issued.

Labor relations. The permissible number and location of pickets during a strike or other dispute is now established by law, and certain practices are prohibited such as picketing on private property without written permission or knowingly to threaten, molest, or assault persons attempting to enter or leave any property, and to block entrances and exits with motor vehicles or by spreading nails, glass, or other objects.

Coverage of the law requiring binding arbitration for collective bargaining disputes involving firefighters, was extended to include police officers for the period from July 1, 1985 to July 1, 1987.

A new measure requires a labor organization to publish and distribute proposed changes in a collective bargaining contract to the members who attend the ratification meeting before the vote is taken.

Local labor organizations were authorized to require that plans which provide health, pension, welfare, or other benefits be administered in Nevada. If a plan is being administered by the national labor organization with whom the local organization is affiliated, the local organization may discontinue its contributions and establish a locally administered plan.

Private employment agencies. Among changes to the employment agency regulatory law, the maximum applicant-paid placement fee was increased from 55 to 65 percent of the first month's gross wages. Agencies must now give the applicant for employment a copy of the contract with the agency at the time it is signed.

Other laws. Employers may not terminate the employment of a member of the Nevada National Guard because he or she is ordered to active service or duty. Any member who believes that employment was terminated in violation of the act may request a hearing before the labor commissioner to determine if the employment was so terminated, and if found to have been illegally terminated will be entitled to immediate reinstatement to his or her position without loss of seniority or benefits, and to receive all lost wages and benefits.

The State law giving veteran reemployment rights was repealed. District attorneys are to provide legal assistance to claimants seeking assistance under the similar Federal law.

New Hampshire

Wages. The State prevailing wage law was repealed.

The provision permitting a youth rate of 75 percent of the applicable minimum wage rate will now apply to persons age 16 or under rather than 17 or under as before.

The wage payment law was amended to add a section requiring that employers, other than counties and municipalities, pay employees who report to work at the request of the employer a minimum of 2 hours' pay at their regular rate. The provision will not be applicable where a good-faith effort is made to notify employees not to report to work.

Labor relations. A committee composed of members of the House and Senate and the labor commissioner or his designee was established to draft proposed legislation for recodification of State laws relating to labor and labor disputes. Legislative proposals are to be submitted to the 1987 regular session of the legislature.

Occupational safety and health. The State occupational safety and health law now applies only to public sector employees. Among other changes, the Commissioner of Labor must inspect a place of employment after receipt of an employee petition, and must issue a stop-work order in case of imminent danger. Employers may petition the Commissioner for a review of an employer's action in retaliating or taking other action against employees exercising their rights under the Act.

The requirement that employers provide seats for female employees was repealed.

New Jersey

Wages. Volunteers working at county or other agricultural fairs, who receive only incidental benefits and who are employed by a nonprofit or religious corporation or association which conducts or participates in the fair, are exempted from State minimum wage and overtime pay requirements.

The maximum amount of an employee wage claim on which the labor commissioner may take collection action was increased from $300 to $2,000. Also, the maximum amount of set-off that can be claimed by a defendant was increased from $200 to $1,000.

In October 1984, the legislature authorized creation of the Task Force on Equitable Compensation to study classification and compensation issues of State employees and to recommend changes to achieve pay equity. In a first interim report, submitted to the Governor, the legislature, and Civil Service Commission on June 1, 1985, the primary recommendation was a pay increase for the four lowest pay ranges as an initial step toward establishing pay equity in State service. An appropriation measure to implement this recommendation was introduced and is being considered by the 1985 legislature. The Task Force will terminate December 1, 1987 or sooner in the absence of timely and appropriate legislative action.

Agriculture. A concurrent resolution extended from March 1, 1985 to August 1, 1985 the deadline for submission of findings and recommendations by the Commission to Study the Employment and Compensation of Agricultural Labor. The Commission was created in 1984 to inquire into the hiring, employment, and compensation of workers in the agricultural sector of the economy.

Equal employment opportunity. Mandatory retirement because of age is now prohibited in the private and public sectors except for public safety employees, certain judges, tenured higher-education faculty members, and certain executives, but employers may refuse to hire or promote any person over age 70. In addition, the prohibition against discrimination in public sector hiring because a person is at least 40 years of age, now applies to public safety occupations such as police, fire, and prison personnel. A separate measure reinstated mandatory retirement at age 55 for State police officers, citing age as a bona fide occupational qualification.

Occupational safety and health. Employers performing the functions of application, enclosure, removal, or encapsulation of asbestos must first obtain a license from the Commissioner of Labor. Employees performing these functions must complete training in asbestos control and removal, pass an examination, demonstrate the ability to perform this work safely, and obtain a performance permit from the Commissioner. The issuance of standards and regulations, and enforcement are the joint responsibililty of the Commissioners of Labor and Health. Employers are prohibited from discriminating against an employee who complains to or cooperates with the Commissioners in administering the Act.

The Division of Workplace Standards of the State labor department, rather than its' Mechanical Inspection Bureau, now has the responsibility for inspecting certain boilers and pressure vessels and maintaining records of those inspections performed for insurance companies by department-certified inspectors.

Plant closings. A Business Retention and Job Retraining Commission was created by Executive Order, with membership including the labor commissioner and other government officials and representatives of organized labor and business. Among its duties, the Commission is to survey all programs designed to encourage the growth or retention of jobs and to retrain or reemploy displaced workers and the chronically unemployed, to coordinate these programs, and evaluate their effectiveness. It is also to offer a comprehensive program for the early detection of business terminations and the effective delivery of governmental services to affected businesses and employees, including advising affected businesses of available business retention programs and advising displaced employees of job training and employment programs.

Employment and training. The Department of Community Affairs was directed to establish a model job-training center to provide counseling, job training and job placement, self-help programs, referral, child care, and technical assistance services to dependent, unemployed, or underemployed urban women.

Other laws. Employers of 50 persons or more in a place of employment are required to establish written rules governing smoking including a policy and procedure to protect the health and comfort of employees from tobacco smoke. The policy must include designated nonsmoking areas and may include designated smoking areas. Administration is by the State Department of Health, which is to submit an evaluation of this act to a legislative committee 18 months after it takes effect.

New Mexico

Occupational safety and health. An Executive Order was issued regulating use of video display terminals by State employees. It addresses problems of stress, visual problems, and musculoskeletal pains by establishing standards dealing with aspects of video display terminal use including lighting and glare, noise levels, airflow and air quality, electrical safety, work area design, operator chairs and footrests, document holders, size and position of display screens, keyboard placement, and scheduled breaks. A review committee was established to monitor implementation of the standards and to make recommendations to the Governor for amendments to the standards when advisable.

The legislature directed, by resolution, the mining safety advisory board to review the State's safety statutes and regulations, develop legislative proposals to modernize the statutes, develop regulations to implement the proposed changes, and report findings to the legislature. Later in the session, a law was passed which among other things expanded the board's role to include preparation of standards and regulations regarding occupational disease in addition to accident prevention, and provided for regularly scheduled board meetings.

Other laws. An amendment to the Criminal Offender Employment Act permits public agencies to now deny any public employment or license to engage in public employment, or in a trade, business, or profession to an applicant or employee who has been convicted of drug trafficking, certain sexual offenses, or child abuse, regardless of rehabilitation.

New York

Wages. On October 11, 1985, the Labor Commissioner appointed a General Industry Minimum Wage Board to conduct a thorough examination of the State's eight minimum wage orders. The board, which is composed of nine members with three each representing the general public, employers, and employees, was asked to give special attention to formalization of overtime provisions, examination of provisions for allowances for uniforms, consolidation of certain wage orders, benefits for part-time employees, new industry coverage, and review of the youth rate provisions.

The Labor Commissioner is now specifically authorized to enter into reciprocal agreements with other States for collection of claims and judgments for unpaid wages based upon claims assigned to the Commissioner.

Persons or corporations performing public work contracts must, upon the request of the fiscal officer, file within 10 days of receipt of the request, sworn payroll records for said public work or for any public or private work performed by the person or corporation during the same period of time as the public work. If the requested information is not provided within the allotted time, the fiscal officer is to order the withholding from payments due of up to 25 percent, not to exceed $100,000, until the request is satisfied.

Child labor. The law restricting the employment of persons under age 18 in occupations involving selling, dispensing, or handling alcoholic beverages was amended to permit work by those under 18, when under specified supervision, as dishwashers, busboys, or in other positions which require handling of containers which may have held alcoholic beverages. The amendment will be repealed June 30, 1986.

Equal employment opportunity. The exemption for executive or policymaking officials at least 65 years of age from the prohibition against mandatory retirement was amended to increase the minimum annual qualifying retirement benefit from $27,000 to $44,000.

North Carolina

Wages. An amendment to the minimum wage law requires matching increases up to $3.60 an hour in the State minimum if the Federal minimum of $3.35 is increased before July 1, 1987.

The legislature repealed the section of a 1984 law which had provided for a pay equity study for the State's classified employees and for the hiring of a consulting firm to develop a job evaluation and pay system.

Equal employment opportunity. A new Handicapped Persons Protection Act was enacted. Among its provisions, employers of 15 persons or more are prohibited from discriminating against qualified handicapped workers in hiring, promotion, discharge, compensation, or terms and conditions of employment. Discrimination by employment agencies and labor organizations is also prohibited. In addition, employers are to make reasonable accommodations to workers' handicaps. Enforcement is through civil action, instituted by the aggrieved person, although no court action may be pursued if judicial or administrative proceedings have been instituted under the Federal Vocational Rehabilitation Act of 1973. Employers are prohibited from retaliating against an employee or job applicant because the person has testified, assisted, or participated in any proceedings or opposed any discriminatory practice under the act.

An act dealing with military property sales includes a prohibition banning employment discrimination against employees because of membership or service in the military forces of North Carolina or the United States.

Occupational safety and health. A comprehensive Hazardous Chemicals Right to Know Act, to be effective May 25, 1986, covers public and private sector employers with 55 gallons or more of any hazardous chemical, and is to be administered by the Commissioner of Labor. Hazardous substances are to be identified and records maintained on the employer's premises, and provisions are included for the release of trade secret substance information in medical emergencies. Specific information is to be provided to local fire chiefs, upon request, on such items as emergency response plans and how to contact employer representatives in an emergency, and to the general public. Adverse action is not to be taken against an employee for helping in an inspection or for testifying in any proceeding under the act.

Employment and training. The North Carolina Employment and Training Act of 1985 was enacted to develop a comprehensive State policy to guide use of employment, training, education, and economic development funds, and other resources toward achieving economic and employment goals. A State Job Training Coordinating Council, to be supported with funds from the Federal Job Training Partnership Act, was created within the Department of Natural Resources and Community Development to oversee the meeting of the State's goals for employment and training. A Job Training Interagency Committee within the Council, with membership including the Commissioner of Labor, is to develop and implement a plan to integrate the Job Training Partnership Act program into the State's economic development efforts. The prior Employment and Training Council was abolished.

North Dakota

Wages. The exemption from wage garnishment for Social Security benefits was amended to permit garnishment of these benefits to enforce child support orders. Also, an exemption from wage garnishment was added for veteran's disability pension benefits, excluding military retirement pay, except in the case of garnishment for child support. The definition of earnings was amended to reflect these changes.

Orders for the withholding of wages for child support issued by other States or by a Federal court, will now have the same effect as an order of a North Dakota court.

Labor relations. A new State and Political Subdivision Employees Relations Act gives covered public employees the right to join or refrain from joining employee organizations and have payroll deduction of dues, to engage in or refrain from engaging in political activities on their own time, and to report job-related violations of State or Federal law without fear of reprisal or discipline. Prohibited are requiring or coercing employees into participating in or reporting on activities other than official duties, requiring employees to contribute earnings for any purpose other than participation in the retirement fund, and restricting or attempting to restrict certain after working hours statements of employees.

Other laws. The law requiring State agencies to grant in-State bidders and sellers preference in purchasing any goods, in an amount equal to the preference given or required by the State of nonresident bidders, was amended to now include a preference for in-State contractors on public construction contracts.

Ohio

Other laws. A 1984 law stipulates that group health care policies and contracts must give to involuntarily terminated employees the option to continue health insurance coverage at the group rate for an additional 6 months. Employers are obligated to notify employees of the right of continuation when they are notified of their termination from employment.

Oklahoma

Wages. Among several major amendments to the prevailing wage law the threshold amount for coverage was increased from $10,000 to $600,000, except that the public body may stipulate that prevailing wages will be paid on lower cost projects; prevailing wage was defined to be that rate determined under the Federal Davis-Bacon Act; the public awarding agency was made liable for any underpayment in wages if it violates provisions requiring that it obtain the prevailing wage rates from the labor commissioner and include them in the public works contract, in addition to the contractor's liability as before; making or receiving a kickback of wages was made a felony; mandatory withholding from payments to contractors of amounts due resulting from violations of the law is now required; and contractors in violation were made subject to debarment for 2 years. Beginning November 1, 1986, contractors will not be eligible to bid on a public works project unless payroll information has been submitted to the U.S. Department of Labor for use in prevailing wage rate determination.

Child labor. The Commissioner of Labor, by issuance of a Hazardous Order under authority granted in the child labor law, has determined door-to-door sales of cookies, candies, magazines, and similar products to be hazardous to children under the age of 15 and therefore prohibited when an employer-employee relationship exists. Schoool sponsored groups, scout groups, or other groups raising funds for their organizations, while exempt from the 15-year minimum age, must provide members with identification cards which include the organization's telephone number for verification purposes.

A joint resolution was adopted proposing a constitutional amendment to be placed on the ballot, in the November 1986 general election, to remove a prohibition on work by women and girls in underground mines and to establish an 18-year minimum age for such work. The current constitutional provision prohibits work in underground mines by boys under age 16.

Equal employment opportunity. Age discrimination in employment by employers, employment agencies, and labor organizations against persons between the ages of 40 and 70 is now prohibited by amendment to the State Civil Rights Act.

Labor relations. The Public Employees Relations Board, which administers the Fire and Police Arbitration Act, was empowered to prevent unfair labor practices by the issuance of complaints, by serving cease and desist orders, and petitioning the court to enforce such orders. Other changes to the Act include a requirement that every negotiated agreement must contain a clause establishing arbitration procedures, rather than mediation and fact-finding procedures as before.

Oregon

Wages. The basic minimum wage rate was increased from $3.10 to $3.35 an hour, effective January 1, 1986. Also, the minimum wage law was amended to specifically cover public sector employees. (Coverage was first established by a previous amendment which removed a prior exemption for the public sector.)

Authority to issue rules under the minimum wage law including rules pertaining to subminimum rates for handicapped workers and student-learners, to overtime pay, and to meal and rest periods, was transferred from the Wage and Hour Commission to the Commissioner of the Bureau of Labor and Industries. Rulemaking authority under the child labor law remains with the Commission.

The wage payment/wage collection law was amended to extend coverage to public sector employees.

A separate Wage Security Fund was established, to be financed by employer payments of a percent of wages, starting in 1986. For a 3-year period beginning July 1, 1986, the Fund is to be used to pay valid wage claims up to $2,000 each of an employee whose employer has ceased doing business and does not have sufficient assets to pay the claim. An amount of up to $200,000 is appropriated continuously from the Fund to the Commissioner of the Bureau of Labor and Industries to administer this act.

Notwithstanding the exemption from the State prevailing wage law for public work projects regulated under the Federal Davis-Bacon Act, contractors and subcontractors must now pay flaggers on such projects, at least the prevailing rate of wage as determined by the Commissioner of the Bureau of Labor and Industries for that classification of work.

Child labor. Special rules were issued for the employment of 16- and 17-year-old minors to act as convassers, peddlers, or outside salespersons, from house to house. Minors under age 16 are barred from such work. Employers of 16- and 17-year-olds in such work must apply to the Bureau of Labor and Industries for a registration certificate, to be issued by and subject to revocation by the Wage and Hour Commission, upon a determination of employer noncompliance with any rule or law covering the employment of minors. Employers must supply each minor with an identification card which includes a picture and the name of the employee and the name and local address of the employer. Minors may not work past 9 p.m., must be furnished transportation to and from the job site by the employer, and may not be transported to another State without written parental consent.

Agriculture. The labor commissioner is now authorized to enter into agreements with agencies of other States for the reciprocal enforcement of farm labor contractor regulatory statutes if the other State has a similar statute providing for reciprocal enforcement.

Upon written application to the labor commissioner, certain small forestry labor contractors who are sole proprietors may be exempted from the requirements in the contractor registration law that a payment bond be posted and that certified copies of payroll records be submitted to the commissioner.

Specifically exempted from the registration law, which applies to both forestry labor and farm labor contractors, are individuals performing labor under an agreement for exchanging labor with each other on land owned or leased by the individuals, individuals working alone or with family members, and educational institutions recognized by the Department of Education.

Employers of farm workers engaged in field activities for the growing and harvesting of food crops for human consumption must provide convenient toilet and handwashing facilities and clean drinking water for such workers. Notice of these requirements is to be posted in English and in the language spoken by a majority of the employees. The new requirements are administered by the Director of the Workers' Compensation Department who handles other safety and health matters and who may delegate enforcement authority to local public health officials.

Equal employment opportunity. Under the nondiscrimination act it was specified that it is not an unlawful employment practice for an employer or labor organization to provide or make financial provision for child care services for the children of employees or members.

Background clearance. The Department of Human Resources may now request, with written consent of the applicant, information from its Central Bureau of Criminal Identification and is to conduct a nationwide criminal records check through the Federal Bureau of Investigation on persons applying for certificates of approval for day care facilities and on prospective or current employees of such facilities. Operation of or employment in a day care facility is prohibited for any person who has been convicted within the previous 5 years of charges including child abuse or neglect, sexual offenses, or drug abuse.

Occupational safety and health. A Community Right to Know and Protection Act was adopted to make information on the use of hazardous substances readily available to the public. Among its provisions, the State Fire Marshall is to collect information from employers on the identity, amount, and location of hazardous substances used, names and phone numbers of personnel qualified to give information about these substances, and any emergency procedures that they have established. The information collected is to be retained for at least 5 years and is to be made available to local public health authorities, fire districts, private safety agencies administering emergency telephone systems, and others if considered essential. The State Fire Marshall will also assist with emergency response planning by appropriate governmental agencies. The public is to be permitted access to records not otherwise protected as a trade secret or by a confidentiality agreement, with provision made for release of such information to health professionals in medical emergencies. An Interagency Hazard Communications Council was created to facilitate development of the hazardous substance survey and to facilitate interagency access to data collected.

The Director of the Workers' Compensation Department is to conduct a biennial review of the State Hazard Communications rules to determine whether classes of employees not required to be covered by Federal rules should be under State rules, and to propose such rules if the Director concludes that such employees should be covered. In addition, employers must now post signs to inform employees that they have a right to information from the employer regarding hazardous substances found in the place of employment.

Economic development. An Enterprise Zone Act was enacted for the purpose of stimulating employment, business, and industrial growth in economically depressed areas of the State by providing assistance to businesses and industries locating or expanding operations in these areas including tax and other incentives. Enterprise zones will be designated by the Economic Development Department on the basis of economic hardship in the area based upon income, employment, and unemployment data.

Pennsylvania

Background clearance. Administrators of public and private schools, intermediate units and vocational-technical schools, including independent contractors and their employees who would have direct contact with children must require prospective employees to submit with their application criminal history records or a statement that the State police central repository contains no such information. All prospective employees of child care services, prospective foster parents, prospective adoptive parents, prospective self-employed family day care providers, and other persons seeking to provide child care services under contract with a child care facility or program who would have direct contact with children must also submit this criminal history information with their employment applications. No person will be employed who has been convicted within 5 years of certain criminal offenses including sexual or other abuse of children.

Puerto Rico

Wages. Minimum wage rates were increased for the Personal Services and Communications Industries under revised mandatory decrees issued by the Commonwealth Minimum Wage Board. Minimum rates for the Personal Services Industry, which includes beauty shops, photographic studios and laboratories, and funeral services, increased from a range of $3.00 to $3.25 an hour to $3.35 effective February 3, 1985. Minimum rates for the Communications Industry, which includes radio, television, telephone, telegraph, and other communications services, increased from a range of $2.40 to $2.50 an hour to $3.35 effective September 2, but with wages retroactive to June 25, 1985.

Child labor. A new measure was adopted regulating the employment or use of children under 14 years of age in show business or artistic activities. The Secretary of Labor and Human Resources, in coordination with the Secretary of the Department of Instruction and the Secretary of the Department of Health, was authorized to promulgate any rules necessary under the law.

Equal employment opportunity. An employee on paid maternity leave, who is paid by her employer less than 75 percent of her normal salary, day wages, or compensation, will now be entitled to receive weekly maternity benefits from the Disability Benefit Fund, in an amount sufficient to assure her of receiving 75 percent of normal income while on leave.

Rhode Island

Wages. Salaried employees receiving at least $200 per week are no longer exempt from the time-and-one-half after 40-hour overtime pay requirement in the minimum wage law unless they are employed in a bonafide executive, administrative, or professional capacity as defined by the Federal Fair Labor Standards Act, and receive a salary which, if computed on an hourly basis, yields at least the applicable minimum wage.

Background clearance. Any person seeking to operate or seeking employment in a facility which is subject to licensing or registration with the Department for Children and Their Families, or seeking employment at the training school for youth involving supervisory or disciplinary power over children or routine contact with them without the presence of other employees, must undergo an employment background check and criminal records check. A similar requirement was enacted for those applying to establish or renew a school or program for very young children which must be licensed or registered with the Commissioner of Elementary and Secondary Education.

Labor relations. Representation of local government on the five-member State Labor Relations Board was provided by changing the composition of the Board to include one representative of industry, instead of two, and one representative of local government. Two members to represent labor were retained.

Occupational safety and health. Among amendments to the Hazardous Substances Right to Know Act, the role of the Department of Health in providing technical assistance to the Department of Labor in such areas as identification of hazardous substances, trade secret procedures, and training programs was eliminated and the director of labor was authorized to contract with qualified agencies or parties for technical services. Also, employers will now be required to submit annually to the labor department updated chemical identification lists and documentation detailing the nature of training provided employees. The labor department is to keep a central file of annually updated chemical identification lists, is to make at least 200 unannounced inspections of employers annually, and may now order the reinstatement, with reimbursement of any monetary losses, of an employee dismissed or disciplined for exercising his or her right to refuse to work with substances for which required information has not been provided.

The Department of Labor is to develop an informational brochure relating to the use of video display terminals in the workplace. The department is also directed to develop, in cooperation with business, industry, and labor, a plan for dissemination of the brochure, and prepare a plan for a series of training programs and seminars relating to information contained in the brochure. Also, a joint resolution extended, from April 15, 1985 to April 21, 1986, the life of a special legislative commission to study the effects of video display terminals on workers.

Employment and training. The Department of Social and Rehabilitative Services will implement a cash bonus program for 100 welfare recipients who have been receiving aid to families with dependent children but who agree to forgo all such benefits, except medical assistance coverage, and return to full-time employment. In addition, employers who participate in the program will receive a tax credit.

The definition of disabled persons for purposes of vocational rehabilitation services provided by the State Department of Social and Rehabilitative Services was amended to specifically include persons suffering from acquired traumatic brain damage.

Other laws. Noting the loss of jobs and plant closings due to increased textile and apparel imports, the legislature adopted a resolution urging passage of the Textile and Apparel Trade Enforcement bill by the U.S. Congress.

A separate House resolution was adopted urging reconsideration of the elimination of the Department of Labor's Boston Regional Office as proposed in the President's Federal budget for the 1986 fiscal year.

South Carolina

Private employment agencies. Numerous changes in the licensing and regulatory law include specific coverage extension to executive search firms, outplacement services, career counselors, and consultants and resumé services performing job market sourcing. Private personnel placement services are prohibited from charging a fee for placement, referral, or consulting services, except when the services result in applicant acceptance of employment and a confirmed starting date is established. The Secretary of State was directed to investigate written complaints of alleged violation and to deny or revoke licenses when violations are found. Other changes affect license fees, waiting period, bonding, advertising, and other matters.

Occupational safety and health. The Commissioner of the Department of Labor was given responsibility for administering and enforcing newly enacted safety codes for elevators and amusement rides. The Commissioner is to promulgate regulations governing maintenance, construction, alteration, inspection, and testing of new and existing elevators and similar equipment. The Commissioner is also to issue permits to operate amusement rides upon application by the owner or lessee and after meeting inspection and liability insurance requirements. Provision was made for both criminal and civil penalties in case of violation of the elevator code and for civil penalties for violation of the amusement rides safety code.

South Dakota

Occupational safety and health. The law regulating mine safety was repealed, inasmuch as jurisdiction in this area is with the Federal Mine Safety and Health Administration.

Other laws. The statutory presumption that an employee is hired for the length of time used in setting wages, such as an assumed annual hiring where an annual salary is designated, was amended to now state only that the time period used for estimating wages is relevant to the determination of the term of employment.

Tennessee

Undocumented workers. It was made unlawful to knowingly employ or refer for employment any illegal alien. This new law, to be enforced by the labor department, applies to employers as well as to any employment agency, contract labor provider, or organized employee organization which makes job referrals. Violation is punishable as a misdemeanor and, in addition, violators will have their license revoked and will be permanently barred from doing business in the State.

Occupational safety and health. A Hazardous Chemical Right to Know Law, applicable to manufacturers, nonmanufacturers, and distributors, was enacted, to be administered by the Department of Labor. Employers are required to maintain and disseminate information on hazardous substances to which workers are exposed, and to provide education and training for employees who handle these materials. Employees may request information about hazardous chemicals and may refuse to work with such chemicals if the information is not provided within specified time limits. Employers are prohibited from discharging or disciplining an employee who files a complaint or participates in a proceeding under the Act. Manufacturing employers and distributors that are regulated by and complying with the Federal Hazard Communication Standard are exempt from some provisions of the Act. Information on hazardous substances must also be provided to the local fire chief and County Health Department. The law will take effect July 1, 1986 for manufacturing employers and on January 1, 1987 for nonmanufacturing.

Administration of the boiler inspection law and of the licensing law for erectors and repairers of boilers was transferred from the Department of Labor to the Department of Commerce and Insurance.

The statutory provisions setting safety standards in mines and authorizing mine inspections were repealed, inasmuch as jurisdiction for these functions is with the Federal Mine Safety and Health Administration.

Other laws. The law regulating compensation of jurors was amended to clarify that railroad employees paid on a mileage basis are to receive the mileage pay they would have received if they had worked instead of serving on jury duty.

Texas

Hours. Retail business employers may not require full-time employees to work 7 consecutive days or deny them at least one period of 24 consecutive hours of time off in each 7-day period in addition to the regular periods of rest allowed during the workday. Employers are to accommodate the religious practices of employees, except where undue business hardship can be demonstrated. In addition, the law that prohibits the sale of goods on both the two consecutive days of Saturday and Sunday was repealed except that a prohibition on the sale of motor vehicles on those 2 consecutive days will remain. Employers whose businesses were closed on Saturdays or Sundays to comply with the Saturday-Sunday Law may not require an employee to work on whichever day the business was previously closed, if he or she had been continuously employed by that employer since before the repeal date.

Equal employment opportunity. Each State agency that submits an annual report relating to equal employment opportunities within that agency must now include the number of their handicapped employees in the statistical information provided to the Governor's office on equal employment opportunity.

Background clearance. The Department of Human Resources was authorized to obtain criminal history information records to investigate owners, employees, and prospective employees of a child care facility for purposes of licensing, registration, or certification. The Department may also obtain these records for residents of a registered family home, persons providing foster care for children, Department employees who are engaged in the direct delivery of protective services to children, and volunteers with a local affiliate of Big Brothers/Big Sisters of America.

Employees and prospective employees of a nursing home or custodial care home are now subject to a criminal records check by the Department of Health through the Department of Public Safety or the FBI identification division at the request of the institution.

Occupational safety and health. A Hazard Communication Act applicable to manufacturers, nonmanufacturers, and distributors was enacted, to be administered by the Department of Health. Employers are required to maintain and disseminate information on hazardous substances to which workers are exposed, and to provide education and training for employees who handle these materials. Employees may request information about hazardous chemicals, and are protected from being discharged or disciplined for filing a complaint or participating in a hearing under the Act. Manufacturing employers and distributors that are regulated by and complying with the provisions of the Hazard Communication Standard issued by the Federal Occupational Safety and Health Administration on November 25, 1983, are exempt from some provisions of the law. Information on hazardous substances must also be provided to the local fire chief.

Economic development. The Central Education Agency, after consultation with the Adult Education Advisory Committee of the State Board of Education and the Texas Economic Development Commission, is to develop industrial training programs to enhance employment opportunities in existing businesses and to encourage development of new businesses in the State. In addition, a new Technology Training Board was created to collect and disseminate information relating to technology training, technology research, and job and industrial opportunities.

Other laws. Resident contractors will be given a preference in bidding on public works projects, except those involving Federal funds, over out-of-State bidders equal to the resident preference given to such bidders by their own State.

Utah

Wages. A Senate resolution directed the Legislative Management Committee to assign to appropriate interim study committees items for study and reports, including overtime pay standards for public employees, a comparable worth pay plan for State employees, payroll withholdings for all child support payments, a displaced homemaker act, and the State's "right-to-work" law.

Equal employment opportunity. Among changes to the antidiscrimination law, the prohibition against age discrimination including a ban on mandatory retirement now applies only to those between 40 and 70 years of age instead of those age 40 and older. The law is now applicable to employers of 15 persons or more each working day in each of 20 calendar weeks instead of employers of 25 or more, and the definition of employee for coverage purposes was amended to include job applicants and to remove an exemption for domestics. Retaliation, because a person has filed charges, testified, or participated in a proceeding, investigation, or hearing, is now prohibited.

A separate provision requires attorneys employed in career service status in the Attorney General's office to now retire at the age of 70.

Occupational safety and health. The Occupational Safety and Health Division of the Industrial Commission is now specifically authorized to investigate worker injury, illness, or complaint, and to seek a search warrant if an employer refuses to permit an inspection. Orders of the Occupational Safety and Health Review Commission are subject to judicial review upon petition of any person adversely affected or aggrieved or by the Administrator of the Occupational Safety and Health Division.

Employment and training. A Job Training Coordination Act was passed to implement the Federal Job Training Partnership Act. A job training coordinating council was created to develop and recommend an employment and training coordination and special services plan, to provide management guidance and review of employment and training programs, and to coordinate activities with private industry councils. Also, an Office of Job Training for Economic Development was created within the Department of Community and Economic Development.

Other laws. A Utah Protection of Public Employees Act was adopted prohibiting employers from bringing any adverse personnel action against an employee who reports waste or a violation of any law or rule, if the employee has given prior notification to the employer and sufficient time has been allowed for corrective action, and if the report is not knowingly malicious, false, or frivolous. Similar protection is also afforded to those employees requested by a public body to participate in an investigation, hearing, inquiry, or other form of administrative review.

Vermont

Wages. The minimum wage rate will be increased from $3.35 to $3.45 an hour, effective July 1, 1986, with further increases to $3.55 and to $3.65 scheduled on July 1, 1987 and July 1, 1988. The rates of $3.45 and above will be required only for those employees who have worked at least 90 calendar days for an employer.

For a bridge project connecting New York State and Vermont, legislation was enacted specifying that hourly wage rates for workers on the Vermont portion be equal to those posted for use on the New York portion, which were higher. Wage rates may be reduced by the Governor if necessary to keep costs from exceeding the amount appropriated for the project.

Worker privacy. A new Polygraph Protection Act was enacted prohibiting employers or employment agencies from requesting or requiring that an employee or prospective employee submit to a polygraph examination as a condition of employment, promotion, or privilege of employment. Employees or prospective employees cannot be discharged or discriminated against for declining to take the examination, for filing a complaint, or for testifying under the Act. Exceptions are provided for law enforcement agencies, employers in the business of selling precious gems or metals, or of regulated drugs, and employers authorized under Federal law to require polygraph examinations. Examiners must comply with several duties such as giving the examinee a copy of this Act and of the examination questions, informing the examinees of their rights, and refraining from asking questions unrelated to job performance including any queries regarding political, religious, or labor union affiliations. Penalties for violation are by fine, imprisonment, or both.

Occupational safety and health. A new Community Right to Know law was enacted. Among its provisions, those who supply hazardous chemicals to employers are to provide them with information including the names of chemicals, their properties, effects of exposure, proper conditions for safe use, including any need for personal protective equipment, and appropriate emergency treatment. Also, each employer is to compile and file a list of all chemicals in the workplace with the Department of Health by December 1, 1986 and with the municipal fire department by January 1, 1987, along with the location of each hazardous chemical, and is to label pipelines containing hazardous chemicals. Names of hazardous chemicals which would divulge trade secrets may be withheld except in a medical emergency.

Employment and training. A youth conservation corps summer work program is to be established by the secretary of the Environmental Conservation Agency in cooperation with the Commissioner of Employment and Training, to provide economic, vocational, and educational opportunities for youths 16 to 21 years of age, at least half of them from among the economically disadvantaged.

Other laws. A Worker Cooperative Corporations Act was adopted governing such aspects as articles of organization; directors and officers; membership shares, fees, and rights and responsibilities; apportionment of net earnings or losses; and use of the term cooperative.

Virginia

Background clearance. A licensed child-caring institution or child care center is barred from employing a person or utilizing a volunteer who has been convicted of any sex crime. Job applicants at such facilities must first obtain a certificate from the Commissioner of Social Services indicating a negative record after a criminal records check. Child care facilities that do not require a license have the option of obtaining a criminal records check and of refusing employment to such convicted persons.

Labor relations. A joint resolution requests the Governor and Attorney General to take steps necessary to enforce the State's "right-to-work" law and to ensure that Virginia-based employees of the Washington Metropolitan Area Transit Authority are afforded the protection of that law.

Occupational safety and health. The Department of Labor and Industry is now responsible for administering occupational health standards in addition to enforcing such standards as before. The labor department replaces the Department of Health as the agency responsible for drafting and submitting to the Safety and Health Codes Commission for adoption rules and regulations pertaining to occupational health, and is directed to request advice from the health department.

Amendments to mine safety provisions add precautions to be taken in the movement of off-track mining equipment, change the allowable speed of belts used to transport employees, and prohibit workers from riding on top of self-propelled mobile equipment. In addition, longwall mines must now have at least three entries except under certain specified conditions and with approval.

The legislature by resolution created a joint subcommittee to study the implementation of an amusement ride safety inspection program at the State and local government levels and to submit any recommendations to the 1986 General Assembly session.

Other laws. Employees who were formerly protected from discharge because of jury duty will now also be protected from any adverse personnel actions taken because of such service.

Washington

Wages. By amendment to the wage collection law, the Director of Labor and Industries is now authorized to enter into reciprocal agreements with corresponding agencies of other States for reciprocal collection of claims or judgments for wages.

A new section was added to the prevailing wage law requiring the director of labor and industries, upon complaint by an interested party, to initiate an investigation to determine if there has been compliance with the law and to hold a hearing if the investigation indicates that a violation may have occurred. Also, the civil penalty amounts and procedures were changed, and contractor or subcontractor debarment from bidding on public works contracts for 1 year following the second violation within a 5-year period was made mandatory rather than at the discretion of the director.

The State operating budget adopted in June 1985 for the fiscal biennium beginning July 1, 1985 includes an appropriation of nearly $46 million for comparable worth implementation resulting from legislative and previous court-ordered pay adjustments for State employees. (A 1983 U.S. District Court decision ordering comparable pay for State employees was overturned on appeal in September 1985 by the 9th U.S. Circuit Court of Appeals.)

Hours. Public employees of the State are now permitted to work flexible-time workweeks if the provision of services to the public or the mission of the agency is not impeded and the employee's bargaining unit, if applicable, and agency approve.

Agriculture. Forestry labor contractors are now subject to licensing and other requirements of the farm labor contractor registration law in the same manner as other contractors. Among other amendments to the law, all covered contractors must post a $5,000 surety bond, must furnish specified job-related information to workers, are prohibited from retaliating against employees for actions under the act, and are subject to civil penalties assessed by the Director of the Department of Labor and Industries for each violation.

Equal employment opportunity. Enforcement of orders by administrative law judges under the Law Against Discrimination in Employment will be expedited in that such orders are no longer automatically stayed upon appeal to the courts.

The State Personnel Board, Higher Education Personnel Board, and State Patrol are required by statute to adopt rules and procedures to be followed for affirmative action in appointments, promotions, transfers, recruitment, training, and career development, including goals and timetables and the monitoring of progress. The affirmative action is to include racial minorities, women, older workers, persons with disabilities, Vietnam-era veterans, and disabled veterans. Annual reports on progress in meeting affirmative action goals and timetables are to be submitted to the State Human Rights Commission which is authorized to conciliate cases of noncompliance. Further enforcement includes referral to an administrative law judge for hearing and issuance of an order requiring action if appropriate, and appeal of law judge's decision to the courts. Affirmative action and equal employment opportunity had been previously established for State agencies and higher education institutions by executive order.

Worker privacy. The law prohibiting the use of lie detectors was amended to now exempt manufacturers or distributors of controlled substances in addition to the previous exemption for those who dispense such substances. In addition, the prior exemption for public law enforcement employees seeking promotion to a rank of captain or higher was eliminated, and violators were made liable for civil penalties. Psychological tests are not prohibited under the law.

Employers must, at least annually, make available an employee's personnel file for inspection upon his or her request. In addition, if requested by an employee, an employer must review all information in the personnel file and remove any irrelevant or erroneous information. An employee who

Labor relations. A prohibition on strikes, and the use of impasse procedures for State uniformed personnel, including arbitration, were extended to apply to advanced life support technicians employed by public employers other than public hospital districts.

Occupational safety and health. Translations in foreign languages or written hazard communication programs, material safety data sheets, and other materials designed to inform employees of their rights relating to hazard communication standards will now be provided by the Department of Labor and Industries to employers or the public upon request, and employers employing non-English speaking employees will make reasonable efforts to post such notices in the employee's native languages. Also, employers are to provide agricultural employees with information and training on hazardous chemicals in their workplace and make available, upon request, any material safety data sheets on incoming shipments of hazardous chemicals. The Department is also to adopt rules for evaluating trade secret claims and procedures for issuing trade secret exemptions and release of this information in medical emergencies.

The Department of Labor and Industries will administer a new law requiring annual safety inspections and operating permits for amusement rides or structures.

Plant closings. The Department of Community Development was directed to study and develop a plan to encourage and assist employee stock ownership plans for acquisition of facilities which would otherwise close, relocate outside the State, or drastically curtail operations. A report on the study, including details of the plan and recommendations for legislation, is to be submitted to the legislature in 1986, and thereafter an annual report on employee stock ownership trusts is to be submitted.

Economic development. A State economic development board was established, composed of citizens from both the public and private sectors, and representatives of business and labor, among others, with the Governor as chairperson. The board is charged with the responsibility for creating a long-term economic development strategy for the State. The objective will be to spur new job creation and investment that is consistent with the preservation of the State's quality of life and environment. A separate legislative committee on economic development was created and authorized to study and review economic development issues with special emphasis on international trade, tourism, investment, and industrial development, and to assist the legislature in developing a comprehensive and consistent economic development policy.

A community revitalization team was established within the Department of Community Development. Representing the combined efforts of that Department, the Employment Security Department, the Commission for Vocational Education, and the Department of Commerce and Economic Development, the team is to provide technical and business assistance upon request to economically distressed areas, including assisting employers and workers faced with substantial business reductions. The team is authorized to promote retraining and reemployment of unemployed workers using links with local economic development efforts.

Employment and training. A 1-year pilot vocational training program to be administered by the State Board for Community College Education was created to provide retraining in vocational skills without tuition payment for persons living in areas with high unemployment who have become unemployed because of large changes in the economy of the State, including plant closures or significant reductions in force.

Other laws. In awarding a purchase contract to the lowest bidder, a local government may consider the tax revenue it would receive from purchasing the supplies, materials, or equipment from a supplier located within its boundaries.

West Virginia

Occupational safety and health. A Community Right to Know law was enacted under which manufacturing employers who normally store 55 gallons or more of hazardous substances must provide specific information on such chemicals, including their names, characteristics, hazards, precautions for safe handling, emergency and first-aid procedures, and quantity of inventory, to the director of the State Health Department, the county sheriff, and local fire chief. The director of health must provide to any resident requesting it, copies of hazardous substance factsheets and other information submitted by an employer for any facility. This law will expire upon passage of any Federal legislation providing similar protection to State residents.

Economic development. Among the provisions of a new Economic Development Act of 1985, a Department of Commerce was re-created. Duties transferred or assigned to it include the promotion of business in the State and facilitating the development of markets for West Virginia products and services. Also, an office of community and industrial development was created within the office of the Governor with responsibilities including a feasibility study for establishing enterprise zones and including a division of employment and training. A prior 1977 law which had created within the office of the Governor an office of economic and community development was repealed.

Wisconsin

Wages. The dollar threshold amount for coverage under the prevailing wage law for municipal public construction was increased administratively from $75,000 to $80,000 where more than one trade is involved, and from $7,500 to $8,000 where one trade is involved. Adjustments in the threshold amounts are made every 2 years on the basis of changes in the U.S. Department of Commerce's composite cost index or other similar index.

Among the executive budget appropriations of the 1985 legislature were supplemental funds to State agencies for the cost of correcting pay inequities based on gender or race. A comparable worth task force was created by executive order in 1984.

Child labor. Minors under the age of 12 may now work in fund-raising sales for nonprofit organizations or for public or private schools, with parental consent. Such work for this age group was previously prohibited under street trade restrictions. Minors under age 9 must be accompanied by a parent or a person at least 16 years of age.

Other laws. A program of temporary financial assistance was established for counties and cities economically depressed because of plant closings, indefinite layoffs, or farm sales resulting in a precipitous increase in unemployment.

Wyoming

Wages. An evaluation of the State job classification system based on comparable worth principles is to be submitted to the joint appropriations committee by the State's personnel administrator no later than November 1, 1985, as a portion of a consultant-prepared plan for a new merit compensation system. The amount of $250,000 was appropriated for development of the new compensation plan.

Equal employment opportunity. Employment discrimination against qualified handicapped persons, including those who would be capable of performing a particular job with reasonable accomodation to their handicap, is now prohibited under the Fair Employment Practices Act.

FOOTNOTES

[1] The legislature met only in a special session in Kentucky and no significant legislation was enacted in the fields covered by this article. Information on the Virgin Islands had not been received in time to include in this article, which is based on information received by Nov. 8, 1985. Unemployment insurance and workers' compensation are not within the scope of this article. Separate articles on each of these subjects are included in this issue of the *Monthly Labor Review*.

[2] Laws to strengthen enforcement of court-ordered child support, in compliance with the new Federal requirements, were adopted in a majority of the States, using nearly identical provisions and language. These laws are not included in the individual State summaries in this article.

[3] The eight States enacting new worker right-to-know legislation in 1985 were Alabama, Louisiana, Missouri, Montana, North Carolina, Tennessee, Texas, and Vermont. All of these but Alabama and Louisiana included provisions extending the right to information on toxic substances to those communities in which such substances are used. Maine, Oregon, and West Virginia, with prior laws giving protection to employees, enacted separate laws providing for community access to toxic substance information.

Shiskin award nominations

The Washington Statistical Society invites nominations for the seventh annual Julius Shiskin Award in recognition of outstanding achievement in the field of economic statistics.

The award, in memory of the former Commissioner of Labor Statistics, is designed to honor an unusually original and important contribution in the development of economic statistics, or in the use of economic statistics in interpreting the economy. The contribution could be in statistical research, in the development of statistical tools, in the application of computers, in the use of economic statistics to analyze and interpret the economy, in the management of statistical programs, or in developing public understanding of measurement issues, to all of which Mr. Shiskin contributed. Either individuals or groups can be nominated.

The award will be presented, with an honorarium of $250, at the Washington Statistical Society's annual dinner in June 1986. A nomination form may be obtained by writing to the Julius Shiskin Award Committee, American Statistical Association, 806 15th Street, N.W., Washington, D.C. 20005. Completed nomination forms must be received by April 1, 1986.

Changes in unemployment insurance legislation during 1985

At the national level, phaseout of Federal Supplemental Compensation was legislated; State developments included the creation of shared-work compensation plans, and changes designed to pay interest on outstanding advances by the Federal Government

DIANA RUNNER

Last year, for the first time in 5 years, the Federal unemployment insurance law was not amended in any way that required States to change their laws. However, the Federal Supplemental Compensation (FSC) Act of 1982 was amended by Public Law 99–15 to phase out payment of FSC benefits. The change specified that only those claimants receiving FSC at the time of phaseout could continue to collect the remainder of their entitlement during uninterrupted periods of unemployment.

In 1985, 12 States[1] amended their laws to include tips in the definition of covered wages for tax purposes. To reflect 1983 amendments to the Federal law, a few States[2] amended their definitions of covered wages in other respects.

Following is a summary of significant changes in State unemployment insurance (UI) laws during 1985.[3]

Arizona

Benefits. The maximum weekly benefit amount was increased from $115 to $125. In July 1986, it will increase to $135.

Disqualification. An individual will be disqualified for voluntarily leaving a job because of commuting difficulties unless he or she can show that the travel requirements are in excess of the normal practice in the occupation and the individual's past practice, or that there are compelling personal circumstances for leaving. Compelling personal circumstances include the need to commute more than 30 miles or for more than 1½ hours from home to work.

Arkansas

Financing. Beginning January 1, 1987, the advance interest tax shall range from 0 to 0.2 percent, depending on the assets of the unemployment insurance fund on the computation date. Shared-work benefits will be charged to employers' experience rating accounts in the same manner as regular benefits. (See *Benefits.*)

Benefits. The maximum weekly benefit amount will be computed as 66 $^2/_3$ percent of the State average weekly wage for the preceding calendar year. A shared-work compensation plan was established which provides for 26 weeks of shared-work benefits. Under such plans, workers who go on a short work schedule in order to avert a layoff receive unemployment benefits for the hours of work lost. Benefits are calculated as a proportion of the ordinary benefit amount for a full week of unemployment.

Disqualification. The "able to work" and "availability for work" provisions may be waived in the event of the death of a member of an individual's immediate family for the day of death and 6 more calendar days. An individual on short-term layoff shall not be required to register for work or to seek work during layoff if he or she expects to be recalled for full-time work within 8 weeks of the layoff. If an individual is not actively seeking work while serving on jury duty, he or she shall not be disqualified.

Administration. The chairman of the State board of review must be a licensed practicing attorney who is not a representative of employers or employees.

California

Financing. The option allowing specified public entities to finance benefits

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Diana Runner is an unemployment insurance program specialist in the Office of Legislation and Actuarial Services, Employment and Training Administration, U.S. Department of Labor.

through a special contribution system was deleted. These organizations will now be able to choose either fund contributions or fund reimbursement as the financing method. Also repealed was the special reduced rate for an employer whose average base payroll increased 25 percent or more over the previous year's base payroll.

Colorado

Coverage. Legislation redefined "employer" (excluding agricultural, domestic, or nonprofit organizations) to mean an employing unit which employs at least one individual to perform services at any time. Regulations concerning the exclusion from coverage of services in casual labor were changed to specify that the services will be excluded only if cash remuneration to the provider is less than $50 and if that individual is not regularly employed to perform the services.

Benefits. The provision for an alternative base period for covered wages, which consisted of the most recent four quarters, was deleted. The base period is now the first four of the last five completed calendar quarters immediately preceding the individual's benefit year. An individual's benefit year will be 53 weeks if the filing of a new claim results in overlapping any quarter of the base year of a previously filed new claim.

Disqualification. A 10-week deferral of benefits will be imposed if a disqualification is established for an individual's most recent separation. The law now allows the State unemployment insurance division to withhold more than 25 percent of a benefit claim in cases where overpayments have already occurred on the claim.

Connecticut

Financing. A base-period employer who has elected to use the fund reimbursement alternative will not be charged for benefits paid to an individual if the employer continues to employ the individual to the same extent as in the base period.

Disqualification. An individual will not be disqualified for voluntarily leaving a job without sufficient cause if he or she has quit: (1) to care for a seriously ill spouse, child, or parent domiciled with the individual, if the illness has been documented by a licensed physician; or (2) because transportation used to get to and from work has been discontinued and no reasonable alternative transportation is available. An individual will be disqualified from benefits if discharged or suspended for conduct constituting larceny in excess of $50.

Delaware

Financing. The taxable wage base increased from $8,000 to $8,250; on January 1, 1987, it will be raised to $8,500. Beginning January 1, 1986, the maximum basic contribution rate for employers increased to 8.0 percent. An employer which reemploys a former employee within a specified period will receive rehire credits of 25 to 75 percent of the benefits previously charged to its account, depending on the amount of the rehired employee's benefit payments that had been charged to the employer.

Benefits. The maximum weekly benefit increased from $165 to $195. For the period July 1, 1986, to June 30, 1987, the maximum weekly benefit amount will increase to $205. The minimum will remain at $20. After June 30, 1987, the maximum will be computed annually at 66⅔ percent of the Statewide average weekly wage.

Disqualification. A statute now limits to 3 years the period during which the State may collect overpayments made earlier to the claimant.

Florida

Benefits. The maximum weekly benefit amount increased from $150 to $175.

Georgia

Financing. On Jan. 1, 1986, the taxable wage base rose from $7,000 to $7,500.

Benefits. An individual's weekly benefit amount will be determined as 1/50 of total wages earned in the two quarters of highest wages during the base period. (Previously, the benefit was 1/25 of the high-quarter wages.) The maximum weekly benefit amount increased from $125 to $135, and beginning July 1, 1986, it will rise to $145. However, the law specified that if assets of the unemployment trust fund fall below $175 million, the weekly benefit amount will be reduced to $115.

Administration. New legislation permits, rather than requires, the Commissioner to create an Employment Security Agency within the Georgia Department of Labor.

Idaho

Financing. For calendar years 1985 and 1986, the fund contribution rates for experience-rated employers will range from 1.7 to 5.6 percent of taxable wages.

Disqualification. The amount of wages needed to purge a disqualification for voluntary leaving, discharge for misconduct, refusal of suitable work, and voluntary leaving due to marital obligations decreased to 16 (previously 20) times the weekly benefit amount.

Illinois

Financing. For all of calendar 1986 (previously only the first and second calendar quarters), the taxable wage base will be $8,500. Thereafter, it will revert to $7,000 unless legislation is enacted to maintain the higher level. Extended to all of calendar 1986 was the provision that an employer's benefit-wage ratio be determined on the basis of liability in each of the two years (normally three years) preceding the year for which the contribution rate is determined. (Previously this provision applied only to the first 6 months of the year.) New legislation also extended to the last two quarters of 1986 the minimum contribution rate, which will be the greater of 0.2 percent of taxable wages or the product of the adjusted State experience factor multiplied by 0.2 percent; and a maximum rate, which will be the greater of 5.5 percent or the product of 5.5 percent and the adjusted State experience factor for the year, but no higher than 6.7 percent or lower than 6.5 percent. Finally, the emergency contribution rate of 0.6 percent for employers whose rates would be 0.2 percent or higher, which was imposed to ensure adequate fund levels, will be continued through the end of this calendar year.

Benefits. The requirement that an individual's weekly benefit amount be computed as 48 percent of his or her average weekly wage (up to 48 percent of the State average weekly wage), which was due to expire on July 6, 1986, was extended until January 3, 1987. For the same extended period, the formula for dependents' allowances shall be 7 percent of the claimant's prior average weekly wages (not to exceed 55 percent of the State average weekly wage) if the claimant has a nonworking spouse, and 14.4 percent (not to exceed 62.4 percent of the State average) if he or she has any dependent children. The maximum weekly benefit is frozen at $161 until December 31, 1986. The Director of the State's Department of Employment Security now is permitted to prescribe regulations authorizing a deduction from an individual's weekly benefit amount to pay for health insurance, if the individual elects the deduction and it is made under a program approved by the U.S. Secretary of Labor.

Indiana

Financing. The standard rate for employer contributions to the UI fund increased to 5.4 percent. The maximum rate for the most and least favorable schedules was raised to 5.4 percent. Previously, the maximum rates were 2.8 and 4.5 percent.

Benefits. The limitation on wage credits used in computing duration of benefits increased from $3,926 to $4,186. The maximum weekly benefit amount was raised to $90 (previously $84) for persons with no dependents; $106 (previously $99) for those with one dependent; $121 (previously $113) for those with two dependents; $137 (previously $128) for those with three dependents; and $151 (previously $141) for those with four dependents or more. Beginning July 6, 1986, the maximum weekly benefit amounts will increase to $96, $113, $129, $147, and $161, respectively. The required amount of qualifying wages was raised to 1½ times high-quarter wages, with at least $1,500 earned in the last two quarters of the base period and $2,500 earned in the base period as a whole. Formerly, the requirement was 1¼ times the high-quarter wages, with $900 earned in the last two quarters and total base-period wages of $1,500

Administration. The appeal authority for judicial review was shifted from the State appellate court to the State Court of Appeals.

Kansas

Benefits. The maximum weekly benefit amount increased from $175 to $190.

Disqualification. New legislation redefined good cause for voluntary leaving as good cause attributable to the work or the employer. The disqualification for voluntary leaving without good cause changed from 10 weeks (with an equal reduction of benefits) to a duration disqualification or until the individual has earned wages in insured work of three times the weekly benefit amount. The special disqualification for individuals who voluntarily leave work because of domestic or family responsibilities (not including pregnancy), a shift to self employment, retirement because of disability or old age, or school attendance was deleted.

Other legislative changes provided that an individual will not be disqualified for voluntary leaving if the individual left: (1) temporary work to return to his or her regular employer; (2) to enlist in the armed forces, but was rejected or delayed in entering; (3) because a spouse is being transferred by his or her employer to another locality outside a reasonable commuting distance for the claimant; (4) because of unwelcome harassment; (5) as a result of being instructed or required by the employer to perform a service or to commit an act in the course of duties which is in violation of an ordinance or statute; (6) because of illness or injury upon a physician's advice, but finds after recovery that the old job or comparable work is unavailable; and (7) because of violation of a work agreement. Also, the disqualification will not apply if the individual left to accept better work or because of hazardous working conditons.

Administration. The State Depertment of Human Resources was authorized to continue operations until July 1, 1993. The Department's division of employment security will be administered by the Secretary of Human Resources in a manner he or she deems necessary. Formerly, the division was administered by the division director.

Louisiana

Financing. Shared-work benefits will be charged to employers' accounts in the same manner as regular benefits.

Benefits. The computation of the duration of benefits was changed to be the lesser of 26 times the weekly benefit amount or 27 percent (previously 40 percent) of base-period wages. If an individual's high-quarter wages exceed $875, his or her weekly benefit amount will be computed as 1/25 of wages in the two highest quarters of the base period. Wages earned for a successive benefit year must be in insured work. Established was a shared-work compensation plan, under which individuals working shortened schedules to avert layoffs may collect up to 26 weeks of benefits.

Disqualification. An individual will be disqualified for benefits in any week that he or she receives accrued vacation pay or compensation in the form of severance or dismissal pay. However, if the payment is less than the UI weekly benefit amount, the individual may receive the difference.

Maine

Financing. Beginning January 1, 1986, the fund contribution rate for new employers is no more than 4.0 percent (formerly 3.0 percent) or less than 1.0 percent.

Benefits. Remuneration earned for a second benefit year must be in covered employment.

Disqualification. An individual who was discharged because he or she was absent from work for more than two workdays due to incarceration will be disqualified for the duration of the unemployment or until the individual has earned four times the weekly benefit amount.

Administration. The period for appealing a claim redetermination was cut from 20 to 15 days, although the period may be extended up to 15 calendar days if good cause is shown.

Maryland

Disqualification. The pension offset provision was amended to require that an amount equal to any Social Security or Railroad Retirement benefits received be deducted from unemployment benefits if the base-period employer is subject to the provisions of the Social Security Act or the Railroad Retirement Act of 1974.

Massachusetts

Financing. The fund level requirements for the most favorable schedule decreased to 2.3 percent of payrolls, with rates ranging from 1.2 percent to 5.4 percent. The fund requirement for the least favorable schedule was lowered to less than 0.8 percent of payrolls, with rates ranging from 3.0 to 7.2 percent. The contribution rate for new employers was raised to 3 percent. Extended benefits, previously charged to the solvency account, are now charged to the employer to the extent that they are not Federally reimbursable.

Penalties. Any employer who attempts to evade any contribution, or payment in lieu of contribution, or who knowingly makes a false statement or misrepresentation to avoid or reduce any contributions or benefit payments shall be guilty of a felony, and upon conviction shall be fined from $1,000 to $5,000 or imprisoned for no more than 5 years, or both. The penalty for fraudulent misrepresentation to prevent the payment of, or to reduce, benefits is increased to a fine of $100 to $1,000 or imprisonment of 6 months, or both.

Mississippi

Penalties. The monetary penalty for fraudulent misrepresentation by claimants in order to obtain or increase benefits is raised to $100 to $500. The penalty for employers who fraudulently attempt to prevent or reduce benefit payments increases to $100 to $1,000.

Montana

Coverage. The term "employer" was redefined for UI purposes to include any employing unit with annual payroll in excess of $1,000 (formerly $500). "Regularly employed" persons are defined for purposes of the exclusion of casual labor as those performing wage-earning services during at least 24 days of a given quarter.

Financing. The taxable wage base will be computed as 80 percent (previously 75 percent) of the State average annual wage, rounded to the nearest $100. A new enactment deleted the requirement that the taxable wage base not be raised by more than $200 from year to year. The period of benefits and contributions considered when computing contribution rates for experience-rated employers was changed to include all years since October 1, 1981. The maximum rate for the most and least favorable schedules was raised to 6.4 percent, with the minimum rates decreasing to 0.0 and 1.7 percent, respectively. A temporary (until June 30, 1987) surtax was imposed on all employers to fund the repayment of Federal advances to the State UI program. The provision requiring that a specified proportion of taxes (and reimbursements) paid by both taxpaying employers and those not covered by experience rating be used for administrative purposes was amended to require that these administrative costs be funded through a special assessment on the employers rather than a diversion of contributions.

Benefits. The maximum weekly benefit amount will be frozen at $171 until January 1, 1987. An individual's weekly benefit amount will be computed as 49 percent (formerly 50 percent) of the State average weekly wage in the base period. The provision specifying that the waiting week requirement shall not interrupt the payment of benefits for consecutive weeks of unemployment in a new benefit year was deleted. In disability cases, the base period may be designated as the four quarters preceding the disability if a claim is filed within 26 months of occurrence of the individual's disability (formerly 18 months from the date of last employment).

Disqualification. A disqualification for voluntary leaving will occur when an individual leaves work without good cause attributable to his or her employment. The wage criterion for defining suitable work after 13 weeks of unemployment was modified to include work that offers 75 percent of the individual's earnings in previous insured work in the customary occupation (previously 75 percent of the prevailing wage for the occupation). However, no individual will be required to accept a job paying less than the Federal minimum wage. For purposes of applying a labor dispute disqualification, the definition of a labor dispute was changed from a stoppage of work to a strike.

Penalties. A new enactment requires claimants to repay fraudulently obtained benefits with interest charged at the rate of 18 percent a year. However, future benefits may not be used to offset the interest due.

Nebraska

Financing. The law now permits, rather than requires, a successor employer to assume the experience rating of the predecessor employer.

Benefits. The maximum weekly benefit amount is increased from $120 to $126.

Penalties. The statute of limitations on prosecutions for fraudulent misrepresentation is increased to 3 years.

Nevada

Benefits. Any person who is awarded backpay is liable for the amount of UI benefits paid to him or her during the period for which the backpay was awarded. The employer's reserve account will be credited with the amount of such benefits. Also, before the employer pays the employee backpay, the employer must ascertain the amount of UI benefits received by the worker during the period for which backpay was awarded, withhold that amount from the backpay, and forward it to the State employment security department.

New Hampshire

Financing. The fund requirement for the most favorable schedule increases from $100 million to $110 million. When the least favorable schedule is in effect, an adverse-rating charge will be added to all employers' rates in an amount equal to the interest rate on 90-day Treasury bills multiplied by the excess of benefits over contributions for the preceding 3 years. The legislature added a standard contribution rate of 5.4 percent for certain unrated employers. Any benefits paid to a claimant following a disqualification for voluntary leaving, discharge for misconduct, or refusal of suitable work will be charged to the account of the employer who furnished the employment. In cases where a disqualification is not involved, benefits are charged to the most recent employer.

Benefits. The minimum and maximum weekly benefit amounts were increased to $36 and $150, respectively, from $26 and $141. The qualifying wage requirements were raised from $1,700 for the total base period and $800 in each of two quarters to $2,600 for the entire base period and $1,000 in each of two quarters.

Disqualification. The number of weeks of work required to purge a disqualification for voluntary leaving, discharge for misconduct, and failure without good cause to either apply for or accept suitable work increased to 5 consecutive weeks (previously any 3 weeks) of covered work with earnings equal to 120 percent of the weekly benefit amount in each week. The requirement that benefits not be reduced due to receipt of holiday pay unless the number of paid holiday in a calendar year exceeded the total number of legal holidays was deleted. Also deleted was the requirement that the weekly benefit amount be reduced for any week in which an individual received holiday pay.

Administration. The period for appealing an initial determination before an appeal tribunal increased from 7 to 14 calendar days after mailing of the determination by the agency.

New York

Financing. The maximum contribution rate increased from 2.7 to 5.4 percent.

Benefits. A temporary shared-work program was established, to be in effect until Jan. 1, 1989. An individual may receive up to 20 weeks of shared-work benefits.

North Carolina

Financing. The class of benefits noncharged to an employer's account was enlarged to include those based on wages paid prior to the date of separation due to discharge for loss of license, bond, or surety needed for performance of the individual's job; sale of the individual's ownership share of the business; or involuntary leaving for disability or health reasons. Also, the probationary period for new workers was extended from 60 to 100 days. (The probationary period is that span of time during which an employer can discharge an individual for being unable to perform the work for which hired without the individual's UI benefits being charged to the employer's account.)

Disqualification. Disqualifications were added for individuals who lose a license or permit necessary to perform work and for individuals unemployed because the employing unit was sold and the individual had been an owner of the business. An individual will be ineligible for benefits during a disciplinary suspension. A new enactment permits an individual to be temporarily excused from an active search for work. If an employer notifies the employee of a future separation for lack of work, the impending separation will not constitute good cause for leaving.

North Dakota

Coverage. Service for remuneration will constitute employment for UI purposes unless (1) the worker is free from control or direction in the performance of the work; (2) the service is performed outside of all places of business of the enterprise for which it is performed; and (3) the individual is customarily engaged in an independent trade, occupation, profession, or business.

Financing. The standard rate of contributions will be the greater of 5.4 percent of taxable wages or the rate for employers who have a negative-balance reserve ratio. The contribution rate for unrated employers will be the average tax rate for all employers, but not less than 1 percent. However, newly covered employers classified in an industry which has a negative reserve shall pay the standard rate. An employer may qualify for a reduced rate if his or her account has been chargeable with benefits for 24 (formerly 12) consecutive months.

Disqualification. The pension offset requirement will be disregarded if the base-period employment does not affect eligibility for, or increase the amount of, the pension. However, Social Security and Railroad Retirement benefits are excluded from this exception.

Ohio

Financing. The $8,000 taxable wage base was extended until December 31, 1986.

Benefits. The freeze on the maximum weekly benefit amount (a range of $147 to $233) will be extended until January 1987. For calendar years 1988 through 1993, the maximum weekly benefit amount will be computed with an addition to the regularly computed increase equal to one-sixth of the increase that would have taken place in years 1983 thorugh 1986 if the maximum had not been frozen. Ohio extended until December 31, 1986, the requirement that an individual must work 20 weeks at 37 times the State minimum hourly wage to qualify for benefits. During 1986, an individual will not be paid benefits for the waiting week.

Disqualification. For calendar 1986 (as in 1985), a duration disqualification will be purged by 6 weeks of work and earnings of six times the amount required to establish a credit week.

Oregon

Benefits. The temporary State additional benefits program, which was due to expire on June 29, 1985, has been extended until June 27, 1987.

Disqualification. The labor dispute disqualification will not apply if the individual was laid off prior to the dispute and did not work more than 7 of the 21 calendar days immediately preceding the dispute or if the individual unilaterally abandons the dispute and seeks reemployment with the employer, but finds that his or her former position has been filled by a permanent replacement.

Pennsylvania

Financing. Contributing employers will pay a tax of 0.3 percent of taxable wages in 1986 to cover the interest on outstanding advances made by the Federal Government to the State program. However, the provision which specifies that the interest tax will be a variable rate not to exceed 1.0 percent, assessed by the State's Department of Labor and Industry as needed for the payment of interest on outstanding advances, has not changed.

Benefits. A seasonal provision was added to limit the circumstances under which benefits may be paid to workers performing services in connection with commercial canning or commercial freezing of fruits and vegetables.

Rhode Island

Financing. The number of years needed to qualify a new employer for experience rating was raised to 3. The method by which benefits are charged to base-period employers of the same individual was changed from inverse order of employment to the proportion of wages earned by the individual with each base-period employer. Beginning January 1, 1986, the range of rates for the most favorable schedule will be 0.8 to 5.4 percent, and for the least favorable schedule, 2.3 to 8.4 percent. Contributing employers will be assessed a surtax of 0.3 percent whenever the fund balance is less than zero at the end of any second month in a calendar quarter. A new enactment permits, rather than requires, successor employers to continue to pay contributions at their previous rates in the case of total transfers of the business of the predecessor employer. Such employers may also elect to pay at the predecessor employer's rate.

Benefits. The weekly allowance for dependents is changed from $5 to $20 per dependent to the greater of $5 or 5 percent of the claimant's benefit rate for each dependent, up to five.

Disqualification. The disqualification for unemployment caused by a labor dispute is changed from a fixed period of 6 weeks plus a 1-week waiting period to the duration of the labor dispute.

South Carolina

Financing. Beginning January 1, 1986, voluntary contributions to the fund by employers will be prohibited.

Disqualification. Discharge for misconduct is redefined as discharge for cause connected with the employment.

South Dakota

Coverage. The test for determining whether an employer-employee relationship exists is modified to allow services performed for the employer outside the usual course or place of the employer's business. Thus, services for remuneration will constitute employment unless two tests are met: (1) the individual is free from direction and control, and (2) is customarily engaged in an independent trade or business.

Tennessee

Benefits. The maximum benefit will be computed as 1/4 of base-period wages. Tennessee deleted the qualifying requirement that an individual must have earnings in a third quarter of the base period (in addition to the two highest quarters) when the fund falls below $300 million. An individual will not be eligible for benefits if 65 percent or more of base-period wages were earned in the highest quarter of the period.

Disqualification. An individual will not be denied benefits for separation from employment pursuant to a layoff or to a recall that permits the employee, because of lack of work, to accept a separation from employment.

Administration. The period for appealing an initial claim determination and a referee decision was increased to 15 days from date of mailing or delivery of the determination by the agency. A new enactment permits the commissioner to deduct from benefits payable to a claimant the amount of benefits overpaid earlier by another State which requests recovery of the benefits.

Penalties. Added is a 6-year statutory limitation on the period within which the State may attempt to collect overpayments obtained by fraud. The statutory limitation for collection of other benefit overpayments is decreased to 3 years.

Texas

Coverage. A new enactment excludes from coverage services performed by an individual as a direct seller if certain conditions are met. The coverage of farmworkers was amended to include seasonal and migrant workers and, beginning January 1, 1986, to reduce the minimum size of the farmer's payroll and operation requiring coverage from 10 employees in 20 weeks or $20,000 in quarterly wages to four employees in 20 weeks or $7,500 in quarterly wages. Beginning January 1, 1987, these figures will be further reduced.

Financing. The contribution rate for a new employer will be the greater of the average rate for employers in its industrial classification or 2.7 percent. A successor employer must assume the experience rating of the predecessor employer in the event of total transfers of the predecessor's business. Employers may be required to pay an additional tax of 0.1 percent if interest is due on a Federal advance to the State fund and monies to pay the interest are not available from regular sources. Employers who participate in the State shared-work program may be required to make fund contributions of up to 9 percent of taxable wages.

Benefits. The alternative qualifying wage requirement of 2/3 of the maximum amount of wages as defined in the Federal Insurance Contribution Act was deleted. A shared-work program was adopted under which an individual could receive up to 26 weeks of benefits.

Disqualification. The variable disqualification for voluntary leaving to move with a spouse decreased to 6 to 25 weeks.

Utah

Benefits. To qualify for benefits in a second benefit year, an individual must have earned 6 times the weekly benefit amount in insured work subsequent to the beginning of the preceding benefit year and must meet the base-period earnings requirement.

Vermont

Benefits. Beginning July 1, 1986, Vermont changes from a wage-request to a quarterly-wage-record system for determination of benefit rights. Beginning January 3, 1988, the base period will be the first four of the last five completed calendar quarters immediately preceding an individual's benefit year. The State also added an alternative base period, the last four completed quarters preceding the benefit year, to apply if an individual fails to meet the qualifying wage requirement.

Virginia

Financing. The standard rate for employer contributions to the fund increased to 5.4 percent of taxable wages.

Benefits. The minimum and maximum weekly benefit amounts were increased to $58 and $159 (formerly $54 and $150), respectively.

Washington

Financing. For calendar years 1986 and 1987, the employer contribution rates under the most favorable schedule will range from 0.48 to 5.4 percent, and for the least favorable schedule, from 2.48 to 5.4 percent. If a claimant requalifies for benefits after a disqualification for voluntary leaving or for misconduct connected with the work, benefits based on wage credits earned prior to the disqualification shall not be charged to the experience-rating account of the separating employer.

West Virginia

Benefits. The maximum weekly benefit amount will be frozen at $225 until July 1, 1988. Thereafter, the maximum weekly benefit will be determined as 66 2/3 percent (currently 70 percent) of the State average weekly wage. The base-period qualifying wages are increased to $2,200; therefore, the minimum weekly benefit amount rises from $18 to $24. The weekly benefit amount will be computed as 1.0 percent (previously a weighted schedule of 1.5 to 1.0 percent) of the claimant's annual wages. Uniform weeks of potential duration were cut from 28 to 26.

Wisconsin

Financing. Beginning January 1, 1986, the taxable wage base increased to $10,500 and the maximum rate for the least favorable schedule rose to 6.7 percent of taxable wages. New employers (other than construction firms) with annual payrolls of over $10 million may elect to pay a tax of 1.0 percent for the first 3 calendar years. Employers with an annual payroll of less than $100,000 will pay a "solvency rate," ranging from 0.1 to 3.3 percent; rates for other employers will range from 0.8 to 3.3 percent.

Benefits. An individual will be considered "partially unemployed" in any week he or she does not work full time but earns some wages and is eligible for some benefits. Also, no individual may be paid partial benefits of less than $5. Deleted are the specifications concerning the payment of partial benefits that the full weekly benefit will be paid if the claimant has wage income of less than one-half the weekly benefit amount, and that one-half the weekly benefit amount will be paid if wage income is one-half or more of the weekly benefit. Also deleted is the provision which permitted an individual's base period to be extended due to receipt of backpay or of temporary total disability payments under a State or Federal workers' compensation program.

Disqualification. Under certain conditions, a between-terms and within-terms denial of benefits will apply for schoolbus drivers not employed by governmental entities or nonprofit organizations. □

FOOTNOTES

[1] Arizona, Arkansas, California, Colorado, Florida, Nevada, North Carolina, Oregon, South Carolina, South Dakota, Tennessee, and Wyoming.

[2] Arizona, Arkansas, Colorado, Florida, Georgia, Illinois, Maine, Maryland, New Mexico, North Carolina, North Dakota, South Dakota, Tennessee, and Vermont.

[3] In last year's article on changes in UI legislation during 1984, erroneous information was presented for two of the States: Contrary to the report, the provisions related to financing and disqualification under Rhode Island's UI plan had not been enacted. In the New Jersey section of the article, the voluntary leaving disqualification should have read "4 weeks of unemployment and 6 times the weekly benefit amount," and the discussion of benefit changes should have included a new provision that all benefit weeks will adhere to a calendar week schedule, with each week ending at midnight Saturday.

For the full text of the 1984 study, see Diana Runner, "Changes in unemployment insurance legislation during 1984," *Monthly Labor Review*, January 1985, pp. 43–48.

Key workers' compensation laws enacted by States in 1985

A number of States made major revisions in benefit provisions and 16 established some form of coverage for police officers, firefighters, and emergency service aides

LAVERNE C. TINSLEY

All State legislatures convened in 1985, except for the Kentucky body.[1] As in the past, a myriad of workers' compensation proposals was introduced; 195 were enacted into law.[2]

Sixteen States amended their laws by establishing some form of coverage for police officers, firefighters, emergency service personnel, sole proprietors, and inmates.

Focus on increases in compensation for workers and their dependents brought about major revisions in benefit provisions. Alabama increased maximum weekly benefits for total disability and death to 100 percent (formerly 66²/₃ percent) of the State average weekly wage and the minimum to 27¹/₂ percent (previously 25 percent) of the State average weekly wage for all disability and death. Compensation for permanent partial disability was capped at $220. The 300-week maximum on payments for temporary total disability was removed. Benefits will now be payable for duration of disability. Tennessee established an escalation of maximum weekly compensation for disability and death from July 1, 1985, through June 30, 1990. North Dakota changed its minimum weekly compensation for death from $10 weekly to 50 percent of the maximum weekly benefit. Georgia and North Dakota extended the compensable period for death benefits for dependent children beyond age 18 until age 22 if they are full-time students.

In contrast to these changes and increases, Louisiana froze maximum weekly benefits for 3 years. A similar action occurred in Oklahoma, which will limit benefit increases to every 3 years. The compensable periods for loss of hearing, loss of vision in one eye, and for disability to the body as a whole were extended in Georgia. The burial allowances were raised in four States.

The waiting period for temporary total disability was changed from 2 to 3 days in Hawaii.

Significant revisions were made in the rehabilitation provisions in Connecticut and Maine.

The cap was removed on awards for disfigurement, and compensation will be equal to an amount based on a percentage of the State average weekly wage in Maine.

Claims for compensation from inhalation of asbestos dust are permitted up to 20 years after exposure in Indiana.

A Competitive State Fund was newly established in Hawaii to provide coverage for employers. Alabama and Maine added provisions which prohibit termination of an employee solely because the employee has filed a compensation claim.

Following is a summary of legislation enacted by individual States.

LaVerne C. Tinsley is a State standards adviser in the Division of State Workers' Compensation Programs, Office of State Liaison and Legislative Analysis, Employment Standards Administration, U.S. Department of Labor.

Alabama

Maximum weekly benefits for total disability and death were changed from 66 2/3 percent to 100 percent of the State average weekly wage. Minimum compensation increased from 25 to 27½ percent of the State average weekly wage for all disability and death claims. Weekly compensation for permanent partial disability was capped at $220. The compensable period for temporary total disability was changed from a maximum of 300 weeks to duration of the disability.

A second physician or surgeon may be selected from a list approved by the employer if the employee is dissatisfied with the initial selection.

A statute of limitations for claim filing was extended from 1 to 2 years.

Fellow employee lawsuits are now restricted to cases of willful misconduct only.

Employers are prohibited from terminating employees solely for filing compensation claims or filing safety violations against the employer.

Upon an employee request, employers must establish a safety committee for advising the employer on safety matters in the workplace, which include suggestions from employees.

Alaska

A south central panel was added to the Workers' Compensation Board, thereby increasing the membership to 12 (previously 9).

Arizona

Volunteers of a sheriff's posse are now covered while on a search and rescue mission the same as participants in emergency management training. Sole proprietors and partners are permitted coverage at the discretion of the insurance carrier.

Illegally employed minors are newly entitled to an additional 50 percent of compensation when a work-related accident occurs.

The fine was increased to $500 (previously $100) against employers who refuse to submit books, records, and payrolls for inspection by the Industrial Commission.

Arkansas

All municipal and county officials and employees must now be covered for workers' compensation by their respective employers. Formerly, coverage of such persons was the responsibility of the State.

Funeral expenses were raised from $750 to $1,500.

The City-County Employees' Workers' Compensation Study Commission is authorized to study long-term financing of workers' compensation for city and county employees. A report must be submitted to the General Assembly by July 1, 1986.

California

Burial expenses were increased to $2,000 (previously $1,500).

Employees may now be treated by their personal chiropractor after proper notification has been given to the employer for a change of doctor.

Authority was given the Workers' Compensation Appeals Board to act on or enforce awards involving determination of disability, length, and benefit amount for specified public safety officers.

The custodian of the Uninsured Employers' Fund now has authority to recover benefits paid employees for injuries caused by third parties while working for uninsured employers.

References to "referee" have been substituted with "workers' compensation judge" throughout the act.

Colorado

Participants in Department of Social Services rehabilitation programs, and employees of the State or a political subdivision are now covered under the law. A person performing as a firefighter during an emergency only is also covered. However, several other groups were eliminated from coverage.

Permanent partial disability cases can only be reopened if there has been fraud or mutual mistake of material fact in cases in which the employee has waived all rights for reopening.

A pilot self-insurance program must be established by the Department of Institutions and the Department of Labor and Employment, for the Department of Institutions.

The executive director of the Department of Labor and Employment is authorized to review and analyze possible application of various medical cost containment models and strategies for developing a medical cost containment program for workers' compensation, if feasible.

Connecticut

Costs of medical rehabilitation services for injured workers must be borne by the employer.

Employers' proof of solvency and financial ability to pay workers' compensation claims and injury reports must be submitted to the Board of Compensation Commissioners, instead of to a single Compensation Commissioner.

Any certified self-insured employer who fails or is unable to make compensation payments as required by law will be restricted from self-insuring for a period of 10 years from the due date of the payments. The employer will then be required to insure his or her full liability with any authorized stock or mutual insurance company or association. In such cases, payments will be made from the Second Injury Fund and Compensation Assurance Fund. Failure to insure may result in permanent loss of privileges to do business in the State. Anyone who submits false statements or fails to disclose certain facts in order to obtain, increase, prevent or decrease any workers' compensation benefits or payments is guilty of a class A misdemeanor.

A sum of $75,000 was appropriated to the Workers' Compensation Commission for workers' compensation purposes.

Georgia

Maximum weekly benefits for disability and death were raised from $135 to $155. On July 1, 1986, compensation will again increase, to a maximum of $175. The compensable period for death benefits is up to 400 weeks, or age 65 years, whichever is greater. Total maximum compensation for a spouse, when there are no other dependents, increased to $65,000 (formerly $32,500). Full-time students are entitled to death benefits beyond age 18, or until age 22.

The compensable period for loss of hearing in one ear was extended from 60 to 75 weeks, and for loss of vision in one eye from 125 to 150 weeks. Simultaneously, the compensation period for disability to the whole body was reduced from 350 to 300 weeks.

Compensation for burial was increased from $1,500 to $5,000. Expenses paid for rehabilitation may be recovered from the Subsequent Injury Trust Fund.

Hawaii

The waiting period for temporary total disability compensation was changed from 2 to 3 days. Guidelines must be issued by the director concerning frequency of treatment and reasonable utilization of medical care and services provided by health care providers. Authority was given the Director of Labor and Industrial Relations to approve vocational rehabilitation plans for injured workers and to periodically review progress in each case.

A Competitive State Fund was newly established.

Indiana

A new maximum was enacted ($267, formerly $249) upon which average weekly wages are determined for total disability and temporary partial disability on July 1, 1985, until July 1, 1986, creating a maximum weekly benefit of $178. On July 1, 1986, based on average weekly wages of $285, a maximum weekly benefit of $190 will become effective.

Total aggregate benefits, exclusive of medical benefits, have been set at $89,000, previously, $83,000. On July 1, 1986, and thereafter benefits are limited to $95,000.

Cases of occupational disease from inhalation of asbestos dust after July 1, 1985, are compensable within 20 years, after last exposure (formerly 3 years). The Residual Asbestos Injury Fund is created to compensate employees who are permanently and totally disabled from asbestos exposure on or after July 1, 1985.

Iowa

Coverage is established for inmates performing unpaid community services under a work assignment of value to the State or public; and for volunteer firefighters who sustain injuries during the course of employment.

Rules must be adopted by the insurance commissioner concerning review and approval of group self-insurance plans.

Kansas

Employer liability for coverage is established for certain construction design professionals who perform services at construction project sites.

Louisiana

The modified American Medical Association (AMA) Guides to the Evaluation of Permanent Impairment were amended to indicate an increase in the percentage of disability used for qualifying certain permanent partial disabilities.

Criteria were established for use in determining compensation benefits of part-time employees who work two or more successive jobs. A new formula was enacted for determining supplemental compensation. New time limitations were enacted applicable to claims for medical benefits.

The definition of "injury" was broadened to include an injury to the auditory system as a compensable permanent partial disability.

Employers and insurers are entitled to reimbursement from the Second Injury Fund for all compensation payments made after the first 104 weeks. Formerly, recovery was permissible after 60 percent of all benefit payments had been made. Similarly, the employer or insurer is entitled to recover 50 percent of all reasonable and necessary medical expense payments exceeding $5,000, but less than $10,000. Formerly, recovery payments were allowed up to 50 percent of the first $10,000.

Recovery of compensation by an employer or carrier against a third party, based on the worker's compensation liability, will be the same percentage of recovery by an employee against the third party.

Maine

An employer who discriminates against an employee for testifying, or filing a compensation claim, may be subject to award of back wages, reasonable attorney fees, reestablishment of employee benefits, and reinstatement of the employee's previous job.

Employers who secure their compensation liabilities are exempt from civil actions in cases of personal injury or occupational disease. Previously, employers were only protected against civil actions by employees for personal injury. Agricultural or aquacultural employers with seasonal or casual labor are not liable for securing compensation, nor will they be deprived of common law defenses, if their liability insurance policy is not less than $25,000, with medical coverage of at least $1,000. Additionally, employers of 6 (formerly 4) or fewer agricultural or aquacultural laborers who maintain a liability insurance policy with total limits of at least $100,000, multiplied by the number of employees employed by that employer, and medical coverage of at least $1,000, are excluded from liability for securing compensation payments.

Maximum weekly benefits for disability and death were frozen at $447.92, beginning July 1, 1985, for 3 years; however, on July 1, 1988, the maximum benefit will be adjusted annually to bear the same percentage relationship as the State average weekly wage. Annual cost-of-living increases may not exceed 5 percent or the actual percentage increase in the Stage average weekly wage for the previous year, whichever is less.

Handicapped individuals employed by a sheltered workshop are exempt from the weekly minimum applicable for total disability compensation ($25).

The cap of $7,500 on compensation awards for disfigurement was removed and replaced with a maximum equal to 66–2/3 percent of the State average weekly wage, multiplied by 50.

Payments for total and partial disability under the workers' compensation law will be reduced by any disability benefit payments received pursuant to the Social Security Act or payments received under an employer benefit plan.

New rehabilitation provisions were added to the law. The Employment Rehabilitation Fund was established primarily to make payments to employees who have completed rehabilitation and who sustain a subsequent work-related injury which results in a reduction in earning capacity substantially greater in duration or degree, or both, than that which would have resulted from the subsequent injury alone.

An office of Employment Rehabilitation was created under the direction of a rehabilitation administrator who is primarily required to monitor rehabilitation cases and approve rehabilitation agreements and develop fee schedules of services. Rehabilitation services will be provided by private and public rehabilitation counselors, governmental agencies, in-house counselors, and others approved by the administrator.

Rehabilitation benefits may include physical rehabilitation, weekly travel costs not exceeding 25 percent of the State average weekly wage, reasonable moving and relocation expenses up to $3,000, and compensation up to an amount payable for total incapacity, during the course of rehabilitation. A Unit of Abuse Investigation was created to review and investigate allegations of fraud or illegal or improper conduct or violations of the workers' compensation program by employers, employees, or insurers.

Maryland

New legislation extends the presumption of compensability regarding lung and heart disease of firefighters, and fire fighting instructors, to include throat, prostate, rectal, leukemia, or pancreatic cancer caused by contact with toxic substances encountered in the line of duty. To be eligible for such compensation, these employees must have served at least 5 years and be unable to perform their normal duties because of the cancer disability.

Corporate officers owning 20 percent or more of the outstanding capital stock of a corporation are allowed an exemption from coverage. Previously, any officer could be exempt.

The Uninsured Employers' Fund is now authorized to seek recovery of payments made to claimants from liable third parties.

Insurers who fail to comply with insurance certification requirements may be assessed additional fines of $300, for each offense.

Michigan

Payment of death benefits to dependent children will cease at age 18, formerly 21, unless the child is incapacitated.

Coordination of workers' compensation benefits was extended to include employer contributions in other profit-sharing plans.

Injured workers who are unable to obtain or perform work because of imprisonment or commission of a crime are not entitled to compensation.

Definitions of hand and arm were modified by establishing that an amputation between the elbow and wrist of 6 or more inches (formerly 7) below the elbow is considered a hand.

The fine charged an employer for not securing liability for workers' compensation was increased to $1,000; previously the fine ranged between $10 and $100.

Employees injured on the job are permitted to recover damages for their injuries in civil actions when the employer has failed to secure liabilities for benefits required by law. Attorney fees for claims filed after March 31, 1986, will be limited to 2 years of benefits when claims are on appeal before the Appellate Commission.

Employers of workers who are certified as vocationally handicapped will be liable for benefits 52 weeks after date of injury (previously 104 weeks).

Minnesota

Voluntary participation of employees in recreation programs sponsored by the employer is no longer the responsibility of the employer when injury occurs. Coverage is only required when the employee is ordered to participate in such activity.

Authorization for receipt of permanent partial disability benefits, in conjunction with compensation for temporary partial disability, may be granted after the employee has returned to work for at least six months.

Minimum compensation during the monitoring period is 66-2/3 percent of the weekly wage for permanent partial disability, subject to the maximum stated in the law.

Montana

Coverage will now be provided by the Department of Commerce for unsalaried air search and rescue volunteers for whom the Department employs. Officials, such as a timer, referee, or judge at a school amateur athletic event and a direct seller engaged in the sale of consumer products for use primarily in the home are exempted from coverage.

Lump-sum payment for permanent total disability is authorized only if a claimant demonstrates that ability to sustain himself or herself is more probable with a lump-sum payment. A 7-percent discount, compounded annually, will be applied to lump-sum payments. Advance lump-sum settlements payments are permitted for permanent partial indemnity benefits while a claimant is receiving temporary total disability benefits.

Temporary total disability payments are limited during retraining periods. Such payments were previously allowed until the employee was released through certification by the Department of Social and Rehabilitation Services. Compensation for schedule injury, disfigurement, and temporary total disability may now be paid concurrently, instead of consecutively.

Permission is authorized for employees to have a physician of their own choice present at medical examinations at no cost to the employee. A medical fee schedule must be adopted as a relative value fee schedule (RVS) upon which payment is determined for medical, chiropractic, and paramedical services. Insurers are solely responsible for furnishing reasonable medical services, medicines, and any other treatment approved by the Division.

The filing time for occupational disease claims is extended from 1 to 2 years, after the claimant knew or should have known that his or her condition resulted from an occupational disease.

A new provision allows a group of individual employers to operate as self-insurers and requires that each individual employer in a self-insured group is jointly and severally liable for all obligations of the group.

A new limit of $50,000, formerly $30,000, is placed on withdrawals from the uninsured employers' fund by employees.

Nebraska

Maximum weekly benefits for disability and death were increased from $200 to $225.

Nevada

A 20 percent cost-of-living increase was enacted for recipients of permanent total disability and death benefits where injury, disablement, or death from an occupational disease occurred prior to July 1, 1973. Employees are permitted to report tips for purposes of calculating workers' compensation benefits.

Occupational disease coverage was extended to include a chief or inspector of the Nevada highway patrol, a chief, investigator, or agent of the Investigation Division of the Department of Motor Vehicles. Coverage of the clergy, a rabbi, or a lay reader in the service of a church has been eliminated. Trainees in training programs approved by the Job Training Partnership Act may be covered under certain conditions.

Services of chiropractors may be utilized for treatment by injured workers. Health care providers who accept patients for treatment of industrial injury or occupational disease care only have authority to charge the insurer for payment of any services rendered. However, the health care provider is able to charge the patient for any services provided that are unrelated to the work-related accident.

Regulations were established which insurers must follow when rehabilitation services are prescribed for injured workers.

Local governments have authority to enter into cooperative agreements to purchase workers' compensation insurance or to establish self-insurance. Assessments will be made against self-insured employers to cover claims against insolvent self-insured employers. The filing time in which certain appeals must be made was changed.

New Hampshire

Coverage was broadened to include call firefighters and special police officers.

New York

Emergency medical service personnel, without expectation of monetary compensation who are injured while rendering volunteer assistance at the scene of an accident, or other emergency services, are newly covered for compensation.

Self-employed persons and certain partners of a partnership are allowed an election for coverage. Corporate executives covered under the act must now be paid officers in order to maintain their covered status.

Employers must provide additional medical services for injured employees, including orthotics and functional assistance and adaptive devices. The Workers' Compensation Board Chairman is required to follow certain procedures in preparation of occupational therapy fee schedules.

A portion of the law was repealed concerning the Board's authority to commute all compensation for nonresident alien dependents in death cases. The fine assessed against employers who fail to make provision for payment of benefits was increased.

North Carolina

Agricultural extension service employees who are not employed as Federal employees of the U.S. Department of Agriculture, but who are field faculty with professional rank, and for those who are paid from State or county funds are newly included for coverage.

Minimum weekly benefits were established for volunteer firefighters, members of organized rescue squads, sworn members of auxiliary police departments, and for senior members of the State Civil Air Patrol, at 66 2/3 percent of maximum weekly benefit rate in effect at the time of injury.

A reduction in total disability benefits will be applied by the amount of any simultaneous unemployment insurance benefits received.

The statute of limitations was extended, from 6 months to 1 year, for actions involving protection of claimants from discharge or demotion for filing compensation claims.

Regulation of self-insurance is under the authority of the Insurance Department, formerly under the Industrial Commission.

North Dakota

Elective coverage for inmates is authorized for any county or city by resolution of the governing body. Definition of "child" has been modified to include a child under age 18 and residing in the employee's household to whom the employee has a legal obligation for support; or a child age 18 or over and physically or mentally incapable of self-support, who is actually dependent upon the employee for support; or any child age 18 to 22 who is enrolled as a full-time student in any accredited educational institution who is actually dependent upon the employee for support.

Compensation for death was changed from a weekly minimum of $10 to 50 percent of the maximum weekly benefit for death ($210). The new minimum is now $105. Supplementary compensation has been authorized for certain recipients of temporary total disability, permanent total disability, and for death.

An information program was set up to instruct employers concerning the use of hazardous substances in the workplace. The Workers' Compensation Bureau is required to inspect and enforce safety rules and regulations as required by law.

Ohio

A provision was enacted which gives the court authority to order a certain portion of workers' compensation payments be withheld for child support.

Oklahoma

Farmers whose payroll for the preceding calendar year did not exceed $100,000 are not liable for work-related injuries sustained by an employee of an independent contractor or subcontractor. Previously, employer payroll had to exceed $100,000.

Effective July 1, 1984, and every 3 years thereafter, the State average weekly wage (SAWW) used for establishing maximum weekly benefits for injuries and death will be increased. Formerly, the State average weekly wage and compensation benefits were changed every 12 months.

The term "permanent impairment" was modified by requiring any examining physician to evaluate impairment only in accordance with "Guides to the Evaluation of Permanent Disability" published by the American Medical Association (AMA); formerly, more flexible guidelines were utilized.

Oregon

The statute of limitations for filing claims for occupational disease was extended from 1 to 2 years.

The coverage exclusion was broadened with the addition of certified amateur sports officials and volunteer ski patrolees who receive noncash remuneration for services rendered.

Monthly benefits for a surviving spouse with no children is 4.35 times 66 2/3 percent of the State average weekly wage. However, the maximum monthly benefit payable for dependency may not exceed 4.35 times 133 1/3 percent, formerly 100 percent, of the State average weekly wage. Lump-sum payments to a surviving spouse upon remarriage is equal to 24 times the

Table 1. Jurisdictions which increased maximum weekly temporary total disability benefits during 1985

Jurisdiction	Former maximum	New maximum
Alabama	$260.00	$303.00
Alaska	$1,080.00	$1,114.00
Colorado	$315.98	$336.00
Connecticut	$381.00 plus $10 for each dependent under 18 years of age, not to exceed 75 percent of employee's wage	$397.00 plus $10 for each dependent under 18 years of age not to exceed 75 percent of employee's wage
Delaware	$231.04	$236.09
District of Columbia	$396.78	$413.26
Florida	$290.00	$307.00
Georgia	$135.00	$155.00
Hawaii	$291.00	$301.00
Idaho	$240.30 to $346.25, according to number of dependents, plus 7 percent of State's average weekly wage for each child up to 5 children	$260.00 to $361.23, according to number of dependents, plus 7 percent of State's average weekly wage for each child up to 5 children
Illinois	$491.65	$502.28
Indiana	$166.00	$178.00
Iowa	$560.00	$588.00
Kansas	$227.00	$239.00
Kentucky	$294.67	$304.00
Louisiana	$248.00	$254.00
Maine	$426.40	$447.92
Maryland	$311.29	$327.00
Massachusetts	$341.06, plus $6 for each dependent, if weekly benefits are below $150	$359.50, plus $6 for each dependent, if weekly benefits are below $150
Michigan	$304.00	$366.00
Minnesota	$329.00	$342.00
Mississippi	$126.00	$133.00
Missouri	$262.73	$283.84
Montana	$279.00	$292.00
Nebraska	$200.00	$225.00
Nevada	$325.90	$362.46
New Hampshire	$440.00	$462.00
New Jersey	$255.00	$269.00
New Mexico	$289.20	$298.63
New York	$275.00	$300.00
North Carolina	$282.00	$299.00
North Dakota	$285.00, plus $5 for each dependent child; aggregate not to exceed worker's net wages	$291.00, plus $5 for each dependent child; aggregate not to exceed worker's net wages
Ohio	$335.00	$354.00
Oklahoma	$212.00	$217.00
Oregon	$324.13	$334.58
Pennsylvania	$380.00	$409.00
Rhode Island	$292.00, plus $9 for each dependent; aggregate not to exceed 80 percent of worker's average weekly wage	$307.00, plus $9 for each dependent; aggregate not to exceed 80 percent of worker's average weekly wage
South Carolina	$268.90	$287.02
South Dakota	$247.00	$254.00
Tennessee	$136.00	$148.00
Texas	$203.00	$217.00
Utah	$310.00, plus $5 for dependent spouse and each dependent child up to 4 children, but not to exceed 100 percent of State's average weekly wage	$323.00, plus $5 for dependent spouse and each dependent child up to 4 children, but not to exceed 100 percent of State's average weekly wage
Vermont	$278.00, plus $10 for each dependent under age 21	$293.00, plus $10 for each dependent under age 21
Virgin Islands	$173.00	$183.00
Virginia	$296.00	$311.00
Washington	$356.21	$366.54
West Virginia	$321.20	$332.60
Wisconsin	$306.00	$321.00
Wyoming	$359.67	$366.86

Note: Most benefit increases are based on the applicable jurisdiction's average weekly or monthly wage. However, nine States (Arizona, Arkansas, California, Georgia, Indiana, Mississippi, Nebraska, New York, and Tennessee) and Puerto Rico prescribe statutory amounts. Four States (Arizona, Arkansas, California, and [illegible]) and Puerto Rico are not listed because no changes for temporary total disability were legislated during 1985.

monthly compensation benefit; formerly, payments were limited to $5,000.

Permanent partial disability benefits were increased from $100 to $125 for each degree of disability. Employees who are released by a physician to return to work may refuse to return if a labor dispute is in progress, without loss of any vocational assistance benefits or services.

Abolishes provisions concerning the authority of the Director of the Workers' Compensation Department to establish and operate a physical rehabilitation center. Services formerly provided for injuries at the centers will be handled by government or private sources and in the most economical manner. The director is authorized to order insurers and self-insurers to provide disability prevention services for workers such as physical restoration and psychological, psychiatric, and vocational evaluation and counseling. Costs for rehabilitation will come from the Administrative Fund, in lieu of the Rehabilitation Reserve Fund.

The director has authority to develop a medical fee schedule based on general descriptions of medical services, considering the primary health care providers in a certain geographic area. The percentile used by the director in determining usual and customary fees for health care services was decreased from the 90th to the 75th percentile.

Pennsylvania

Appropriates $11,213,000, from the Workmen's Compensation Administration Fund to the Department of Labor and Industry to cover expenses for administering the Workmen's Compensation and Occupational Diseases Act.

Rhode Island

Continuation of employee health benefit insurance payments must be made by the employer for 1 year after the employer has filed a memorandum of agreement or notice of direct payment with the Division of Workers' Compensation.

Compensation payments for impairment will not be made until the employee reaches maximum medical improvement. Within 90 days after the employer is notified of the employee's attainment of maximum medical improvement, compensation payments become due and payable.

Unless a memorandum of agreement has been made by the employer and claimant, or a notice of controversy has been filed, first payment of compensation for incapacity or death is due and payable within 14 days after the employer has knowledge of injury or death.

New procedural provisions were added to the law concerning benefits to workers in controverted cases.

Employers are entitled to recovery of payments made to claimants who aggravate a preexisting condition, or for a subsequent injury resulting in death from the Second Injury/Indemnity Fund in excess of the first 52 weeks, formerly 104 weeks.

South Carolina

Coverage is extended to members of the State and national guard while performing work-related duties for the State.

South Dakota

The burial allowance was increased from $2,500 to $3,000.

Tennessee

Ten employers or more of the same trade or professional association are permitted to pool their compensation liabilities for purposes of qualifying as group self-insurers for workers' compensation. Maximum and minimum weekly compensation and total maximum compensation for disability and death were increased in steps, on July 1, 1985, through June 30, 1990.

No change was established for minimum benefits as of July 1, 1989. Presently, maximum and minimum weekly benefits are $168 and $20, respectively; on July 1, 1986, amounts will increase to $189 and $25; to $210 and $30, on July 1, 1987; to $231 and $35 on July 1, 1988; and the weekly maximum will increase to $252, on July 1, 1989. Total maximum compensation for disability and death was raised from $54,000 to $67,200, on July 1, 1985. From July 1, 1986, through July 1, 1989, total maximum benefits will increase from $75,600 to $100,800.

Physicians are required to use the American Medical Association "Guides to the Evaluation of Permanent Impairment," in determining degree of impairment of an injured employee.

The Second Injury Fund is responsible for making compensation payments to injured employees for awards or a combination of awards exceeding 100 percent of disability to the body as a whole. Recovery of permanent disability benefits for disablement or death resulting from an epileptic seizure is compensated solely from the Second Injury Fund.

Totally disabled employees from coal workers' pneumoconiosis are entitled to workers' compensation benefits equal to those provided for under the Federal Coal Mine Health and Safety Act of 1969 (FCMHSA). In case of the employee's subsequent death, the surviving dependents will receive the same benefit payments to which the employee was entitled, except that minimum benefits will be paid according to the FCMHSA.

Texas

A method was established by which a claimant may enforce a compromise settlement approved by the Industrial Accident Board or an agreed judgment approved by the court. Reasonable attorney fees are available for claimants in such instances.

Utah

Weekly benefits for permanent total disability payable from the Second Injury Fund were increased from $100 to $120. The interest rate charged employers who default in their assessments to the State Fund was changed from 12 percent to the current interest rate charged by the U.S. Internal Revenue Service for delinquent taxes.

Virginia

State-designated mine rescue team members are covered during service as employees of the mine's operator in an emergency.

Washington

The Department of Labor and Industries must pay all fees and medical charges billed to the Department, within 60 days after receipt, or within 60 days from the time a claim is authorized by a final order or judgment.

An employer is not permitted to discharge or discriminate against an employee because the employee has filed or communicated his or her intention to file a claim for compensation or exercise any other rights under the law.

Various fines were set for employers who fail to file certain reports.

Wyoming

Interfund interest free loans from the budget reserve account not exceeding $15,000,000, are permitted from the budget reserve account if the State treasurer determines that the reserves to pay workers' compensation are inadequate. □

FOOTNOTES

[1] The legislatures of Delaware, Florida, Idaho, Illinois, Massachusetts, Mississippi, Missouri, New Jersey, New Mexico, Vermont, West Virginia, Wisconsin, the District of Columbia, and Puerto Rico convened in 1985, however, workers' compensation enactments were insignificant and are not discussed in the State-by-State summary or none were received. Kentucky was the only State that did not meet in 1985.

[2] Legislative enactments received as of our reporting date.

Research Summaries

Occupational pay in the manufacture of men's and boys' suits and coats

Straight-time earnings of production and related workers in men's and boys' suit and coat manufacturing averaged $6.29 an hour in June 1984, according to a recent survey by the Bureau of Labor Statistics.[1] (See table 1.) Virtually all of the 46,716 production workers covered by the survey had earnings between $3.35, the Federal minumum, and $10 an hour; the middle 50 percent earned from $4.87 to $7.45. Earnings levels varied by such factors as occupation, geographic location, method of wage payment, sex, type and size of establishment, union status, and size of community.

The $6.29 average for all workers in June 1984 was 28 percent higher than the $4.93 average recorded in the Bureau's April 1979 survey of the suit and coat industry.[2] This increase, averaging 4.8 percent annually, compares with an annual increase of 6.8 percent in the wage and salary component of the Bureau's Employment Cost Index for nondurable goods manufacturing industries over the same period.

Much of the increase in average hourly pay since the April 1979 survey stems from general wage adjustments granted under collective bargaining agreements between the Amalgamated Clothing and Textile Workers Union and the Clothing Manufacturers Association of America. The current agreement, which expires May 31, 1985, provides for wage increases totaling $1.05 an hour over its 3-year term. Establishments with labor-management contracts covering a majority of the production work force employed nearly four-fifths of the workers in the scope of the survey.

Employees in regular establishments, representing 83 percent of the total work force, averaged $6.29 an hour—the same as the average for all workers. Regular (or "inside") establishments own the materials and perform all or nearly all of the manufacturing operations required for suit and coat fabrication, including marking, cutting, sewing, and inspecting. Employees in contract establishments—14 percent of the workers—averaged $6.10 an hour, while those in cutting establishments—about 3 percent of the work force—averaged $7.61. Contract establishments perform manufacturing operations on materials owned by others. Cutting establishments own the material and cut the cloth, but deliver it to contract establishments for the remaining processes.

Thirty-two occupations were selected to represent the wage structure, worker skills, and manufacturing operations in the industry; they covered slightly less than four-fifths of the industry's production work force. Nationwide, pay levels were usually highest among cutting room occupations. For example, cloth cutters and markers had the highest average pay ($9.40), followed by cloth cutters ($9.02) and lining cutters ($8.77). Janitors ($5.09) and work distributors ($5.45) recorded the lowest averages.

Sewing-machine operators, representing about one-half of all production workers in the survey, averaged $6.17 an hour on coat fabrication and $5.81 on trouser fabrication. Their earnings, however, varied by the specific task performed. In coat fabrication, average pay ranged from $5.93 for workers who tack facing to front of garment with a blind stitch machine (facing tacking) to $6.84 for those who join collars and lapels to canvas by numerous rows of blind stitching (pad collar and lapels). In trouser fabrication, sewing-machine operators averaged from $5.72 for serging to prevent ravelling to $6.54 for attaching zippers.

Virtually all production workers were in establishments providing paid holidays and vacations. Typical provisions were for 10 paid holidays annually and 3 weeks of vacation pay after 1 year of service and 4 weeks after 20 years.

Virtually all workers were covered by lift, hospitalization, surgical, and medical insurance. Sickness and accident insurance was available to four-fifths of the workers; major medical, to just over one-third; and accidental death and dismemberment plans, to three-tenths. Long-term disability and dental insurance plans each applied to less than one-tenth of the work force. Employers typically paid the total cost of these health and insurance plans.

Retirement pension plans (in addition to Federal Social Security) covered slightly more than nine-tenths of the industry. Most of these workers had plans financed wholly by their employer. Retirement severance plans, however, were rarely provided.

For about seven-tenths of the workers, employers provided health, welfare, and retirement benefits through the Amalgamated Clothing and Textile Workers Union employer administered funds. Nearly two-fifths of the industry's production workers were in plants where employers provided vacation benefits through such funds.

A comprehensive report on the survey, *Industry Wage Survey: Men's and Boys' Suits and Coats, June 1984*,

Table 1. Average hourly earnings[1] of production workers by selected characteristics and in selected occupations, men's and boys' suit and coat manufacturing, June 1984

Characteristic	United States[2]	New England	Middle Atlantic	Border States	Southeast	Southwest	Great Lakes
All production workers[3]	$6.39	$6.72	$6.87	$6.59	$5.41	$4.87	$6.85
Men	7.23	7.29	—	7.49	5.74	—	7.73
Women	6.03	6.51	6.67	6.26	5.27	4.86	6.44
Size of community							
Metropolitan areas[4]	6.56	6.72	7.10	6.61	5.30	4.87	6.73
Nonmetropolitan areas	5.62	—	—	6.48	5.06	—	—
Size of establishment							
5 to 249 workers	6.03	—	7.05	6.26	—	—	4.02
250 workers or more	6.38	6.69	6.77	6.75	5.47	—	7.00
Type of establishment[5]							
Regular	6.29	6.69	6.74	6.71	5.41	—	6.73
Cutting	7.81	—	—	7.57	—	—	—
Contract	6.10	—	—	6.21	—	—	—
Major product							
Men's suits	6.45	6.58	6.87	6.78	5.63	—	—
Men's separate tailored jackets	6.66	—	6.68	6.57	5.52	—	—
Uniforms (nonathletic)	5.30	—	—	5.77	—	—	4.02
Labor-management contract coverage[6]							
Majority covered	6.64	6.72	6.98	6.80	—	—	6.89
None or a minority covered	5.03	—	—	5.74	5.11	3.93	—
Selected occupations							
Cutting:							
Cloth cutters	9.82	9.71	8.17	10.67	6.55	5.52	—
Lining cutters	8.77	8.35	7.94	9.87	6.64	—	8.71
Cutters and markers	9.40	—	9.62	10.28	—	6.57	—
Markers	7.32	—	7.46	9.73	6.31	—	—
Spreaders	6.56	7.26	—	7.17	5.38	3.98	5.67
Coat fabrication:							
Hand basters	6.71	—	—	6.60	—	—	—
Hand finishers	6.54	—	6.67	6.35	—	—	—
Fitters	7.32	6.57	7.72	7.36	6.38	—	—
Inspectors, final	5.60	6.46	6.15	5.75	4.82	4.42	6.03
Pressers, finish, machine	7.57	9.31	8.32	7.65	6.09	5.40	7.58
Sewing-machine operators	6.17	6.77	6.71	6.53	5.36	4.73	6.70
Thread pullers and basting trimmers	5.84	6.04	5.80	5.60	5.43	—	—
Underpressers	6.60	7.05	6.77	6.76	5.60	—	7.57
Trouser fabrication:							
Inspectors, final	5.60	6.25	—	5.42	4.62	—	6.19
Pressers, finish	6.69	6.89	10.10	6.87	4.85	—	7.40
Sewing-machine operators	5.81	6.65	6.86	6.41	4.85	4.53	5.75
Underpressers	6.26	7.23	—	7.67	4.97	—	5.72
Miscellaneous:							
Adjusters	8.14	9.64	7.69	9.63	7.14	7.08	9.43
Janitors	5.09	5.01	6.14	5.21	4.58	4.26	—
Packers	6.38	—	6.40	7.27	5.22	4.67	6.54
Stock clerks, garments	5.85	—	—	5.80	4.59	—	—
Stock clerks, piece goods	6.11	—	7.80	6.01	5.12	—	—
Work distributors	5.45	5.60	6.40	5.65	4.60	3.85	—

[1] Excludes premium pay for overtime for work on weekends, holidays, and late shifts.

[2] Includes data for regions in addition to those shown separately. The regions are defined as follows: New England—Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont; Middle Atlantic—New Jersey, New York, and Pennsylvania; Border States—Delaware, District of Columbia, Kentucky, Maryland, Virginia, and West Virginia; Southeast—Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, and Tennessee; Southwest—Arkansas, Louisiana, Oklahoma, and Texas; and Great Lakes—Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin. Alaska and Hawaii were not included in the study.

[3] Includes data for workers not classified by sex and by major products in addition to those shown separately.

[4] Metropolitan Statistical Areas, as defined by the U.S. Office of Management and Budget through June 1983.

[5] Regular establishments own the materials and perform all or nearly all of the required manufacturing operations; cutting establishments own the material and cut the cloth, but deliver it to contract establishments for the remaining processes; and contract establishments perform manufacturing operations on materials owned by others.

[6] Data relate to establishments where a majority, or a minority, or none of the production workers are covered by labor-management agreements.

NOTE: Dashes indicate no data or data that do not meet publication criteria.

Bulletin 2230 (Bureau of Labor Statistics, 1985) is for sale by the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. The report provides additional information on occupational earnings and employee benefits. □

FOOTNOTES

[1] The survey covered establishments employing five workers or more which were primarily engaged in manufacturing men's, youth's, and boys' suits, coats, and overcoats (part of SIC 2311, as defined in the 1972 edition of the *Standard Industrial Classification Manual* prepared by the U.S. Office of Management and Budget). Included in the study were establishments manufacturing tailored suits, separate coats or jackets, overcoats and topcoats, uniforms, and suit vests. Jobbers who perform only entrepreneurial functions—such as buying material, arranging for all manufacturing to be done by others, and selling the finished product—were excluded from the survey, as were separate auxiliary units such as central offices.

Wage data reported in this article exclude premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] For an account of the 1979 study, see *Industry Wage Survey: Men's and Boys' Suits and Coats, April 1979*, Bulletin 2073 (Bureau of Labor Statistics, 1980).

Major Agreements Expiring Next Month

This list of selected collective bargaining agreements expiring in February is based on information from the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more. Private industry is arranged in order of Standard Industrial Classification.

Employer and location	Private industry	Labor organization[1]	Number of workers
Associated General Contractors of New Jersey (New Jersey)	Construction	Laborers	5,000
Campbell Soup Co. (Camden, NJ)	Food products	Food and Commercial Workers	1,400
American Crystal, Holly, Amstar, and others (California)	Food products	Distillery, Wine and Allied Workers	1,200
Farah Manufacturing Co., Inc. (El Paso, TX)	Apparel	Clothing and Textile Workers	4,000
Industrial Relations Council of the Furniture Manufacturers of Southern California (California)	Furniture	Carpenters	1,100
Revlon, Inc. (Edison, NJ)	Chemicals	Auto Workers	2,300
Dow Chemical Co. (Midland, MI)	Chemicals	Steelworkers	2,650
Exxon Co., Bayway Refinery (Linden, NJ)	Petroleum	Teamsters (Ind.)	1,000
Texaco Inc. (Port Arthur, TX)	Petroleum	Oil Chemical and Atomic Workers	4,600
National Can Co. (Interstate)	Fabricated metal products	Steelworkers	4,000
American Can Co. (Interstate)	Fabricated metal products	Steelworkers	5,500
Continental Group Inc. (Interstate)	Fabricated metal products	Steelworkers	4,500
Crown Cork and Seal Co. (Interstate)	Fabricated metal products	Steelworkers	1,000
Colt Industries, division of Chandler Evans (West Hartford, CT)	Machinery	Auto Workers	1,000
Speed Queen Co., Ripon division (Ripon, WI)	Electrical products	Steelworkers	1,000
GTE Automatic Electric Inc. (Huntsville, AL)	Electrical products	Communications Workers	1,450
Northrop Worldwide Aircraft Services, Inc. (Ft. Rucker, AL)	Transportation	Machinists	1,650
Natural Fuel Gas Co. (New York)	Utilities	Electrical Workers (IBEW)	1,900
Long Island Lighting Co. (New York)	Utilities	Electrical Workers (IBEW)	3,900
Bamberger's (Newark, NJ)	Retail trade	Food and Commercial Workers	1,700
Spiegel, Inc., warehouse (Chicago, IL)	Retail trade	Teamsters (Ind.)	2,300
Food Store Employers Labor Council (Philadelphia, PA)	Retail trade	Teamsters (Ind.)	1,600
Grand Union, grocery department (New York, NY)	Retail trade	Food and Commerical Workers	1,200
Food Employers Council of Northern California (California)	Retail trade	Food and Commerical Workers	22,000
Food Employers Labor Relations Council (California)	Retail trade	Food and Commerical Workers	13,000
Star Supermarkets, Inc. (New York)	Retail trade	Food and Commercial Workers	2,000
Long Beach and Orange County Restaurant Association (California)	Restaurants	Hotel Employees and Restaurant Employees	3,000
Metropolitan Garage Owners Association (New York, NY)	Services	Teamsters (Ind.)	3,000
Stanford University Medical Center (Palo Alto, CA)	Hospitals	Nurses Association (Ind.)	1,250
	Government activity	**Labor organization[1]**	**Number of workers**
California: Anaheim Stadium Convention Center	Amusements	Service Employees	1,100
Ohio: Cuyahoga County hospitals, nonprofessionals	Hospitals	State, County and Municipal Employees	2,000

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[1] Affiliated with AFL-CIO except where noted as independent (Ind.).

Book Reviews

A look at American labor unions

Union Sourcebook—Membership, Structure, Finance, Directory. By Leo Troy and Neil Sheflin. West Orange, NJ, Industrial Relations Data and Information Services, 1985. 161 pp. $25.

Leo Troy and Neil Sheflin try to fulfill two major purposes with publication of their *Union Sourcebook*. They fill the void left by the termination, in 1980, of the biennial program that produced the BLS *Directory of National Unions and Employee Associations*. They also try to assemble in one place " . . . a more current, accurate, and comprehensive profile of organized labor, as well as a unique statistical view of union membership over the course of the 20th century." This is the only book of its kind now being published and, despite its defects, the interested community should welcome its publication.

Chapters 1 and 2 contain a brief look at the state of American unions in terms of membership and recent events, while chapter 3 is a closer look at the specifics of membership. There is a certain parallel between the *Sourcebook's* chapters and several that appeared in the BLS *Union Directory*. However, what is different in the *Sourcebook* is chapter 4. Here are presented financial summaries of almost 200 labor organizations for 1982 and more detailed financial data for 50 of the largest organizations. (The source of the financial information is the file of annual union reports required under the Labor Management Reporting and disclosure Act of 1959. These reports are held by the U.S. Department of Labor.)

The authors note that the largest expense items, not unexpectedly, are salaries and benefits paid to officers and employees and that net income of the 200 labor organizations has risen over the 1980–82 period, while membership had declined. Members still contribute the lion's share to income—two-thirds in 1982, down from three-fourths in 1980. Presumably, the fall-off in income from members is made up by union investments in various income-producing areas. The authors note, too, that organized labor's total assets increased over the 2 years, from $2.5 billion to $3.1 billion. Chapter 4 contains a large number of tables which provide data on total income, expenses, net income from members, assets, liabilities, and net assets in 1982 for the 200 organizations. For the 50 largest organizations, income, expense, assets, and liabilities are shown in considerably more detail.

Chapter 5 takes a look at the structure of organized labor in the United States. Chapter 6 provides a "Directory" listing which includes for each union, name, estimated membership in the United States and Canada for the years 1981–83; the year in which the union was founded; names and salaries of the two key officers; and addresses and telephone numbers. The final chapter provides State breakdowns of membership and international comparisons.

Three appendixes present historical data (1897–1984) on total union membership in the private and government sectors and a universe list of about 600 active and defunct labor organizations.

As the only current source of union membership and financial data under one cover, the *Union Sourcebook* clearly contains a wealth of data and information. Not all of it is without problems, some created by the lack of attention paid to copy editing and proofreading. There are annoying typographical errors, errors of omission and fact, awkward sentence structure, and unnecessary use of symbols in the abundant tabular material. In addition, the across-the-page type format, instead of a double-column format, makes reading quite difficult.

Affiliation of most labor organizations will probably be unknown to some of the book's potential users. To assist users in locating a specific organization, the authors should consider a more useful approach to the organizational structure in chapter 6 in their next edition of the *Sourcebook*. For example, an alphabetical listing of all organizations regardless of affiliation would more adequately do the job (affiliation could then be shown following the name of the organization). Also, the *Sourcebook* lacks complete name of labor organizations, a deficiency sure to be noticed by scholars and practitioners alike.

More serious are some factual errors. Table 3.71, showing historical membership data for selected years from 1897 to 1983 for labor organizations having 100,000 members or more in 1983, lists among its 41 organizations the Food and Commercial Workers (full name, United Food Commerical Workers, International Union, AFL-CIO). This union was formed on June 7, 1979, following the merger of the Retail Clerks International Union (AFL-CIO) and the Meat Cutters and Butcher Workmen of North America (AFL-CIO). Yet, historical membership data are shown for this union from 1939 through 1983. The authors offer no explanation for this, leaving the uninitiated to assume that the Food and Commercial Workers is an old line labor organization. Later, in appendix C, they place its startup date as 1897, that of the Meat Cutters union.

The *Sourcebook's* membership data represent the average annual dues-paying, full-time equivalent membership. The figures are not actual counts of union members but, for the most part, are derived from the annual per-capita revenues divided by the organization's per capita tax rate. These data are collected by the U.S. Department of Labor of all organizations required to file annual financial reports under the Labor Managment Reporting and Disclosure Act of 1959. This methodology, the authors say, provides a "consistent, objective basis for membership determination, free of reporting and interpretation problems." But, some questions remain

For example, when the Food and Commercial Workers was formed in 1979, it had a combined membership of 1.2 million. At that time, membership levels of the two merging unions and the newly formed organization were widely reported in the press—popular and trade, including the *AFL-CIO NEWS*. Yet, Troy and Sheflin report the union's membership at a much lower 892,000 for 1979. Similarly, the United Electrical, Radio, and Machine Workers of America (UE, Ind.) reported 162,000 members for the 1980 edition of the BLS *Union Directory* (which was never published because of budget constraints). The *Sourcebook* reports total UE membership for 1983 as 35,500, about equally divided between U.S. and Canadian unions. But, Boris Block, Secretary-Treasurer of the UE, calls the *Sourcebook* figures grossly understated. He says that the UE represents at General Electric and Westinghouse alone the *Sourcebook's* reported U.S. membership of about 17,500.

Unfortunately, the authors offer no explanation for the obviously large discrepancies between some of their figures and those previously published in other sources. The problem, however, is not pervasive and a random check of several other membership figures indicates comparability with those published by BLS for earlier years. Nevertheless, it is to be hoped that, in their next edition, the authors will address some of these more glaring differences.

—EUGENE H. BECKER
Office of Publications
Bureau of Labor Statistics

A more intricate system of industrial relations

Industrial Relations in Britain. Edited by George Sayers Bain. Oxford, England, Besil Blackwell Publisher, 1983, 515 pp.

This volume of 17 chapters, edited by George Sayers Bain, presents an indepth description of British industrial relations in the 1980's. Each chapter is an original essay, written by an industrial relations expert from academia or the government on a specific aspect of the British system. The chapters are arranged in five sections: Trade Unions; Management; Patterns of Industrial Relations; The Labour Market; and The State and Its Agencies. The depth of coverage is fascinating in the clarity of the writing and comprehensive content, but somewhat tedious in the depth of minutae.

The American reader may be inclined to draw comparisons at all stages of the book's progression. One overall conclusion that might be made is that industrial relations is more complex in England than in the United States. There are about four times as many unions corresponding to U.S. international unions and twice as many federations. There is also much more decentralization of power within the unions, with a great amount of discretion exercised by shop stewards and local union committees.

The legislative enactments affecting industrial relations is ever changing. In all areas, from laws regulating unions to those regulating minimum wages, there has been a succession of separate acts of Parliament that cancel previous laws. Continuity is lacking as each change of government brings a dramatic shift in emphasis toward or away from the laboring classes. For example, Conservative Governments have enacted labor laws twice since 1960, then seen them emasculated and virtually eliminated by succeeding Labor Party governments.

The editor of this volume proposes that the book be used by students in undergraduate or graduate courses in industrial relations, industrial economics, labor law, or personnel management. His recommendation is, no doubt, entirely appropriate in British colleges and universities. However, in other countries, the volume would probably be more appropriate as a reference book. In that role, it is an excellent work to assist students in understanding the complexity of the British system.

—JAMES K. MCCOLLUM
School of Administrative Science
The University of Alabama
in Huntsville

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Schedule of release dates for BLS statistical series

Series	Release date	Period covered	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	January 8	December	February 7	January	March 7	February	1; 4-21
Producer Price Index	January 10	December	February 14	January	March 14	February	2; 33-35
Consumer Price Index	January 22	December	February 25	January	March 25	February	2; 30-32
Real earnings	January 22	December	February 25	January	March 25	February	14-17
Major collective bargaining settlements	January 27	1985	....	....	....	....	3; 25-28
Employment Cost Index	January 28	4th quarter	....	....	....	....	1-3; 22-24
Productivity and costs:							
Nonfarm business and manufacturing	January 28	4th quarter	....	....	....	....	2; 42-44
Nonfinancial corporations	....	....	February 27	4th quarter	....	....	2; 42-44
U.S. Import and Export Price Indexes	January 30	4th quarter	....	....	....	....	2; 36-41

NOTES ON CURRENT LABOR STATISTICS

This section of the Review presents the principal statistical series collected and calculated by the Bureau of Labor Statistics: series on labor force, employment, unemployment, collective bargaining settlements, consumer, producer, and international prices, productivity, international comparisons, and injury and illness statistics. In the notes that follow, the data in each group of tables is briefly described, key definitions are given, notes on the data are set forth, and sources of additional information are cited.

General notes

The following notes apply to several tables in this section:

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect on the data of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might prevent short-term evaluation of the statistical series. Tables containing data that have been adjusted are identified as "seasonally adjusted." (All other data are not seasonally adjusted.) Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. (Seasonally adjusted data appear in tables 1–3, 4–10, 13, 14, and 18.) Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are being seasonally adjusted with a new procedure called X–11/ARIMA, which was developed at Statistics Canada as an extension of the standard X–11 method previously used by BLS. A detailed description of the procedure appears in *The X–11 ARIMA Seasonal Adjustment Method* by Estela Bee Dagum (Statistics Canada, Catalogue No. 12–564E, January 1983). The second change is that seasonal factors are now being calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year for the July-December period. However, revisions of historical data continue to be made only at the end of each calendar year.

Seasonally adjusted labor force data in tables 1 and 4–10 were revised in the February 1985 issue of the *Review* to reflect experience through 1984.

Annual revisions of the seasonally adjusted payroll data shown in tables 13, 14, and 18 were made in July 1985 using the X–11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in table 42 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the Hourly Earnings Index in table 17—are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is $2 ($3/150 × 100 = $2). The $2 (or any other resulting values) are described as "real," "constant," or "1967" dollars.

Additional information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule preceding these general notes. More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in *Employment and Earnings*, a monthly publication of the Bureau. More data from the household survey is published in the two-volume data book—*Labor Force Statistics Derived From the Current Population Survey*, Bulletin 2096. More data from the establishment survey appear in two data books—*Employment, Hours, and Earnings, United States*, and *Employment, Hours, and Earnings, States and Areas*, and the annual supplements to these data books. More detailed information on employee compensation and collective bargaining settlements is published in the monthly periodical, *Current Wage Developments*. More detailed data on consumer and producer prices is published in the monthly periodicals, *The CPI Detailed Report*, and *Producer Prices and Price Indexes*. Detailed data on all of the series in this section are provided in the *Handbook of Labor Statistics*, which is published biennially by the Bureau. BLS bulletins are issued covering productivity, injury and illness, and other data in this section. Finally, the *Monthly Labor Review* carries analytical articles on annual and longer term developments in labor force, employment and unemployment; employee compensation and collective bargaining; prices; productivity; international comparisons; and injury and illness data.

Symbols

p = preliminary. To increase the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally, this revision reflects the availability of later data but may also reflect other adjustments.
n.e.c. = not elsewhere classified.
n.e.s. = not elsewhere specified.

COMPARATIVE INDICATORS
(Tables 1–3)

Comparative indicators tables provide an overview and comparison of major BLS statistical series. Consequently, although many of the included series are available monthly, all measures in these comparative tables are presented quarterly and annually.

Labor market indicators include employment measures from two major surveys and information on rates of change in compensation provided by the Employment Cost Index (ECI) program. The labor force participation rate, the employment-to-population ratio, and unemployment rates for major demographic groups based on the Current Population ("household") Survey are presented, while measures of employment and average weekly hours by major industry sector are given using nonagricultural payroll data. The Employment Cost Index (compensation), by major sector and by bargaining status, is chosen from a variety of BLS compensation and wage measures because it provides a comprehensive measure of employer costs for hiring labor, not just outlays for wages, and it is not affected by employment shifts among occupations and industries.

Data on changes in compensation, prices, and productivity are presented in table 2. Measures of rates of change of compensation and wages

from the Employment Cost Index program are provided for all civilian nonfarm workers (excluding Federal and household workers) and for all private nonfarm workers. Measures of changes in consumer prices for all urban consumers; producer prices by stage of processing; and the overall export and import price indexes are given. Measures of productivity (output per hour of all persons) are provided for major sectors.

Alternative measures of wage and compensation rates of change, which reflect the overall trend in labor costs, are summarized in table 3. Differences in concepts and scope, related to the specific purposes of the series, contribute to the variation in changes among the individual measures.

Notes on the data

Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data. For detailed descriptions of each data series, see BLS *Handbook of Methods*, Volumes I and II, Bulletins 2134-1 and 2134-2 (Bureau of Labor Statistics, 1982 and 1984, respectively), as well as the additional bulletins, articles, and other publications noted in the separate sections of the *Review*'s "Current Labor Statistics Notes." Historical data for many series are provided in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). Users may also wish to consult *Major Programs, Bureau of Labor Statistics*, Report 718 (Bureau of Labor Statistics, 1985).

EMPLOYMENT DATA

(Tables 1; 4–21)

Household Survey Data

Description of the series

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 59,500 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons include (1) all civilians who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. Members of the Armed Forces stationed in the United States are also included in the employed total. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **overall unemployment rate** represents the number unemployed as a percent of the labor force, including the resident Armed Forces. The **civilian unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **labor force** consists of all employed or unemployed civilians plus members of the Armed Forces stationed in the United States. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons who are retired, those engaged in their own housework, those not working while attending school, those unable to work because of long-term illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy, and members of the Armed Forces stationed in the United States. The **labor force participation rate** is the proportion of the noninstitutional population that is in the labor force. The **employment-population ratio** is total employment (including the resident Armed Forces) as a percent of the noninstitutional population.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 4–10 are seasonally adjusted, based on the seasonal experience through December 1984.

Additional sources of information

For detailed explanations of the data, see BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982) and for additional data, *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). A detailed description of the Current Population Survey as well as additional data are available in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*. Historical data from 1948 to 1982 are available in *Labor Force Statistics Derived from the Current Population Survey: A Databook*, Vols. I and II, Bulletin 2096 (Bureau of Labor Statistics, 1982).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

Establishment Survey Data

Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by more than 200,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

An **establishment** is an economic unit which produces goods or services (such as a factory or store) at a single location and is engaged in one type of economic activity.

Employed persons are all persons who received pay (including holiday

and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 12-16 include production workers in manufacturing and mining; construction workers in construction; and for nonsupervisory workers in the following industries: transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for about four-fifths of the total employment on private nonagricutural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earner and Clerical Workers (CPI-W). The **Hourly Earning Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

The Diffusion Index, introduced in table 17 of the May 1983 issue, represents the percent of 185 nonagricultural industries in which employment was rising over the indicated period. One-half of the industries with unchanged employment are counted as rising. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. The diffusion index is useful for measuring the dispersion of economic gains or losses and is also an economic indicator.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of May 1985 data, published in the July 1985 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Unadjusted data have been revised back to April 1983; seasonally adjusted data have been revised back to January 1980. These revisions were published in the *Supplement to Employment and Earnings* (Bureau of Labor Statistics, 1985). Unadjusted data from April 1984 forward, and seasonally adjusted data from January 1981 forward are subject to revision in future benchmarks.

Additional sources of information

Detailed data from the establishment survey are published monthly in the BLS periodical, *Employment and Earnings*. Earlier comparable unadjusted and seasonally adjusted data are published in *Employment, Hours, and Earnings, United States, 1909–84*, Bulletin 1312–12 and its annual supplement (Bureau of Labor Statistics, 1985). For a detailed discussion of the methodology of the survey, see *BLS Handbook of Methods*, Bulletin 2143–1 (Bureau of Labor Statistics, 1982). For additional data, see *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

Unemployment Data By State

Description of the series

Data presented in this section are obtained from two major sources—the Current Population Survey (CPS) and the Local Area Unemployment Statistics (LAUS) program, which is conducted in cooperation with State employment security agencies.

Monthly estimates of the labor force, employment, and unemployment for States and sub-State areas are a key indicator of local economic conditions and form the basis for determining the eligibility of an area for benefits under Federal economic assistance programs such as the Job Training Partnership Act and the Public Works and Economic Development Act. Insofar as possible, the concepts and definitions underlying these data are those used in the national estimates obtained from the CPS.

Notes on the data

Data refer to State of residence. Monthly data for 11 States—California, Florida, Illinois, Massachusetts, Michigan, New York, New Jersey, North Carolina, Ohio, Pennsylvania, and Texas—are obtained directly from the CPS because the size of the sample is large enough to meet BLS standards of reliability. Data for the remaining 39 States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates for the 11 States are revised to new population controls. For the remaining States and the District of Columbia, data are benchmarked to annual average CPS levels.

Additional sources of information

Information on the concepts, definitions, and technical procedures used to develop labor force data for States and sub-State areas as well as additional data on sub-States are provided in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*, and the annual report, *Geographic Profile of Employment and Unemployment* (Bureau of Labor Statistics). See also *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982).

COMPENSATION AND WAGE DATA

(Tables 22–29)

COMPENSATION AND WAGE DATA are gathered by the Bureau from business establishments, State and local governments, labor unions, collective bargaining agreements on file with the Bureau, and secondary sources.

Employment Cost Index

Description of the series

The **Employment Cost Index** (ECI) is a quarterly measure of the rate of change in compensation per hour worked and includes wages, salaries, and employer costs of employee benefits. It uses a fixed market basket of labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over time in employer costs of employing labor. The index is not seasonally adjusted.

Statistical series on total compensation costs and on wages and salaries are available for private nonfarm workers excluding proprietors, the self-employed, and household workers. Both series are also available for State and local government workers and for the civilian nonfarm economy, which consists of private industry and State and local government workers combined. Federal workers are excluded.

The Employment Cost Index probability sample consists of about 2,200 private nonfarm establishments providing about 12,000 occupational observations and 700 State and local government establishments providing

3,500 occupational observations selected to represent total employment in each sector. On average, each reporting unit provides wage and compensation information on five well-specified occupations. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Fixed employment weights from the 1970 Census of Population are used each quarter to calculate the indexes for civilian, private, and State and local governments. These fixed weights, also used to derive all of the industry and occupation series indexes, ensure that changes in these indexes reflect only changes in compensation, not employment shifts among industries or occupations with different levels of wages and compensation. For the bargaining status, region, and metropolitan/nonmetropolitan area series, however, employment data by industry and occupation are not available from the census. Instead, the 1970 employment weights are reallocated within these series each quarter based on the current sample. Therefore, these indexes are not strictly comparable to those for the aggregate, industry, and occupation series.

Definitions

Total compensation costs include wages, salaries, and the employer costs for employee benefits.

Wages and salaries consist of earnings before payroll deductions, including production bonuses, incentive earnings, commissions, and cost-of-living adjustments.

Benefits include the cost to employers for paid leave, supplemental pay (including nonproduction bonuses), insurance, retirement and savings plans, and legally required benefits (such as social security, workers' compensation, and unemployment insurance).

Excluded from wages and salaries and employee benefits are such items as payment-in-kind, free room and board, and tips.

Notes on the data

The Employment Cost Index data series began in the fourth quarter of 1975, with the quarterly percent change in wages and salaries in the private nonfarm sector. Data on employer costs for employee benefits were included in 1980 to produce, when combined with the wages and salaries series, a measure of the percent change in employer costs for employee total compensation. State and local government units were added to the ECI coverage in 1981, providing a measure of total compensation change in the *civilian* nonfarm economy (excluding Federal employees). Historical indexes (June 1981 = 100) of the quarterly rates of change are presented in the May issue of the BLS monthly periodical, *Current Wage Developments*.

Additional sources of information

For a more detailed discussion of the Employment Cost Index, see Chapter 11, "The Employment Cost Index," in the *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), and the following *Monthly Labor Review* articles: "Employment Cost Index: a measure of change in the 'price of labor'," July 1975; "How benefits will be incorporated into the Employment Cost Index," January 1978; "Estimation procedures for the Employment Cost Index," May 1982; and "Introducing new weights for the Employment Cost Index," June 1985.

Data on the ECI are also available in BLS quarterly press releases issued in the month following the reference months of March, June, September, and December; and from the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

Collective bargaining settlements

Description of the series

Collective bargaining settlements data provide statistical measures of negotiated adjustments (increases, decreases, and freezes) in compensation (wages and benefits costs) and wages alone, quarterly for private industry and semiannually for State and local government. Compensation measures cover all collective bargaining situations involving 5,000 workers or more and wage measures cover all situations involving 1,000 workers or more. These data, covering private nonagricultural industries and State and local governments, are calculated using information obtained from bargaining agreements on file with the Bureau, parties to the agreements, and secondary sources, such as newspaper accounts. The data are not seasonally adjusted.

Settlement data are measured in terms of future specified adjustments: those that will occur within 12 months after contract ratification—first year—and all adjustments that will occur over the life of the contract expressed as an average annual rate. Adjustments are worker weighted. Both first-year and over-the-life measures exclude wage changes that may occur under cost-of-living clauses that are triggered by future movements in the Consumer Price Index.

Effective wage adjustments measure all adjustments occurring in the reference period, regardless of the settlement date. Included are changes from settlements reached during the period, changes deferred from contracts negotiated in earlier periods, and changes under cost-of-living adjustment clauses. Each wage change is worker weighted. The changes are prorated over all workers under agreements during the reference period yielding the average adjustment.

Definitions

Wage rate changes are calculated by dividing newly negotiated wages by the average hourly earnings, excluding overtime, at the time the agreement is reached. Compensation changes are calculated by dividing the change in the value of the newly negotiated wage and benefit package by existing average hourly compensation, which includes the cost of previously negotiated benefits, legally required social insurance programs, and average hourly earnings.

Compensation changes are calculated by placing a value on the benefit portion of the settlements at the time they are reached. The cost estimates are based on the assumption that conditions existing at the time of settlement (for example, methods of financing pensions or composition of labor force) will remain constant. The data, therefore, are measures of negotiated changes and not of total changes in employer cost.

Contract duration runs from the effective date of the agreement to the expiration date or first wage reopening date, if applicable. Average annual percent changes over the contract term take account of the compounding of successive changes.

Notes on the data

Care should be exercised in comparing the size and nature of the settlements in State and local government with those in the private sector because of differences in bargaining practices and settlement characteristics. A principal difference is the incidence of cost-of-living adjustment (COLA) clauses which cover only about 2 percent of workers under a few local government settlements but cover 50 percent of workers under private sector settlements. Agreements without COLA's tend to provide larger specified wage increases than those with COLA's. Another difference is that State and local government bargaining frequently excludes pension benefits which are often prescribed by law. In the private sector, in contrast, pensions are typically a bargaining issue.

Additional sources of information

For a more detailed discussion on the series, see chapter 10, "Negotiated Wage and Benefit Changes," of the BLS *Handbook of Methods*, Bulletin 2134–1. Comprehensive data are published in press releases issued quarterly (in January, April, July, and October) for private industry, and semi-

annually (in February and August) for State and local government. Historical data and additional detailed tabulations for the prior calendar year appear in the April issue of the BLS monthly periodical, *Current Wage Developments*.

Work stoppages

Description of the series

Data on work stoppages measure the number and duration of major strikes or lockouts (involving 1,000 workers or more) occurring during the month (or year), the number of workers involved, and the amount of time lost because of stoppage.

Data are largely from newspaper accounts and cover only establishments directly involved in a stoppage. They do not measure the indirect or secondary effect of stoppages on other establishments whose employees are idle owing to material shortages or lack of service.

Definitions

Number of stoppages: The number of strikes and lockouts involving 1,000 workers or more and lasting a full shift or longer.

Workers involved: The number of workers directly involved in the stoppage.

Number of days idle: The aggregate number of work days lost by workers involved in the stoppages.

Days of idleness as a percent of estimated working time: Aggregate work days lost as a percent of the aggregate number of standard work days in the period multiplied by total employment in the period.

Notes on the data

This series is not comparable with the one terminated in 1981 that covered strikes involving six workers or more.

Additional sources of information

Data for each calendar year are reported in a BLS press release issued in the first quarter of the following year. Monthly data appear in the BLS monthly periodical, *Current Wage Developments*. Historical data appear in the BLS *Handbook of Labor Statistics*.

Other compensation data

Other BLS data on pay and benefits, not included in the Current Labor Statistics section of the *Monthly Labor Review*, appear in and consist of the following:

Industry Wage Surveys provide data for specific occupations selected to represent an industry's wage structure and the types of activities performed by its workers. The Bureau collects information on weekly work schedules, shift operations and pay differentials, paid holiday and vacation practices, and information on incidence of health, insurance, and retirement plans. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Monthly Labor Review*.

Area Wage Surveys annually provide data for selected office, clerical, professional, technical, maintenance, toolroom, powerplant, material movement, and custodial occupations common to a wide variety of industries in the areas (labor markets) surveyed. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Review*.

The National Survey of Professional, Administrative, Technical, and Clerical Pay provides detailed information annually on salary levels and distributions for the types of jobs mentioned in the survey's title in private employment. Although the definitions of the jobs surveyed reflect the duties and responsibilities in private industry, they are designed to match specific pay grades of Federal white-collar employees under the General Schedule pay system. Accordingly, this survey provides the legally required information for comparing the pay of salaried employees in the Federal civil service with pay in private industry. (See Federal Pay Comparability Act of 1970, 5 U.S.C. 5305.) Data are published in a BLS news release issued in the summer and in a bulletin each fall; summaries and analytical articles also appear in the *Review*.

Employee Benefits Survey provides nationwide information on the incidence and characteristics of employee benefit plans in medium and large establishments in the United States, excluding Alaska and Hawaii. Data are published in an annual BLS news release and bulletin, as well as in special articles appearing in the *Review*.

PRICE DATA
(Tables 30–41)

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Consumer Price Indexes

Description of the series

The Consumer Price Index (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI-W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all urban consumer index (CPI-U) introduced in 1978 is representative of the 1972–73 buying habits of about 80 percent of the noninstitutional population of the United States at that time, compared with 40 percent represented in the CPI-W. In addition to wage earners and clerical workers, the CPI-U covers professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items is kept essentially unchanged between major revisions so that only price changes will be measured. All taxes directly associated with the purchase and use of items are included in the index.

Data collected from more than 24,000 retail establishments and 24,000 tenants in 85 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 28 major urban centers are presented in table 31. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

Notes on the data

In January 1983, the Bureau changed the way in which homeownership costs are measured for the CPI-U. A rental equivalence method replaced the

asset-price approach to homeownership costs for that series. In January 1985, the same change was made in the CPI-W. The central purpose of the change was to separate shelter costs from the investment component of homeownership so that the index would reflect only the cost of shelter services provided by owner-occupied homes.

Additional sources of information

For a discussion of the general method for computing the CPI, see *BLS Handbook of Methods, Volume II, The Consumer Price Index*, Bulletin 2134–2 (Bureau of Labor Statistics, April 1984). The recent change in the measurement of homeownership costs is discussed in Robert Gillingham and Walter Lane, "Changing the treatment of shelter costs for homeowners in the CPI," *Monthly Labor Review*, June 1982, pp. 9–14.

Additional detailed CPI data and regular analyses of consumer price changes are provided in the *CPI Detailed Report*, a monthly publication of the Bureau. Historical data for the overall CPI and for selected groupings may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, June 1985).

Producer Price Indexes

Description of the series

Producer Price Indexes (PPI) measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 60,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The stage of processing structure of Producer Price Indexes organizes products by class of buyer and degree of fabrication (that is, finished goods, intermediate goods, and crude materials). The traditional commodity structure of PPI organizes products by similarity of end-use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

Since January 1976, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

Notes on the data

Beginning with the January 1986 issue, the *Review* is no longer presenting tables of Producer Price Indexes for commodity groupings, special composite groups, or SIC industries. However, these data will continue to be presented in the Bureau's monthly publication *Producer Price Indexes*. Series on the net output of major mining and manufacturing industry groups will appear in the *Review* starting with data for July 1986.

The Bureau has completed the first major stage of its comprehensive overhaul of the theory, methods, and procedures used to construct the Producer Price Indexes. Changes include the replacement of judgment sampling with probability sampling techniques; expansion to systematic coverage of the net output of virtually all industries in the mining and manufacturing sectors; a shift from a commodity to an industry orientation; the exclusion of imports from, and the inclusion of exports in, the survey universe; and the respecification of commodities priced to conform to Bureau of the Census definitions. These and other changes have been phased in gradually since 1978. The result is a system of indexes that is easier to use in conjunction with data on wages, productivity, and employment and other series that are organized in terms of the Standard Industrial Classification and the Census product class designations.

Additional sources of information

For a discussion of the methodology for computing Producer Price Indexes, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 7.

Additional detailed data and analyses of price changes are provided monthly in *Producer Price Indexes*. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, June 1985).

International Price Indexes

Description of the series

The BLS **International Price Program** produces quarterly export and import price indexes for nonmilitary goods traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national income accounts: it includes corporations, businesses, and individuals but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents. With publication of an all-import index in February 1983 and an all-export index in February 1984, all U.S. merchandise imports and exports now are represented in these indexes. The reference period for the indexes is 1977 = 100, unless otherwise indicated.

The product universe for both the import and export indexes includes raw materials, agricultural products, semifinished manufactures, and finished manufactures, including both capital and consumer goods. Price data for these items are collected quarterly by mail questionnaire. In nearly all cases, the data are collected directly from the exporter or importer, although in a few cases, prices are obtained from other sources.

To the extent possible, the data gathered refer to prices at the U.S. border for exports and at either the foreign border or the U.S. border for imports. For nearly all products, the prices refer to transactions completed during the first 2 weeks of the third month of each calendar quarter—March, June, September, and December. Survey respondents are asked to indicate all discounts, allowances, and rebates applicable to the reported prices, so that the price used in the calculation of the indexes is the actual price for which the product was bought or sold.

In addition to general indexes of prices for U.S. exports and imports, indexes are also published for detailed product categories of exports and imports. These categories are defined by the 4- and 5-digit level of detail of the Standard Industrial Trade Classification System (SITC). The calculation of indexes by SITC category facilitates the comparison of U.S. price trends and sector production with similar data for other countries. Detailed indexes are also computed and published on a Standard Industrial Classification (SIC-based) basis, as well as by end-use class.

Notes on the data

The export and import price indexes are weighted indexes of the Laspeyeres type. Price relatives are assigned equal importance within each weight category and are then aggregated to the SITC level. The values assigned to each weight category are based on trade value figures compiled

by the Bureau of the Census. The trade weights currently used to compute both indexes relate to 1980.

Because a price index depends on the same items being priced from period to period, it is necessary to recognize when a product's specifications or terms of transaction have been modified. For this reason, the Bureau's quarterly questionnaire requests detailed descriptions of the physical and functional characteristics of the products being priced, as well as information on the number of units bought or sold, discounts, credit terms, packaging, class of buyer or seller, and so forth. When there are changes in either the specifications or terms of transaction of a product, the dollar value of each change is deleted from the total price change to obtain the "pure" change. Once this value is determined, a linking procedure is employed which allows for the continued repricing of the item.

For the export price indexes, the preferred pricing basis is f.a.s. (free alongside ship) U.S. port of exportation. When firms report export prices f.o.b. (free on board), production point information is collected which enables the Bureau to calculate a shipment cost to the port of exportation. An attempt is made to collect two prices for imports. The first is the import price f.o.b. at the foreign port of exportation, which is consistent with the basis for valuation of imports in the national accounts. The second is the import price c.i.f. (cost, insurance, and freight) at the U.S. port of importation, which also includes the other costs associated with bringing the product to the U.S. border. It does not, however, include duty charges.

Additional sources of information

For a discussion of the general method of computing International Price Indexes, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 8.

Additional detailed data and analyses of international price developments are presented in the Bureau's quarterly publication *U.S. Import and Export Price Indexes* and in occasional *Monthly Labor Review* articles prepared by BLS analysts. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, June 1985).

PRODUCTIVITY DATA
(Tables 42–47)

U. S. productivity and related data

Description of the series

The productivity measures relate real physical output to real input. As such they encompass a family of measures which include single factor input measures, such as output per unit of labor input (output per hour) or output per unit of capital input, as well as measures of multifactor productivity (output per unit of labor and capital inputs combined). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

Corresponding indexes of hourly compensation, unit labor costs, unit nonlabor payments, and prices are also provided.

Definitions

Output per hour of all persons (labor productivity) is the value of goods and services in constant prices produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the value of goods and services in constant dollars produced per unit of capital services input.

Multifactor productivity is the ratio output per unit of labor and capital inputs combined. Changes in this measure reflect changes in a number of factors which affect the production process such as changes in technology, shifts in the composition of the labor force, changes in capacity utilization, research and development, skill and efforts of the work force, management, and so forth. Changes in the output per hour measures reflect the impact of these factors as well as the substitution of capital for labor.

Compensation per hour is the wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, and the wages, salaries, and supplementary payments for the self-employed (except for nonfinancial corporations in which there are no self-employed)—the sum divided by hours paid for. **Real compensation per hour** is compensation per hour by the change in the Consumer Price Index for All Urban Consumers.

Unit labor costs is the labor compensation costs expended in the production of a unit of output and is derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from current dollar value of output and dividing by output. **Unit nonlabor costs** contain all the components of unit nonlabor payments *except* unit profits.

Unit profits include corporate profits and the value of inventory adjustments per unit of output.

Hours of all persons are the total hours paid of payroll workers, self-employed persons, and unpaid family workers.

Capital services is the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories—weighted by rental prices for each type of asset.

Labor and capital inputs combined are derived by combining changes in labor and capital inputs with weights which represent each component's share of total output. The indexes for capital services and combined units of labor and capital are based on changing weights which are averages of the shares in the current and preceding year (the Tornquist index-number formula).

Notes on the data

Output measures for the business sector and the nonfarm businesss sector exclude the constant dollar value of owner-occupied housing, rest of world, households and institutions, and general government output from the constant dollar value of gross national product. The measures are derived from data supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are developed from data of the Bureau of Labor Statistics and the Bureau of Economic Analysis.

The productivity and associated cost measures in tables 42–44 describe the relationship between output in real terms and the labor time and capital services involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input. Although these measures relate output to hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; capital investment; level of output; utilization of capacity, energy, and materials; the organization of production; managerial skill; and the characteristics and efforts of the work force.

Additional sources of information

Descriptions of methodology underlying the measurement of output per hour and multifactor productivity are found in the *BLS Handbook of Methods*, Bulletin 2134, Vol. 1, Chapter 13 (Bureau of Labor Statistics, 1982). Historical data for selected industries are provided in the Bureau's *Handbook of Labor Statistics*, Bulletin 2217, 1985.

International comparisons

Description of the series

Comparative measures of labor force, employment, and unemployment (tables 45 and 46) are prepared regularly for the United States, Canada, Australia, Japan, France, Germany, Great Britain, Italy, the Netherlands, and Sweden. Unemployment rates, approximating U.S. concepts, are prepared monthly for most of the countries; the other measures, annually.

The Bureau of Labor Statistics also prepares international comparisons of manufacturing labor productivity and labor costs (table 47) that cover the United States and 11 foreign countries—those listed above plus Belgium and Norway. These measures are limited to trend comparisons; that is, intercountry series of changes over time, rather than level comparisons because reliable international comparisons of the levels of manufacturing are unavailable. The U.S. measures are described in the notes on U.S. productivity measurement; the measures for foreign countries are compiled from various national and international data sources.

Definitions

Output measures are constant value output (value added) from the national accounts of each country, except for those for Japan prior to 1970 and for the Netherlands for 1969 forward, which are indexes of industrial production. The national accounting methods for measuring real output differ considerably among the 12 countries, but the use of different procedures does not, in itself, connote lack of comparability—rather, it reflects differences among countries in the availability and reliability of underlying data series.

Hours and compensation measures refer to all employed persons including the self-employed in the United States and Canada, and to all wage and salary employees in the other countries. *Hours* refer to hours *paid* in the United States, hours *worked* in the other countries. *Compensation (labor costs)* includes not only all payments made directly to employees and employer expenditures for social insurance and private benefit plans, but changes in significant employment or payroll taxes that are not compensation to employees but are labor costs to employers (France, Sweden, and the United Kingdom). Self-employed workers are included in the U.S. and Canadian figures by assuming that their hourly compensation is equal to the average for wage and salary employees.

Notes on the data

The data for the foreign countries in tables 45 and 46 have been adjusted, where necessary, for greater comparability with U.S. definitions of employment and unemployment. The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country. Therefore, the adjusted statistics relate to the civilian population age 16 and over in the United States, France, and Sweden, and from 1973 onward, Great Britain; 15 and over in Canada, Australia, Japan, Germany, and the Netherlands; and 14 and over in Italy. Prior to 1973, the data for Great Britain related to persons age 15 and over. The institutional population is included in the denominator of the labor force participation rates and employment-population rates for Japan and Germany.

For most of the countries in table 47, the measures refer to total manufacturing as defined by the International Standard Industrial Classification. However, the measures for France (beginning 1959), Italy (beginning 1970), and the United Kingdom (beginning 1976) refer to manufacturing and mining less energy-related products. For all countries, manufacturing includes the activities of government enterprises.

In addition, for all countries, preliminary estimates for recent years are generally based on current indicators of manufacturing output, employment and hours, and hourly compensation until national accounts and other statistics used for the long-term measures become available.

Additional sources of information

For further information, see *International Comparisons of Unemployment*, Bulletin 1979 (Bureau of Labor Statistics, 1978), Appendix B and Supplements to Appendix B. Additional detail is also found in the BLS *Handbook of Methods*, Bulletin 2134, Vol. 1, Chapter 16. Additional international comparison statistics are available in the *Handbook of Labor Statistics* (BLS Bulletin 2217, 1985). The most recent statistics are presented and analyzed annually in the *Monthly Labor Review*, typically in the December issue (for the previous year) and in February.

OCCUPATIONAL INJURY AND ILLNESS DATA

(Table 48)

Description of the series

The Annual Survey of Occupational Injuries and Illnesses is designed to collect data on injuries and illnesses based on records which employers in the following industries maintain under the Occupational Safety and Health Act of 1970: agriculture, forestry, and fishing; oil and gas extraction; construction; manufacturing; transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. Excluded from the survey are self-employed individuals, farmers with fewer than 11 employees, employers regulated by other Federal safety and health laws, and Federal, State, and local government agencies.

Because the survey is a Federal–State cooperative program and the data must meet the needs of participating State agencies, an independent sample is selected for each State. The sample is selected to represent all private industries in the States and territories. The sample size for the survey is dependent upon (1) the characteristics for which estimates are needed; (2) the industries for which estimates are desired; (3) the characteristics of the population being sampled; (4) the target reliability of the estimates; and (5) the survey design employed.

While there are many characteristics upon which the sample design could be based, the total recorded case incidence rate is used because it is one of the most important characteristics and the least variable; therefore, it requires the smallest sample size.

The survey is based on stratified random sampling with a Neyman allocation and a ratio estimator. The characteristics used to stratify the establishments are the Standard Industrial Classification (SIC) code and size of employment.

Definitions

Recordable occupational injuries and illnesses are: (1) occupational deaths, regardless of the time between injury and death, or the length of the illness; or (2) nonfatal occupational illnesses; or (3) nonfatal occupational injuries which involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment (other than first aid).

Occupational injury is any injury such as a cut, fracture, sprain, amputation, etc., which results from a work accident or from exposure involving a single incident in the work environment.

Occupational illness is an abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. It includes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion, or direct contact.

Lost workday cases are cases which involve days away from work, or days of restricted work activity, or both.

Lost workday cases involving restricted work activity are those cases which result in restricted work activity only.

Lost workdays away from work are the number of workdays (consecutive or not) on which the employee would have worked but could not

because of occupational injury or illness.

Lost workdays—restricted work activity are the number of workdays (consecutive or not) on which, because of injury or illness: (1) the employee was assigned to another job on a temporary basis; or (2) the employee worked at a permanent job less than full time; or (3) the employee worked at a permanently assigned job but could not perform all duties normally connected with it.

The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked even though able to work.

Incidence rates represent the number of injuries and/or illnesses or lost workdays per 100 full-time workers.

Notes on the data

Estimates are made for industries and employment-size classes and for severity classification: fatalities, lost workday cases, and nonfatal cases without lost workdays. Lost workday cases are separated into those where the employee would have worked but could not and those in which work activity was restricted. Estimates of the number of cases and the number of days lost are made for both categories.

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses, or lost workdays, per 100 full-time employees. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Only a few of the available measures are included in the *Handbook of Labor Statistics*. Full detail is presented in the annual bulletin, *Occupational Injuries and Illnesses in the United States, by Industry*.

Comparable data for individual States are available from the BLS Office of Occupational Safety and Health Statistics.

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration, respectively. Data from these organizations are included in BLS and State publications. Federal employee experience is compiled and published by the Occupational Safety and Health Administration. Data on State and local government employees are collected by about half of the States and territories; these data are not compiled nationally.

Additional sources of information

The Supplementary Data System provides detailed information describing various factors associated with work-related injuries and illnesses. These data are obtained from information reported by *employers* to State workers' compensation agencies. The Work Injury Report program examines selected types of accidents through an employee survey which focuses on the circumstances surrounding the injury. These data are not included in the *Handbook of Labor Statistics* but are available from the BLS Office of Occupational Safety and Health Statistics.

The definitions of occupational injuries and illnesses and lost workdays are from *Recordkeeping Requirements under the Occupational Safety and Health Act of 1970*. For additional data, see *Occupational Injuries and Illnesses in the United States, by Industry*, annual Bureau of Labor Statistics bulletin; BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), ch. 17; *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985), pp. 411–14; annual reports in the *Monthly Labor Review*; and annual U.S. Department of Labor press releases.

1. Labor market indicators

Selected indicators	1983	1984	1983		1984			1985		
			IV	I	II	III	IV	I	II	III
Employment data										
Employment status of the civilian noninstitutionalized population (household survey)[1]										
Labor Force participation rate	64.0	64.4	64.1	64.1	64.5	64.4	64.5	64.9	64.7	64.7
Employment-population ratio	-	-	-	-	-	-	-	-	-	-
Unemployment rate	9.6	7.5	8.5	7.9	7.5	7.4	7.2	7.3	7.3	7.2
Men	9.9	7.4	8.7	7.9	7.4	7.3	7.1	7.1	7.1	7.0
16 to 24 years	18.4	14.4	16.4	15.4	14.7	14.7	14.9	13.8	14.4	13.9
25 years and over	7.8	5.7	6.7	6.1	5.7	5.5	5.4	5.4	5.4	5.3
Women	9.2	7.6	8.3	7.9	7.6	7.6	7.4	7.6	7.6	7.4
16 to 24 years	15.8	13.3	16.4	14.0	13.8	14.1	14.0	13.3	12.9	13.2
25 years and over	7.2	6.0	6.3	6.1	5.9	6.0	5.8	6.0	6.1	6.0
Unemployment rate, 15 weeks and over	3.8	2.4	3.1	2.7	2.4	2.3	2.1	2.0	2.0	2.0
Employment, nonagricultural (payroll data):[1]										
Total	90,196	94,461	-	-	-	-	-	-	-	-
Private sector	74,330	78,477	-	-	-	-	-	-	-	-
Goods-producing	23,334	24,730	-	-	-	-	-	-	-	-
Manufacturing	18,434	19,412	-	-	-	-	-	-	-	-
Service-producing	66,862	69,731	-	-	-	-	-	-	-	-
Average hours										
Private sector	35.0	35.3	-	-	-	-	-	-	-	-
Manufacturing	40.1	40.7	-	-	-	-	-	-	-	-
Overtime	-	-	2.8	3.5	3.5	3.5	3.6	3.4	3.3	3.2
Employment Cost Index										
Percent change in the ECI, compensation:[2]										
All workers (excluding farm, household, and Federal workers)	-	-	1.1	1.7	.8	1.3	1.2	1.3	.7	1.6
Private industry workers	-	-	1.2	1.7	.9	.8	1.3	1.2	.8	1.3
Goods-producing[3]	-	-	.9	1.6	.9	.9	1.1	1.5	.7	.8
Servicing-producing[3]	-	-	1.5	1.9	1.0	.7	1.4	1.0	1.0	1.8
State and local government workers	-	-	1.0	1.6	.4	3.5	1.0	1.2	.2	3.4
Workers by bargaining status (private industry)										
Union	-	-	.8	1.5	.9	.7	1.1	.7	.8	.8
Nonunion	-	-	1.3	1.8	1.0	.9	1.3	1.6	1.0	1.4

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[1] Quarterly data seasonally adjusted.

[2] Annual changes are December-to-December change. Quarterly changes calculated using the last month of each quarter.

[3] Goods-producing industries include mining, construction, and manufacturing. Service-producing industries include all other private sector industries.

– Data not available.

2. Annual and quarterly percent changes in compensation, prices, and productivity

Selected measures	1983	1984	1983	1984				1985		
			IV	I	II	III	IV	I	II	III
Compensation data: [1], [2]										
Employment Cost Index-Compensation (wages, salaries, benefits)										
Civilian nonfarm	–	–	1.1	1.7	0.8	1.3	1.2	1.3	0.7	1.6
Private nonfarm	–	–	1.2	1.7	.9	.8	1.3	1.2	.8	1.3
Employment Cost Index-Wages and Salaries										
Civilian nonfarm	–	–	1.0	1.2	.8	1.3	1.2	1.2	.9	1.7
Private nonfarm	–	–	1.1	1.2	.9	.8	1.2	1.2	1.1	1.3
Price data[1]										
Consumer Price Index (All urban consumers): All items	–	–	–	–	–	–	–	–	–	–
Producer Price Index:										
Finished goods	–	–	–	–	–	–	–	–	–	–
Finished consumer goods	–	–	–	–	–	–	–	–	–	–
Capital equipment	–	–	–	–	–	–	–	–	–	–
Intermediate materials, supplies, components	–	–	–	–	–	–	–	–	–	–
Crude materials	–	–	–	–	–	–	–	–	–	–
U.S. Export Price Index	–	–	–	–	–	–	–	–	–	–
U.S. Import Price Index	–	–	–	–	–	–	–	–	–	–
Productivity data										
Output per hour of all persons:										
Business Sector	2.7	3.2	3.1	3.5	3.3	2.7	3.2	1.1	.3	1.1
Nonfarm business sector	3.5	2.7	3.9	3.5	2.9	2.1	2.4	.8	-.2	.8
Nonfinancial corporations [3]	3.3	2.3	3.9	4.0	2.9	.9	1.6	–	-.7	1.0

[1] Annual changes are December-to-December change. Quarterly changes are calculated using the last month of each quarter.

[2] Excludes Federal and private household workers.

[3] Output per hour of all employees.

– Data not available.

3. Alternative measures of wage and compensation changes

Components	Quarterly average–						Four quarters ended in–					
	1984			1985			1984			1985		
	II	III	IV	I	II	III	II	III	IV	I	II	III
Average hourly compensation:[1]												
All persons, business sector	–	–	–	–	–	–	–	–	–	–	–	–
All employees, nonfarm business sector	–	–	–	–	–	–	–	–	–	–	–	–
Hourly earnings index:[2]												
All private nonfarm	–	–	–	–	–	–	–	–	–	–	–	–
Employment Cost Index-compensation:												
Civilian nonfarm [3]	0.8	1.3	1.2	1.3	0.7	1.6	5.5	5.1	5.2	4.8	4.6	4.9
Private nonfarm	.9	.8	1.3	1.2	.8	1.3	5.4	4.8	4.9	4.4	4.2	4.7
Union	.9	.7	1.1	.7	.8	.8	4.9	4.1	4.3	3.5	3.1	3.2
Nonunion	1.0	.9	1.3	1.6	1.0	1.4	5.7	5.2	5.2	4.9	4.9	5.4
State and local governments	.4	3.5	1.0	1.2	.2	3.4	6.2	6.6	6.6	6.3	6.1	6.0
Employment cost index-wages and salaries:												
Civilian nonfarm[3]	.8	1.3	1.2	1.2	.9	1.7	4.8	4.3	4.5	4.4	4.5	5.0
Private nonfarm	.9	.8	1.2	1.2	1.1	1.3	4.7	4.1	4.1	4.1	4.3	4.8
Union	.8	.7	.9	.7	1.1	.9	4.2	3.3	3.4	3.0	3.4	3.6
Nonunion	.9	.8	1.3	1.4	1.1	1.5	5.0	4.5	4.5	4.6	4.8	5.4
State and local governments	.3	3.4	.8	1.0	.2	3.5	5.4	5.8	5.9	5.6	5.5	5.8
Total effective wage adjustments[4]	.9	1.2	.7	.7	.8	1.2	4.3	4.2	3.7	3.6	3.5	3.4
From current settlements	.1	.2	.3	.1	.2	.2	1.0	1.0	.8	.7	.9	.8
From prior settlements	.7	.7	.2	.6	.5	.6	2.2	2.1	2.0	2.2	1.9	1.8
From cost-of-living provision	.2	.3	.2	.1	.1	.4	1.1	1.2	.8	.7	.7	.8
Negotiated wage adjustments from settlements[4]												
First-year adjustments	2.8	2.1	2.3	3.4	2.5	1.7	3.5	3.2	2.4	2.4	2.4	2.3
Annual rate over life of contract	2.7	2.6	1.5	3.2	2.9	2.9	3.1	2.8	2.4	2.3	2.4	2.4
Negotiated wage and benefit adjustments from settlements:[5]												
First-year adjustment	3.5	2.7	3.7	4.4	3.5	1.7	4.7	4.2	3.8	3.4	3.5	3.1
Annual rate over life of contract	3.2	3.1	2.0	4.0	3.5	2.9	3.5	3.2	2.8	2.7	2.8	2.8

[1] Seasonally adjusted.

[2] Production or nonsupervisory workers.

[3] Excludes Federal and household workers.

[4] Limited to major collective bargaining units of 1,000 or more workers. The most recent data are preliminary.

[5] Limited to major collective bargaining units of 5,000 or more workers. The most recent data are preliminary.

– Data not available.

4. Employment status of the total population, by sex, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1984		1985										
	1983	1984	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
TOTAL															
Noninstitutional population [1], [2]	175,891	178,080	178,804	179,004	179,081	179,219	179,368	179,501	179,649	179,798	179,967	180,131	180,304	180,470	180,642
Labor force[2]	113,226	115,241	115,773	116,162	116,572	116,787	117,215	117,073	117,078	116,485	117,018	117,025	117,550	117,859	117,769
Participation rate [3]	64.4	64.7	64.7	64.9	65.1	65.2	65.3	65.2	65.2	64.8	65.0	65.0	65.2	65.3	65.2
Total employed [2]	102,510	106,702	107,631	107,971	108,088	108,388	108,820	108,647	108,665	108,072	108,566	108,898	109,276	109,567	109,629
Employment-population ratio [4]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Resident Armed Forces [1]	1,676	1,697	1,699	1,698	1,697	1,703	1,701	1,702	1,705	1,702	1,704	1,726	1,732	1,700	1,702
Civilian employed	100,834	105,005	105,932	106,273	106,391	106,685	107,119	106,945	106,960	106,370	106,862	107,172	107,544	107,867	107,927
Agriculture	3,383	3,321	3,334	3,385	3,320	3,340	3,362	3,428	3,312	3,138	3,125	3,092	2,976	3,026	3,008
Nonagricultural industries	97,450	101,685	102,598	102,888	103,071	103,345	103,757	103,517	103,648	103,232	103,737	104,080	104,568	104,841	104,920
Unemployed	10,717	8,539	8,142	8,191	8,484	8,399	8,395	8,426	8,413	8,413	8,451	8,127	8,274	8,291	8,140
Unemployment rate [5]	9.5	7.4	7.0	7.1	7.3	7.2	7.2	7.2	7.2	7.2	7.2	6.9	7.0	7.0	6.9
Not in labor force	62,665	62,839	63,031	62,842	62,509	62,432	62,153	62,428	62,571	63,313	62,949	63,106	62,754	62,611	62,873
Men, 16 years and over															
Noninstitutional population [1], [2]	84,064	85,156	85,520	85,607	85,629	85,692	85,764	85,827	85,898	85,970	86,052	86,132	86,217	86,293	86,374
Labor force[2]	64,580	65,386	65,657	65,814	65,822	65,816	65,923	65,988	66,032	65,608	65,900	65,901	66,106	66,259	66,175
Participation rate [3]	76.8	76.8	76.8	76.9	76.9	76.8	76.9	76.9	76.9	76.3	76.6	76.5	76.7	76.8	76.6
Total employed [2]	58,320	60,642	61,155	61,252	61,213	61,226	61,427	61,406	61,553	60,959	61,256	61,507	61,685	61,689	61,729
Employment-population ratio [4]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Resident Armed Forces [1]	1,533	1,551	1,552	1,550	1,549	1,554	1,553	1,554	1,556	1,552	1,554	1,574	1,580	1,551	1,552
Civilian employed	56,787	59,091	59,603	59,702	59,664	59,672	59,874	59,852	59,997	59,407	59,702	59,933	60,105	60,138	60,177
Unemployed	6,260	4,744	4,502	4,562	4,609	4,590	4,495	4,582	4,479	4,649	4,644	4,395	4,421	4,570	4,446
Unemployment rate [5]	9.7	7.3	6.9	6.9	7.0	7.0	6.8	6.9	6.8	7.1	7.0	6.7	6.7	6.9	6.7
Women, 16 years and over															
Noninstitutional population [1], [2]	91,827	92,924	93,311	93,397	93,452	93,527	93,604	93,674	93,751	93,828	93,915	93,999	94,087	94,177	94,268
Labor force[2]	48,646	49,855	50,116	50,348	50,750	50,970	51,293	51,085	51,047	50,877	51,117	51,123	51,444	51,599	51,593
Participation rate [3]	53.0	53.7	53.7	53.9	54.3	54.5	54.8	54.5	54.4	54.2	54.4	54.4	54.7	54.8	54.7
Total employed[2]	44,190	46,061	46,476	46,719	46,875	47,162	47,392	47,242	47,113	47,113	47,310	47,391	47,591	47,878	47,899
Employment-population ratio [4]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Resident Armed Forces [1]	143	146	147	148	148	149	148	148	149	150	150	152	152	149	149
Civilian employed	44,047	45,915	46,329	46,571	46,727	47,013	47,244	47,094	46,964	46,963	47,160	47,239	47,439	47,729	47,750
Unemployed	4,457	3,794	3,640	3,629	3,875	3,807	3,900	3,844	3,934	3,764	3,807	3,732	3,854	3,721	3,694
Unemployment rate [5]	9.2	7.6	7.3	7.2	7.6	7.5	7.6	7.5	7.7	7.4	7.4	7.3	7.5	7.2	7.2

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[1] The population and Armed Forces figures are not adjusted for seasonal variation.

[2] Includes members of the Armed Forces stationed in the United States.

[3] Labor force as a percent of the noninstitutional population.

[4] Total employed as a percent of the noninstitutional population.

[5] Unemployment as a percent of the labor force (including the resident Armed Forces).

- Data not available.

5. Employment status of the civilian population, by sex, age, race and Hispanic origin, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1984		1985										
	1983	1984	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
TOTAL															
Civilian noninstitutional population[1]	174,215	176,383	177,135	177,306	177,384	177,516	177,667	177,799	177,944	178,096	178,263	178,405	178,572	178,770	178,940
Civilian labor force	111,550	113,544	114,074	114,464	114,875	115,084	115,514	115,371	115,373	114,783	115,314	115,299	115,818	116,159	116,067
Participation rate	64.0	64.4	64.4	64.6	64.8	64.8	65.0	64.9	64.8	64.5	64.7	64.6	64.9	65.0	64.9
Employed	100,834	105,005	105,932	106,273	106,391	106,685	107,119	106,945	106,960	106,370	106,863	107,172	107,544	107,867	107,927
Employment-population ratio[2]	57.9	59.5	59.8	59.9	60.0	60.1	60.3	60.1	60.1	59.7	59.9	60.1	60.2	60.3	60.3
Unemployed	10,717	8,539	8,142	8,191	8,484	8,399	8,395	8,426	8,413	8,413	8,451	8,127	8,274	8,291	8,140
Unemployment rate	9.6	7.5	7.1	7.2	7.4	7.3	7.3	7.3	7.3	7.3	7.3	7.0	7.1	7.1	7.0
Not in labor force	62,665	62,839	63,061	62,842	62,509	62,432	62,153	62,428	62,571	63,313	62,949	63,106	62,754	62,611	62,873
Men, 20 years and over															
Civilian noninstitutional population[1]	74,872	76,219	76,633	76,759	76,780	76,829	76,904	76,968	77,069	77,135	77,243	77,306	77,389	77,486	77,588
Civilian labor force	58,744	59,701	59,984	60,131	60,052	60,061	60,152	60,177	60,214	60,100	60,143	60,227	60,438	60,584	60,569
Participation rate	78.5	78.3	78.3	78.3	78.2	78.2	78.2	78.2	78.1	77.9	77.9	77.9	78.1	78.1	78.1
Employed	53,487	55,769	56,259	56,372	56,254	56,287	56,421	56,370	56,563	56,209	56,376	56,627	56,802	56,901	56,910
Employment-population ratio[2]	71.4	73.2	73.4	73.4	73.3	73.3	73.4	73.2	73.4	72.9	73.0	73.3	73.4	73.4	73.4
Agriculture	2,429	2,418	2,434	2,494	2,417	2,362	2,336	2,390	2,370	2,265	2,231	2,232	2,148	2,153	2,173
Nonagricultural industries	51,058	53,351	53,825	53,878	53,837	53,925	54,085	53,980	54,193	53,944	54,145	54,395	54,654	54,748	54,737
Unemployed	5,257	3,932	3,725	3,759	3,798	3,774	3,731	3,807	3,651	3,891	3,767	3,600	3,637	3,683	3,659
Unemployment rate	8.9	6.6	6.2	6.3	6.3	6.3	6.2	6.3	6.1	6.5	6.3	6.0	6.0	6.0	6.0
Women, 20 years and over															
Civilian noninstitutional population[1]	84,069	85,429	85,887	85,985	86,015	86,098	86,181	86,274	86,360	86,477	86,575	86,652	86,727	86,810	86,901
Civilian labor force	44,636	45,900	46,279	46,469	46,771	46,894	47,193	47,155	47,077	47,180	47,184	47,344	47,568	47,675	47,643
Participation rate	53.1	53.7	53.9	54.0	54.4	54.5	54.8	54.7	54.5	54.6	54.5	54.6	54.8	54.9	54.8
Employed	41,004	42,793	43,252	43,511	43,610	43,768	44,014	43,958	43,846	44,032	44,059	44,152	44,324	44,636	44,606
Employment-population ratio[2]	48.8	50.1	50.4	50.6	50.7	50.8	51.1	51.0	50.8	50.9	50.9	51.0	51.1	51.4	51.3
Agriculture	620	595	580	595	592	614	659	651	597	558	596	571	540	626	589
Nonagricultural industries	40,384	42,198	42,672	42,916	43,018	43,153	43,355	43,307	43,249	43,474	43,463	43,580	43,784	44,010	44,017
Unemployed	3,632	3,107	3,027	2,958	3,161	3,126	3,179	3,197	3,231	3,148	3,125	3,192	3,244	3,039	3,037
Unemployment rate	8.1	6.8	6.5	6.4	6.8	6.7	6.7	6.8	6.9	6.7	6.6	6.7	6.8	6.4	6.4
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	15,274	14,735	14,575	14,557	14,610	14,600	14,582	14,539	14,496	14,483	14,445	14,448	14,466	14,463	14,472
Civilian labor force	8,171	7,943	7,801	7,870	8,072	8,129	8,169	8,039	8,082	7,502	7,986	7,728	7,812	7,920	7,855
Participation rate	53.5	53.9	53.5	54.1	55.2	55.7	56.0	55.3	55.8	51.8	55.3	53.5	54.0	54.8	54.3
Employed	6,342	6,444	6,411	6,390	6,547	6,630	6,684	6,617	6,551	6,128	6,427	6,393	6,418	6,330	6,411
Employment-population ratio[2]	41.5	43.7	44.0	43.9	44.8	45.4	45.8	45.5	45.2	42.3	44.5	44.2	44.4	43.8	44.3
Agriculture	334	309	330	296	311	364	377	387	345	313	288	289	288	246	245
Nonagricultural industries	6,008	6,135	6,081	6,094	6,236	6,266	6,307	6,230	6,206	5,815	6,139	6,104	6,130	6,084	6,166
Unemployed	1,829	1,499	1,390	1,480	1,525	1,499	1,485	1,422	1,531	1,374	1,559	1,335	1,394	1,590	1,444
Unemployment rate	22.4	18.9	17.8	18.8	18.9	18.4	18.2	17.7	18.9	18.3	19.5	17.3	17.8	20.1	18.4
White															
Civilian noninstitutional population[1]	150,805	152,347	152,669	152,734	153,103	153,191	153,296	153,398	153,489	153,587	153,717	153,819	153,938	154,082	154,209
Civilian labor force	97,021	98,492	98,630	99,005	99,496	99,711	100,035	99,806	99,769	99,441	99,736	99,735	100,165	100,598	100,467
Participation rate	64.3	64.6	64.6	64.8	65.0	65.1	65.3	65.1	65.0	64.7	64.9	64.8	65.1	65.3	65.2
Employed	88,893	92,120	92,587	92,884	93,124	93,552	93,785	93,544	93,539	92,990	93,374	93,599	94,071	94,452	94,562
Employment-population ratio[2]	58.9	60.5	60.6	60.8	60.8	61.1	61.2	61.0	60.9	60.5	60.7	60.8	61.1	61.3	61.3
Unemployed	8,128	6,372	6,043	6,121	6,372	6,159	6,250	6,262	6,230	6,451	6,362	6,136	6,094	6,146	5,905
Unemployment rate	8.4	6.5	6.1	6.2	6.4	6.2	6.2	6.3	6.2	6.5	6.4	6.2	6.1	6.1	5.9
Black															
Civilian noninstitutional population[1]	18,925	19,348	19,481	19,513	19,518	19,542	19,568	19,594	19,620	19,646	19,675	19,700	19,728	19,761	19,780
Civilian labor force	11,647	12,033	12,276	12,306	12,315	12,308	12,280	12,403	12,370	12,269	12,347	12,267	12,358	12,419	12,455
Participation rate	61.5	62.2	63.0	63.1	63.1	63.0	62.8	63.3	63.0	62.5	62.8	62.3	62.6	62.8	62.9
Employed	9,375	10,119	10,426	10,462	10,475	10,301	10,412	10,509	10,438	10,551	10,493	10,549	10,466	10,556	10,480
Employment-population ratio[2]	49.5	52.3	53.5	53.6	53.7	52.7	53.2	53.6	53.2	53.7	53.3	53.5	53.1	53.4	53.0
Unemployed	2,272	1,914	1,850	1,844	1,840	2,006	1,869	1,894	1,932	1,718	1,854	1,718	1,892	1,863	1,975
Unemployment rate	19.5	15.9	15.1	15.0	14.9	16.3	15.2	15.3	15.6	14.0	15.0	14.0	15.3	15.0	15.9

See footnotes at end of table.

5. Continued—Employment status of the civilian population, by sex, age, race and Hispanic origin, monthly data seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		1984		1985										
	1983	1984	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
Hispanic origin [3]															
Civilian noninstitutional population[1]	10,785	11,164	11,301	11,332	11,363	11,394	11,425	11,457	11,485	11,514	11,544	11,573	11,601	11,630	11,660
Civilian labor force	6,884	7,247	7,394	7,472	7,255	7,330	7,365	7,336	7,330	7,416	7,470	7,547	7,607	7,616	7,516
Participation rate	63.8	64.9	65.4	65.9	63.8	64.3	64.5	64.0	63.8	64.4	64.7	65.2	65.6	65.5	64.5
Employed	5,940	6,469	6,635	6,698	6,487	6,621	6,615	6,577	6,546	6,629	6,634	6,771	6,817	6,758	6,713
Employment-population ratio[2]	55.1	57.9	58.7	59.1	57.1	58.1	57.9	57.4	57.0	57.6	57.5	58.5	58.8	58.1	57.6
Unemployed	940	778	760	774	768	709	750	759	784	787	836	776	790	858	803
Unemployment rate	13.7	10.7	10.3	10.4	10.6	9.7	10.2	10.3	10.7	10.6	11.2	10.3	10.4	11.3	10.7

[1] The population figures are not seasonally adjusted.

[2] Civilian employment as a percent of the civilian noninstitutional population.

[3] Data for 1984 and earlier years have been revised.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" groups are not presented and Hispanics are included in both the white and black population groups.

6. Selected employment indicators, monthly data seasonally adjusted

[In thousands]

Selected categories	Annual average		1984		1985										
	1983	1984	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
CHARACTERISTICS															
Civilian employed, 16 years and over	100,834	105,005	105,932	106,273	106,291	106,685	107,118	106,945	106,960	106,370	106,862	107,172	107,544	107,867	107,927
Men	56,787	59,091	59,603	59,702	59,564	59,672	59,874	59,857	59,997	59,407	59,702	59,933	60,105	60,138	60,177
Women	44,047	45,915	46,329	46,571	46,727	47,013	47,244	47,088	46,964	46,963	47,160	47,239	47,439	47,729	47,750
Married men, spouse present	37,967	38,998	39,307	39,443	39,441	39,387	39,331	39,434	39,244	39,387	39,380	39,109	39,052	39,309	39,366
Married women, spouse present	24,603	25,636	25,986	26,122	25,912	26,109	26,195	26,008	25,951	26,130	26,295	26,363	26,537	26,739	26,742
Women who maintain families	5,091	5,465	5,388	5,396	5,594	5,585	5,631	5,622	5,660	5,698	5,624	5,627	5,516	5,472	5,562
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,579	1,555	1,583	1,733	1,586	1,611	1,610	1,705	1,611	1,530	1,481	1,427	1,408	1,430	1,546
Self-employed workers	1,565	1,553	1,505	1,485	1,531	1,503	1,502	1,491	1,507	1,446	1,467	1,448	1,381	1,443	1,347
Unpaid family workers	249	213	204	212	227	242	253	231	198	154	189	174	178	178	149
Nonagricultural industries:															
Wage and salary workers	89,500	93,565	94,442	94,725	95,066	95,348	95,786	95,617	95,772	95,230	95,456	95,716	96,569	96,564	96,599
Government	15,537	15,770	15,785	15,858	15,736	16,009	16,004	15,968	15,906	15,988	15,843	16,080	16,186	16,289	16,148
Private industries	73,963	77,794	78,657	78,867	79,330	79,339	79,782	79,649	79,866	79,242	79,613	79,636	80,383	80,275	80,451
Private households	1,247	1,238	1,228	1,257	1,374	1,304	1,210	1,208	1,259	1,204	1,258	1,320	1,272	1,295	1,191
Other	72,716	76,556	77,429	77,610	77,956	78,[illegible]	78,572	78,441	78,607	78,038	78,355	78,316	79,112	78,981	79,260
Self-employed workers	7,575	7,785	7,731	7,768	7,769	7,673	7,809	7,669	7,665	7,684	7,882	7,904	7,840	8,036	8,058
Unpaid family workers	376	335	357	357	343	340	320	304	289	292	284	300	286	243	254
PERSONS AT WORK PART TIME[1]															
All industries:															
Part time for economic reasons	6,266	5,744	5,623	5,814	5,629	5,336	5,664	5,664	5,912	5,833	5,634	5,713	5,551	5,431	5,478
Slack work	2,883	2,430	2,449	2,598	2,431	2,212	2,589	2,580	2,608	2,543	2,404	2,509	2,459	2,204	2,289
Could only find part-time work	3,099	2,948	2,855	2,873	2,848	2,885	2,744	2,755	2,888	2,706	2,752	2,865	2,766	2,843	2,807
Voluntary part time	12,911	13,169	13,142	13,239	13,355	13,647	13,634	13,278	12,905	13,369	13,791	13,697	13,456	13,787	13,699
Nonagricultural industries:															
Part time for economic reasons	5,987	5,512	5,415	5,586	5,369	5,077	5,400	5,374	5,617	5,257	5,360	5,443	5,297	5,213	5,262
Slack work	2,684	2,291	2,319	2,473	2,287	2,040	2,405	2,360	2,457	2,341	2,242	2,353	2,323	2,075	2,194
Could only find part-time work	2,986	2,888	2,782	2,780	2,749	2,751	2,649	2,688	2,808	2,646	2,666	2,765	2,648	2,647	2,611
Voluntary part time	12,417	12,704	12,670	12,776	12,881	13,157	13,137	12,834	12,469	12,870	13,249	13,266	13,030	13,357	13,286

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

7. Selected unemployment indicators, monthly data seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		1984		1985										
	1983	1984	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
CHARACTERISTIC															
Total, all civilian workers	9.6	7.5	7.1	7.2	7.4	7.3	7.3	7.3	7.3	7.3	7.3	7.0	7.1	7.1	7.0
Both sexes, 16 to 19 years	22.4	18.9	17.8	18.8	18.9	18.4	18.2	17.7	18.9	18.3	19.5	17.3	17.8	20.1	18.4
Men, 20 years and over	8.9	6.6	6.2	6.3	6.3	6.3	6.2	6.3	6.1	6.5	6.3	6.0	6.0	6.0	6.0
Women, 20 years and over	8.1	6.8	6.5	6.4	6.6	6.7	6.7	6.8	6.9	6.7	6.6	6.7	6.8	6.4	6.4
White, total	8.4	6.5	6.1	6.2	6.4	6.2	6.2	6.3	6.2	6.5	6.4	6.2	6.1	6.1	5.9
Both sexes, 16 to 19 years	19.3	16.0	15.1	15.9	15.8	15.2	15.1	14.9	16.1	15.9	16.3	15.3	15.1	17.2	15.3
Men, 16 to 19 years	20.2	16.8	16.2	16.2	15.9	17.0	15.2	15.3	16.8	16.7	17.5	17.8	15.9	18.8	15.6
Women, 16 to 19 years	18.3	15.2	13.9	15.5	15.8	13.4	14.9	14.3	15.3	15.1	15.0	12.7	14.2	15.5	15.1
Men, 20 years and over	7.9	5.7	5.4	5.4	5.5	5.4	5.4	5.5	5.2	5.8	5.6	5.3	5.2	5.1	5.1
Women, 20 years and over	6.9	5.8	5.5	5.5	5.9	5.6	5.9	5.8	5.9	5.8	5.7	5.7	5.8	5.5	5.2
Black, total	19.5	15.9	15.1	15.0	14.9	16.3	15.2	15.3	15.6	14.0	15.0	14.0	15.3	15.0	13.9
Both sexes, 16 to 19 years	48.5	42.7	41.2	42.1	42.1	43.1	41.9	39.0	40.4	38.1	41.3	34.4	38.3	39.7	40.9
Men, 16 to 19 years	48.8	42.7	42.0	43.8	46.3	41.1	40.9	38.5	38.4	40.7	43.3	34.1	41.0	41.1	46.1
Women, 16 to 19 years	48.2	42.6	40.2	40.1	38.5	46.3	43.1	39.5	42.5	35.2	39.0	34.9	35.0	37.9	38.3
Men, 20 years and over	18.1	14.3	12.8	13.3	12.7	14.4	13.3	13.6	13.6	12.2	12.6	11.8	13.4	14.0	14.1
Women, 20 years and over	16.5	13.5	13.5	12.7	12.8	13.9	12.9	13.2	13.7	12.3	13.2	13.2	13.8	12.1	13.9
Hispanic origin, total[1]	13.7	10.7	10.3	10.4	10.6	9.7	10.2	10.3	10.7	10.6	11.2	10.3	10.4	11.3	10.7
Married men, spouse present	6.5	4.6	4.4	4.4	4.6	4.4	4.2	4.3	4.0	4.6	4.4	4.1	4.3	4.1	4.2
Married women, spouse present	7.0	5.7	5.4	5.4	5.7	5.4	5.9	5.9	5.8	5.9	5.7	5.4	5.7	5.3	5.4
Women who maintain families	12.2	10.3	10.8	9.8	10.0	11.0	10.2	10.8	10.9	9.8	10.2	11.1	11.8	10.5	10.0
Full-time workers	9.5	7.2	6.9	6.9	7.1	7.1	6.9	6.9	6.8	6.8	7.0	6.7	6.8	6.7	6.7
Part-time workers	10.4	9.3	8.6	8.9	9.3	8.7	8.6	9.7	10.3	9.9	9.5	9.0	9.2	9.7	8.8
Unemployed 15 weeks and over	3.8	2.4	2.1	2.1	2.0	2.1	2.1	2.1	1.9	2.0	2.0	2.0	2.0	2.0	1.9
Labor force time lost[2]	10.9	8.6	8.2	8.3	8.2	8.2	8.2	8.2	8.3	8.2	8.3	8.1	8.1	7.9	7.9
INDUSTRY															
Nonagricultural private wage and salary workers	9.9	7.4	7.2	7.2	7.3	7.3	7.2	7.3	7.2	7.4	7.3	7.1	7.3	7.1	7.1
Mining	17.0	10.0	11.7	10.7	10.1	10.9	11.0	10.9	7.3	11.1	9.8	8.3	9.3	7.4	7.3
Construction	18.4	14.3	14.2	13.7	13.4	13.4	13.3	13.9	10.2	13.7	13.4	13.1	13.9	13.8	13.7
Manufacturing	11.2	7.5	7.2	7.2	7.8	7.5	7.7	8.0	7.8	7.7	8.0	7.8	7.8	7.5	7.8
Durable goods	12.1	7.2	7.0	7.1	7.2	7.1	7.4	7.8	7.8	8.0	8.0	7.9	7.8	7.2	7.7
Nondurable goods	10.0	7.8	7.4	7.2	8.1	8.2	8.1	8.3	7.7	7.4	8.0	7.7	7.9	8.0	7.9
Transportation and public utilities	7.4	5.5	5.2	5.0	4.9	5.5	4.6	5.4	5.2	5.3	5.8	4.3	5.4	6.1	5.2
Wholesale and retail trade	10.0	8.0	7.6	7.5	7.7	7.7	7.5	7.3	7.9	7.7	7.5	7.7	7.8	7.9	7.4
Finance and service industries	7.2	5.9	5.8	5.9	5.9	5.7	5.7	5.7	6.2	5.8	5.6	5.5	5.5	5.3	5.4
Government workers	5.3	4.5	4.3	4.4	4.1	3.9	3.9	3.7	3.9	3.8	4.1	4.0	3.8	3.9	3.8
Agricultural wage and salary workers	16.0	13.5	11.2	12.2	15.5	13.6	12.2	13.1	11.5	12.1	14.3	14.3	14.8	13.2	12.5

[1] Data for 1984 and earlier years have been revised.

[2] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

8. Unemployment rates by sex and age, monthly data seasonally adjusted

(Civilian workers)

Sex and age	Annual average		1984		1985										
	1983	1984	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
Total, 16 years and over	9.6	7.5	7.1	7.2	7.4	7.3	7.3	7.3	7.3	7.3	7.3	7.0	7.1	7.1	7.0
16 to 24 years	17.2	13.9	13.2	13.5	13.6	12.7	13.5	13.3	14.2	13.5	14.0	12.9	13.3	14.0	13.5
16 to 19 years	22.4	18.9	17.8	18.9	18.9	18.4	18.2	17.7	18.9	18.3	18.5	17.3	17.8	20.1	18.4
16 to 17 years	24.5	21.2	20.0	21.0	21.2	20.0	20.9	20.7	21.1	21.2	22.0	18.8	19.8	23.3	21.5
18 to 19 years	21.1	17.4	16.6	17.7	17.4	17.4	16.5	15.8	17.3	16.2	17.0	16.4	16.5	17.9	16.6
20 to 24 years	14.5	11.5	10.9	10.9	10.9	11.2	11.1	11.0	11.0	11.2	11.2	10.7	11.0	10.9	11.1
25 years and over	7.5	5.8	5.5	5.5	5.8	5.6	5.6	5.7	5.5	5.6	5.6	5.5	5.6	5.4	5.4
25 to 54 years	8.0	6.1	5.8	5.8	6.1	5.9	5.9	6.1	5.8	6.0	5.9	5.8	5.9	5.7	5.6
55 years and over	5.3	4.5	4.4	4.1	4.2	3.9	4.0	4.0	4.3	4.2	4.5	4.1	4.2	3.9	3.8
Men, 16 years and over	9.9	7.4	7.0	7.1	7.2	7.1	7.0	7.1	6.9	7.3	7.2	6.9	6.9	7.1	6.9
16 to 24 years	18.4	14.4	13.7	14.1	13.5	14.4	13.9	13.8	14.8	14.3	14.8	13.6	13.8	14.7	13.9
16 to 19 years	23.3	19.6	18.9	19.4	19.1	19.5	19.1	19.2	19.4	19.2	20.9	19.4	19.2	21.9	19.4
16 to 17 years	25.2	21.9	20.3	19.8	21.2	20.7	22.2	21.5	22.2	24.0	22.8	22.0	20.0	24.4	20.5
18 to 19 years	22.2	18.3	18.3	18.3	18.0	18.6	15.7	18.2	17.4	16.1	19.2	17.4	18.6	20.3	18.9
20 to 24 years	15.9	11.9	11.2	11.5	11.2	11.8	11.7	11.3	12.5	11.9	11.7	10.7	10.8	11.0	11.3
25 years and over	7.8	5.7	5.4	5.4	5.5	5.4	5.3	5.5	5.0	5.6	5.4	5.2	5.3	5.3	5.2
25 to 54 years	8.2	5.9	5.6	5.6	5.8	5.8	5.8	5.9	5.2	5.9	5.6	5.5	5.6	5.5	5.4
55 years and over	5.6	4.6	4.7	4.4	4.3	4.0	3.8	3.9	4.1	4.5	4.6	3.8	4.1	4.1	4.1
Women, 16 years and over	9.2	7.6	7.3	7.2	7.7	7.5	7.6	7.5	7.7	7.4	7.5	7.3	7.5	7.2	7.2
16 to 24 years	15.6	13.3	12.6	12.8	13.3	12.9	13.2	12.9	13.5	12.7	13.1	12.1	12.9	13.2	13.1
16 to 19 years	21.3	18.0	16.6	18.1	18.6	17.3	18.2	17.1	18.4	17.4	18.0	14.9	16.4	18.1	17.3
16 to 17 years	23.7	20.4	18.7	22.3	21.2	19.4	19.5	19.6	19.9	18.0	21.2	14.8	19.5	22.1	22.6
18 to 19 years	19.9	16.6	15.1	15.0	16.7	16.2	17.4	15.5	17.3	16.3	15.8	15.2	14.3	15.4	14.2
20 to 24 years	12.9	10.9	10.7	10.2	10.5	10.6	10.5	10.7	10.9	10.4	10.6	10.7	11.2	10.8	10.9
25 years and over	7.2	6.0	5.7	5.6	6.1	5.9	6.0	6.0	6.1	6.1	5.9	5.9	6.0	5.6	5.5
25 to 54 years	7.7	6.3	6.1	6.0	6.4	6.3	6.4	6.3	6.5	6.3	6.2	6.2	6.3	5.9	5.9
55 years and over	4.7	4.2	3.9	3.7	4.2	3.8	4.2	4.2	4.6	3.9	4.4	4.7	4.3	3.6	3.4

9. Unemployed persons by reason for unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Reason for unemployment	Annual average		1984		1985										
	1983	1984	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
Job losers	6,258	4,421	4,141	4,176	4,313	4,251	4,158	4,228	3,935	4,128	4,330	4,160	4,142	4,021	4,101
On layoff	1,780	1,171	1,068	1,070	1,229	1,240	1,163	1,209	1,059	1,124	1,130	1,099	1,175	1,165	1,207
Other job losers	4,478	3,250	3,073	3,106	3,084	3,011	2,995	3,019	2,876	3,004	3,200	3,061	2,968	2,856	2,894
Job leavers	830	823	868	856	864	865	848	839	866	1,001	952	865	839	921	799
Reentrants	2,412	2,184	2,161	2,218	2,244	2,282	2,341	2,312	2,428	2,219	2,143	2,182	2,388	2,232	2,210
New entrants	1,216	1,110	1,084	1,011	1,048	1,085	1,080	1,072	1,159	1,017	1,087	920	968	1,047	1,098
PERCENT OF UNEMPLOYED															
Job losers	58.4	51.8	50.5	50.5	50.8	50.7	49.3	50.0	46.9	49.3	51.1	51.3	50.2	48.9	50.2
On layoff	16.6	13.7	13.0	12.9	14.5	14.8	13.8	14.3	12.6	13.4	13.3	13.6	14.2	14.2	14.8
Other job losers	41.8	38.1	37.5	37.6	36.3	35.9	35.5	35.7	34.3	35.9	37.8	37.8	35.9	34.7	35.4
Job leavers	7.7	9.6	10.6	10.4	10.4	10.3	10.0	9.9	10.3	12.0	10.8	10.7	10.2	11.2	9.8
Reentrants	22.5	25.6	26.4	26.8	26.4	26.6	27.7	27.4	28.9	26.5	25.3	26.7	28.7	27.1	27.0
New entrants	11.3	13.0	12.5	12.2	12.4	12.3	12.8	12.7	13.8	12.2	12.9	11.3	11.0	12.7	13.0
PERCENT OF CIVILIAN LABOR FORCE															
Job losers	5.6	3.9	3.6	3.6	3.6	3.7	3.6	3.7	3.4	3.6	3.6	3.6	3.6	3.5	3.5
Job leavers	.7	.7	.8	.7	.8	.8	.7	.7	.8	.9	.8	.8	.7	.8	.7
Reentrants	2.2	1.9	1.9	1.9	2.0	1.9	2.0	2.0	2.1	1.9	1.9	1.9	2.0	1.9	1.9
New entrants	1.1	1.0	.9	.9	.9	.9	.9	.9	1.0	.9	1.0	.8	.8	.9	.9

10. Duration of unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Weeks of unemployment	Annual average		1984		1985										
	1983	1984	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
Less than 5 weeks	3,570	3,350	3,362	3,392	3,602	3,524	3,560	3,558	3,669	3,488	3,578	3,372	3,502	3,430	3,486
5 to 14 weeks	2,937	2,451	2,304	2,516	2,502	2,466	2,478	2,525	2,636	2,547	2,508	2,497	2,503	2,551	2,420
15 weeks and over	4,210	2,737	2,436	2,374	2,243	2,416	2,400	2,377	2,247	2,317	2,348	2,294	2,328	2,284	2,180
15 to 26 weeks	1,652	1,104	980	972	941	1,076	1,085	1,082	1,040	1,011	1,094	1,080	1,094	1,075	962
27 weeks and over	2,558	1,634	1,456	1,402	1,302	1,340	1,315	1,294	1,207	1,306	1,254	1,214	1,234	1,209	1,217
Mean duration in weeks	20.0	18.2	17.4	17.3	16.3	15.9	15.9	16.1	14.9	15.4	15.4	15.6	15.5	15.3	16.0
Median duration in weeks	10.1	7.9	7.3	7.4	6.7	7.2	7.1	6.7	6.2	6.6	7.2	7.5	6.9	7.1	7.0

11. Unemployment rates of civilian workers by State, data not seasonally adjusted

State	Oct. 1984	Oct. 1985	State	Oct. 1984	Oct. 1985
Alabama	10.5	7.8	Montana	6.1	6.8
Alaska	9.0	8.2	Nebraska	3.8	5.0
Arizona	4.4	6.4	Nevada	7.2	7.5
Arkansas	8.3	8.7	New Hampshire	3.3	2.9
California	7.0	7.2			
			New Jersey	5.1	5.5
Colorado	5.3	5.5	New Mexico	7.1	8.8
Connecticut	4.0	4.6	New York	7.1	6.6
Delaware	4.9	4.3	North Carolina	6.4	4.8
District of Columbia	8.7	8.7	North Dakota	4.1	5.1
Florida	7.0	5.9			
			Ohio	8.1	9.0
Georgia	5.8	6.7	Oklahoma	6.6	6.8
Hawaii	6.9	5.5	Oregon	8.3	6.7
Idaho	5.4	6.2	Pennsylvania	8.2	7.1
Illinois	8.8	9.2	Rhode Island	4.2	3.8
Indiana	7.8	6.9			
			South Carolina	6.9	7.2
Iowa	6.0	6.5	South Dakota	4.2	4.5
Kansas	5.0	4.6	Tennessee	7.9	7.0
Kentucky	8.5	9.2	Texas	6.3	7.6
Louisiana	9.5	10.9	Utah	6.0	5.3
Maine	5.0	3.9			
			Vermont	4.1	3.9
Maryland	5.0	4.4	Virginia	4.8	5.3
Massachusetts	3.4	3.3	Washington	8.6	7.4
Michigan	10.1	9.6	West Virginia	15.4	12.5
Minnesota	5.1	5.3	Wisconsin	6.4	6.2
Mississippi	9.9	9.4			
Missouri	6.4	5.8	Wyoming	5.0	6.1

12. Employment of workers on nonagricultural payrolls by State, data not seasonally adjusted

[In thousands]

State	Oct., 1984	Sept., 1985	Oct., 1985p	State	Oct., 1984	Sept., 1985	Oct., 1985p
Alabama	1,399.0	1,394.9	1,405.6	Nebraska	643.6	648.8	653.1
Alaska	230.8	244.1	234.5	Nevada	438.5	451.6	459.9
Arizona	1,216.0	1,251.4	1,250.2	New Hampshire	454.6	485.1	494.0
Arkansas	692.0	697.3	698.3				
California	10,703.7	10,988.6	10,978.1	New Jersey	3,380.3	3,465.1	3,480.5
				New Mexico	514.8	521.5	522.2
Colorado	1,390.2	1,402.1	1,401.0	New York	7,671.4	7,738.8	7,783.5
Connecticut	1,555.3	1,579.4	1,583.5	North Carolina	2,615.8	2,647.6	2,666.0
Delaware	280.0	294.4	295.2	North Dakota	258.1	254.0	255.4
District of Columbia	612.1	623.2	625.9				
Florida	4,273.3	4,447.9	4,480.4	Ohio	4,325.9	4,417.7	4,436.6
				Oklahoma	1,191.3	1,188.1	1,185.5
Georgia	2,527.7	2,618.4	2,653.5	Oregon	1,029.6	1,040.8	1,050.5
Hawaii	409.9	415.6	420.1	Pennsylvania	4,725.9	4,759.9	4,768.1
Idaho	332.9	342.6	343.1	Rhode Island	419.3	420.5	422.0
Illinois	4,695.6	4,708.6	4,715.2				
Indiana	2,177.5	2,251.0	2,258.5	South Carolina	1,296.3	1,347.6	1,349.7
				South Dakota	247.3	246.3	245.5
Iowa	1,080.9	1,064.4	1,072.1	Tennessee	1,837.5	1,890.8	1,896.8
Kansas	976.6	989.5	991.8	Texas	6,501.5	6,614.6	6,642.3
Kentucky	1,227.4	1,253.2	1,259.7	Utah	616.4	633.2	635.0
Louisiana	1,608.9	1,593.6	1,588.7				
Maine	468.0	484.5	484.3	Vermont	220.9	228.8	230.4
				Virginia	2,358.2	2,448.4	2,469.1
Maryland	1,832.0	1,888.7	1,904.6	Washington	1,673.6	1,716.3	1,721.6
Massachusetts	2,910.8	3,009.3	3,012.8	West Virginia	597.8	591.0	594.4
Michigan	3,405.5	3,488.7	3,508.6	Wisconsin	1,980.0	2,021.6	2,020.2
Minnesota	1,883.1	1,907.4	1,911.8				
Mississippi	840.6	852.2	856.1	Wyoming	199.3	205.6	201.7
Missouri	2,044.4	2,048.0	2,051.0	Puerto Rico	667.5	669.6	676.3
Montana	285.9	282.4	282.3	Virgin Islands	35.1	34.8	34.9

p = preliminary

13. Employment of workers on nonagricultural payrolls by industry, monthly data seasonally adjusted

[In thousands]

Industry	Annual average		1984		1985										
	1983	1984	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.p	Nov.p
TOTAL	90,196	94,461	95,882	96,092	96,410	96,591	96,910	97,120	97,401	97,473	97,707	97,977	98,217	98,571	98,753
PRIVATE SECTOR	74,326	78,477	79,764	80,010	80,310	80,480	80,767	80,964	81,188	81,260	81,366	81,634	81,765	82,062	82,245
GOODS-PRODUCING	23,334	24,730	24,935	25,056	25,112	25,062	25,053	25,070	25,046	25,010	24,971	25,015	24,962	25,045	25,073
Mining	952	974	978	973	974	976	977	962	962	974	960	965	962	958	951
Oil and gas extraction	589	613	628	624	621	620	619	633	624	619	619	615	615	606	602
Construction	3,948	4,345	4,404	4,480	4,534	4,525	4,550	4,641	4,656	4,638	4,660	4,688	4,721	4,745	4,750
General building contractors	1,020	1,158	1,179	1,190	1,210	1,214	1,223	1,230	1,234	1,233	1,239	1,242	1,252	1,261	1,273
Manufacturing	18,434	19,412	19,553	19,603	19,604	19,561	19,526	19,467	19,428	19,399	19,351	19,362	19,279	19,342	19,372
Production workers	12,530	13,310	13,376	13,409	13,399	13,347	13,306	13,249	13,203	13,169	13,137	13,145	13,087	13,140	13,176
Durable goods	10,732	11,522	11,686	11,701	11,702	11,675	11,651	11,608	11,588	11,560	11,509	11,519	11,449	11,496	11,516
Production workers	7,117	7,749	7,832	7,855	7,843	7,806	7,776	7,730	7,704	7,671	7,630	7,638	7,586	7,629	7,652
Lumber and wood products	687	707	709	711	709	704	701	694	697	694	697	700	701	707	710
Furniture and fixtures	449	487	485	487	488	488	488	487	489	494	494	490	494	496	495
Stone, clay, and glass products	570	595	599	601	602	600	601	600	599	598	599	601	598	600	600
Primary metal industries	832	858	849	844	844	840	832	823	819	815	806	799	795	799	805
Blast furnaces and basic steel products	341	334	319	318	315	313	311	308	305	304	302	290	291	292	300
Fabricated metal products	1,370	1,464	1,485	1,489	1,488	1,483	1,480	1,479	1,477	1,472	1,467	1,467	1,462	1,465	1,467
Machinery, except electrical	2,033	2,187	2,252	2,272	2,259	2,234	2,220	2,207	2,200	2,191	2,175	2,167	2,149	2,141	2,149
Electrical and electronic equipment	2,013	2,209	2,250	2,259	2,252	2,248	2,243	2,223	2,216	2,205	2,190	2,184	2,175	2,181	2,183
Transportation equipment	1,747	1,906	1,940	1,965	1,974	1,972	1,969	1,962	1,961	1,980	1,985	1,995	1,999	2,010	2,018
Motor vehicles and equipment	754	860	873	868	881	876	867	876	873	875	869	869	881	871	872
Instruments and related products	692	714	722	723	723	725	727	726	733	725	724	725	722	723	725
Miscellaneous manufacturing industries	371	384	386	386	385	381	379	377	376	376	372	373	373	374	373
Nondurable goods	7,702	7,890	7,867	7,902	7,902	7,886	7,875	7,859	7,840	7,839	7,842	7,843	7,830	7,846	7,856
Production workers	5,413	5,561	5,544	5,554	5,556	5,541	5,530	5,519	5,499	5,498	5,507	5,507	5,501	5,511	5,524
Food and kindred products	1,615	1,619	1,620	1,620	1,620	1,630	1,630	1,630	1,634	1,644	1,630	1,638	1,633	1,636	1,631
Tobacco manufactures	68	65	65	66	67	66	66	66	66	66	65	64	65	64	65
Textile mill products	741	746	726	722	720	712	706	707	701	699	696	697	695	697	699
Apparel and other textile products	1,163	1,187	1,180	1,184	1,182	1,175	1,167	1,164	1,153	1,142	1,160	1,152	1,155	1,157	1,159
Paper and allied products	661	681	682	683	680	682	682	681	682	684	684	683	681	683	685
Printing and publishing	1,290	1,372	1,397	1,397	1,403	1,406	1,407	1,411	1,414	1,419	1,426	1,429	1,427	1,430	1,439
Chemicals and allied products	1,043	1,048	1,052	1,054	1,052	1,052	1,052	1,049	1,044	1,042	1,040	1,039	1,040	1,037	1,033
Petroleum and coal products	195	189	187	186	185	184	183	182	181	180	178	176	170	170	169
Rubber and misc. plastics products	711	782	786	790	788	790	788	785	791	789	787	792	790	796	800
Leather and leather products	205	192	182	181	179	177	176	174	174	173	176	174	174	174	173
SERVICE-PRODUCING	66,862	69,731	70,927	71,047	71,307	71,529	71,854	72,030	72,355	72,460	72,727	72,962	73,255	73,526	73,680
Transportation and public utilities	4,954	5,171	5,229	5,246	5,259	5,272	5,280	5,278	5,301	5,295	5,302	5,282	5,317	5,328	5,350
Transportation	2,745	2,829	2,993	3,009	3,015	3,029	3,039	3,037	3,057	3,052	3,060	3,038	3,078	3,084	3,107
Communication and public utilities	2,209	2,342	2,236	2,237	2,244	2,243	2,241	2,241	2,244	2,243	2,242	2,244	2,239	2,242	2,243
Wholesale trade	5,259	5,550	5,647	5,665	5,686	5,697	5,714	5,733	5,748	5,768	5,773	5,791	5,805	5,836	5,850
Durable goods	3,070	3,272	3,334	3,347	3,358	3,367	3,377	3,388	3,402	3,414	3,426	3,434	3,442	3,456	3,470
Nondurable goods	2,187	2,278	2,313	2,318	2,328	2,330	2,337	2,345	2,346	2,354	2,347	2,357	2,363	2,380	2,380
Retail trade	15,613	16,584	16,894	17,026	17,080	17,160	17,249	17,289	17,332	17,425	17,453	17,514	17,539	17,608	17,586
General merchandise stores	2,165	2,276	2,357	2,329	2,341	2,343	2,349	2,348	2,371	2,361	2,344	2,354	2,356	2,361	2,330
Food stores	2,556	2,655	2,739	2,745	2,753	2,773	2,790	2,794	2,823	2,831	2,842	2,849	2,852	2,868	2,855
Automotive dealers and service stations	1,674	1,802	1,845	1,851	1,855	1,865	1,873	1,884	1,890	1,895	1,895	1,902	1,906	1,909	1,918
Eating and drinking places	5,042	5,403	5,512	5,535	5,559	5,586	5,615	5,642	5,690	5,692	5,729	5,725	5,740	5,759	5,768
Finance, insurance, and real estate	5,468	5,682	5,755	5,776	5,790	5,809	5,826	5,850	5,869	5,906	5,932	5,959	5,987	6,009	6,040
Finance	2,741	2,855	2,891	2,902	2,910	2,919	2,933	2,941	2,956	2,968	2,984	2,998	3,011	3,023	3,038
Insurance	1,720	1,753	1,774	1,780	1,783	1,789	1,782	1,790	1,808	1,814	1,817	1,827	1,831	1,836	1,845
Real estate	1,007	1,074	1,090	1,094	1,097	1,101	1,110	1,118	1,124	1,124	1,131	1,134	1,145	1,150	1,157
Services	19,694	20,761	21,184	21,252	21,382	21,480	21,644	21,729	21,813	21,886	21,986	22,073	22,155	22,245	22,386
Business services	3,562	4,076	4,234	4,250	4,286	4,324	4,377	4,402	4,424	4,441	4,446	4,489	4,504	4,534	4,558
Health services	5,986	6,104	6,130	6,154	6,169	6,186	6,204	6,218	6,240	6,243	6,280	6,291	6,306	6,329	6,364
Government	15,870	15,984	16,118	16,082	16,100	16,111	16,143	16,156	16,213	16,213	16,341	16,343	16,452	16,509	16,506
Federal	2,774	2,807	2,831	2,836	2,836	2,834	2,850	2,857	2,873	2,872	2,879	2,886	2,904	2,909	2,906
State	3,662	3,712	3,732	3,722	3,730	3,733	3,744	3,749	3,759	3,765	3,788	3,789	3,818	3,826	3,860
Local	9,434	9,465	9,555	9,524	9,534	9,544	9,549	9,550	9,581	9,576	9,675	9,668	9,730	9,774	9,740

p = preliminary

NOTE: See notes on the data for a description of the most recent benchmark revision.

14. Average weekly hours of production or nonsupervisory workers on private nonagricultural payrolls by industry, monthly data seasonally adjusted

Industry	Annual average		1984		1985										
	1983	1984	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.ᵖ	Nov.ᵖ
PRIVATE SECTOR	35.0	35.3	35.2	35.2	35.1	35.1	35.2	35.0	35.1	35.1	35.0	35.1	35.1	35.1	35.0
CONSTRUCTION	37.1	37.7	38.0	37.8	37.7	37.8	38.1	38.0	37.5	37.2	37.6	37.5	37.9	38.0	37.6
MANUFACTURING	40.1	40.7	40.5	40.6	40.6	40.1	40.4	40.2	40.4	40.4	40.3	40.6	40.7	40.7	40.7
Overtime hours	3.0	3.4	3.4	3.4	3.4	3.3	3.2	3.4	3.1	3.2	3.2	3.3	3.3	3.3	3.4
Durable goods	40.7	41.4	41.2	41.3	41.3	40.7	41.1	40.9	41.1	41.2	41.0	41.3	41.3	41.3	41.3
Overtime hours	3.0	3.6	3.6	3.6	3.6	3.5	3.5	3.6	3.2	3.3	3.3	3.4	3.5	3.4	3.6
Lumber and wood products	40.1	39.9	39.6	39.8	39.7	38.9	39.6	39.5	39.8	40.1	39.7	40.0	40.1	40.3	40.0
Furniture and fixtures	38.4	39.7	39.7	39.6	40.4	39.5	39.5	39.3	38.9	39.0	38.8	39.2	39.4	39.3	39.3
Stone, clay, and glass products	41.5	42.0	41.8	41.8	41.7	41.8	42.0	42.0	42.1	41.9	42.0	42.0	42.0	42.2	41.7
Primary metal industries	40.5	41.7	41.5	41.2	41.0	40.9	41.1	41.0	41.2	41.6	41.4	41.7	41.5	41.8	42.0
Blast furnaces and basic steel products	39.5	40.6	40.9	39.8	39.9	40.5	40.5	40.2	40.7	41.2	41.2	41.8	41.0	41.7	42.2
Fabricated metal products	40.6	41.4	41.1	41.4	41.4	40.9	41.1	41.1	41.1	41.3	41.3	41.4	41.6	41.5	41.3
Machinery except electrical	40.5	41.9	41.8	41.7	41.7	41.1	41.6	41.2	41.4	41.6	41.3	41.6	41.6	41.6	41.5
Electrical and electronic equipment	40.5	41.0	40.9	41.0	40.8	40.2	40.7	40.2	40.4	40.6	40.3	40.7	40.5	40.6	40.8
Transportation equipment	42.1	42.7	42.4	42.8	43.1	41.9	42.5	42.3	42.6	42.3	42.5	42.9	42.9	42.8	42.6
Motor vehicles and equipment	43.3	43.8	43.5	44.0	44.3	42.4	43.2	43.3	43.5	42.7	43.3	43.8	43.8	43.9	43.5
Instruments and related products	40.4	41.3	41.4	41.8	41.2	40.7	41.0	40.7	40.9	41.1	40.7	40.7	40.9	40.8	41.2
Miscellaneous manufacturing	39.1	39.4	39.3	39.3	39.2	39.0	39.1	39.0	39.3	39.4	39.0	39.3	39.8	39.9	39.6
Nondurable goods	39.4	39.6	39.5	39.6	39.5	39.3	39.4	39.1	39.4	39.4	39.4	39.6	39.8	39.9	39.8
Overtime hours	3.0	3.1	3.1	3.0	3.0	2.9	2.9	3.0	2.8	3.0	3.0	3.1	3.1	3.2	3.2
Food and kindred products	39.5	39.8	39.7	40.1	39.8	39.7	39.8	39.6	40.1	39.6	40.0	39.9	40.2	40.3	39.8
Tobacco manufacturing	37.4	38.9	39.0	38.8	38.3	39.2	36.9	35.4	37.0	36.6	34.6	36.8	36.9	38.3	36.4
Textile mill products	40.4	39.9	39.1	39.2	39.2	38.8	39.1	38.8	38.9	39.4	39.1	40.0	40.7	40.7	41.2
Apparel and other textile products	36.2	36.4	36.1	36.3	36.2	35.9	36.1	35.6	36.2	36.3	36.3	36.4	36.5	36.6	36.8
Paper and allied products	42.6	43.1	43.1	43.1	43.0	42.9	42.9	43.0	43.0	42.9	42.7	43.0	43.1	43.2	43.1
Printing and publishing	37.6	37.9	37.8	37.7	37.8	37.7	37.6	37.6	37.4	37.5	37.5	37.9	38.0	37.9	37.8
Chemicals and allied products	41.6	41.9	41.8	41.9	42.0	41.9	42.1	41.9	41.9	42.0	41.8	41.8	41.6	41.8	41.8
Petroleum and coal products	43.9	43.7	43.4	43.0	43.2	43.1	43.3	42.0	41.7	42.5	42.9	43.3	43.4	44.0	42.9
Leather and leather products	36.8	36.8	36.6	36.9	36.8	36.4	37.1	37.0	37.1	37.0	37.0	37.3	37.8	37.9	38.1
TRANSPORTATION AND PUBLIC UTILITIES	39.0	39.4	39.4	39.3	39.3	39.4	39.5	39.4	39.5	39.5	39.2	39.6	39.5	39.5	39.1
WHOLESALE TRADE	38.5	38.6	38.6	38.6	38.6	38.6	38.7	38.6	38.7	38.8	38.6	38.6	38.7	38.6	38.5
RETAIL TRADE	29.8	30.0	29.9	29.9	29.8	29.8	29.8	29.7	29.9	29.9	29.7	29.6	29.6	29.5	29.5
SERVICES	32.7	32.8	32.8	32.9	32.7	32.8	32.8	32.7	32.8	32.8	32.7	32.8	32.8	32.9	32.7

ᵖ = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark adjustment.

15. Average hourly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1984		1985										
	1983	1984	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.ᵖ	Nov.ᵖ
PRIVATE SECTOR	$8.02	$8.33	$8.43	$8.46	$8.50	$8.52	$8.52	$8.54	$8.53	$8.56	$8.54	$8.54	$8.66	$8.65	$8.67
Seasonally adjusted	–	–	8.42	8.47	8.44	8.49	8.52	8.54	8.55	8.59	8.57	8.60	8.65	8.64	8.67
MINING	11.28	11.63	11.63	11.70	11.88	11.90	11.91	11.93	11.86	11.99	11.88	11.95	12.00	11.95	11.95
CONSTRUCTION	11.94	12.12	12.10	12.26	12.30	12.33	12.22	12.21	12.19	12.12	12.16	12.22	12.40	12.36	12.21
MANUFACTURING	8.83	9.18	9.31	9.40	9.43	9.43	9.45	9.48	9.48	9.50	9.53	9.48	9.55	9.54	9.62
Durable goods	9.39	9.74	9.85	9.96	9.99	9.96	10.01	10.03	10.04	10.08	10.10	10.05	10.15	10.14	10.21
Lumber and wood products	7.80	8.03	8.06	8.09	8.10	8.09	8.08	8.04	8.12	8.24	8.20	8.26	8.31	8.28	8.28
Furniture and fixtures	6.62	6.85	6.95	6.99	7.01	7.01	7.07	7.08	7.11	7.18	7.22	7.22	7.29	7.30	7.32
Stone, clay, and glass products	9.28	9.57	9.67	9.68	9.70	9.73	9.71	9.80	9.80	9.84	9.89	9.87	9.90	9.85	9.87
Primary metal industries	11.35	11.47	11.49	11.49	11.55	11.60	11.66	11.64	11.64	11.65	11.78	11.63	11.69	11.62	11.77
Blast furnaces and basic steel products	12.89	12.99	12.89	12.95	13.07	13.42	13.27	13.32	13.31	13.29	13.51	13.37	13.45	13.38	13.54
Fabricated metal products	9.12	9.38	9.44	9.58	9.59	9.59	9.62	9.64	9.63	9.65	9.66	9.61	9.70	9.68	9.71
Machinery, except electrical	9.55	9.96	10.07	10.16	10.13	10.14	10.15	10.17	10.22	10.28	10.31	10.27	10.39	10.40	10.48
Electrical and electronic equipment	8.67	9.04	9.20	9.32	9.33	9.33	9.39	9.40	9.39	9.46	9.47	9.50	9.55	9.56	9.63
Transportation equipment	11.67	12.22	12.45	12.62	12.67	12.63	12.59	12.63	12.63	12.66	12.65	12.65	12.78	12.76	12.82
Motor vehicles and equipment	12.14	12.74	13.02	13.27	13.41	13.35	13.29	13.40	13.38	13.39	13.38	13.34	13.51	13.47	13.56
Instruments and related products	8.48	8.85	8.95	9.03	9.00	9.11	9.10	9.11	9.13	9.15	9.20	9.22	9.26	9.26	9.28
Miscellaneous manufacturing	6.81	7.04	7.06	7.16	7.23	7.19	7.20	7.22	7.28	7.28	7.30	7.28	7.30	7.29	7.28
Nondurable goods	8.08	8.37	8.52	8.55	8.59	8.60	8.61	8.67	8.64	8.65	8.72	8.67	8.70	8.69	8.77
Food and kindred products	8.19	8.38	8.43	8.45	8.48	8.51	8.53	8.59	8.58	8.56	8.54	8.47	8.51	8.49	8.60
Tobacco manufactures	10.38	11.27	11.93	11.17	11.39	11.80	12.00	12.16	12.65	12.83	12.81	12.44	11.47	11.45	12.45
Textile mill products	6.18	6.46	6.55	6.57	6.59	6.60	6.64	6.70	6.68	6.69	6.39	6.72	6.75	6.77	6.80
Apparel and other textile products	5.38	5.55	5.61	5.66	5.73	5.70	5.73	5.74	5.69	5.70	5.70	5.66	5.75	5.74	5.76
Paper and allied products	9.93	10.41	10.64	10.66	10.63	10.64	10.64	10.72	10.75	10.79	10.91	10.86	10.90	10.89	10.99
Printing and publishing	9.11	9.40	9.56	9.57	9.58	9.60	9.61	9.60	9.60	9.61	9.67	9.73	9.79	9.77	9.81
Chemicals and allied products	10.58	11.08	11.31	11.34	11.39	11.39	11.37	11.48	11.46	11.52	11.60	11.62	11.67	11.71	11.84
Petroleum and coal products	13.28	13.43	13.66	13.62	13.96	13.99	14.06	14.18	14.00	13.97	14.03	13.99	14.07	13.94	14.04
Rubber and miscellaneous plastics products	8.00	8.29	8.40	8.44	8.49	8.48	8.46	8.46	8.45	8.50	8.54	8.51	8.55	8.54	8.60
Leather and leather products	5.54	5.70	5.76	5.80	5.82	5.79	5.82	5.84	5.83	5.83	5.83	5.80	5.82	5.77	5.84
TRANSPORTATION AND PUBLIC UTILITIES	10.79	11.11	11.25	11.28	11.26	11.27	11.24	11.27	11.24	11.32	11.35	11.40	11.52	11.47	11.53
WHOLESALE TRADE	8.55	8.96	9.06	9.19	9.16	9.22	9.19	9.24	9.24	9.26	9.27	9.25	9.33	9.24	9.32
RETAIL TRADE	5.74	5.88	5.93	5.89	5.97	5.99	5.97	5.96	5.97	5.94	5.93	5.91	5.99	5.97	6.01
FINANCE, INSURANCE, AND REAL ESTATE	7.29	7.62	7.71	7.78	7.77	7.87	7.87	7.85	7.83	7.95	7.87	7.90	8.03	8.01	8.03
SERVICES	7.31	7.64	7.77	7.84	7.84	7.87	7.87	7.89	7.88	7.91	7.86	7.87	8.04	8.04	8.09

– Data not available.
ᵖ = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

16. Average weekly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1984		1985										
	1983	1984	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.p	Nov.p
PRIVATE SECTOR															
Current dollars	$290.70	$294.05	$295.89	$300.33	$294.95	$294.79	$298.20	$298.05	$298.95	$303.02	$301.46	$302.32	$305.54	$303.62	$302.58
Seasonally adjusted	–	–	296.36	298.14	296.24	296.00	299.90	298.90	300.11	301.51	299.95	301.86	303.62	303.26	303.45
Constant (1977) dollars	171.26	173.48	172.23	174.61	171.28	170.50	171.08	170.60	170.50	172.50	171.48	171.88	173.01	171.54	–
MINING	479.40	503.58	505.91	515.97	508.79	514.08	519.28	516.57	515.91	523.96	509.65	517.44	524.40	517.44	517.44
CONSTRUCTION	442.87	456.92	451.33	460.08	447.72	451.28	460.69	461.54	464.44	461.77	469.38	466.03	477.40	473.30	450.55
MANUFACTURING															
Current dollars	354.08	373.63	378.92	387.26	380.03	374.37	381.76	380.15	382.04	385.70	382.15	382.99	389.64	388.28	392.50
Constant (1977) dollars	216.03	220.43	220.56	225.16	220.60	216.52	219.79	217.85	216.18	219.65	217.38	217.48	220.83	219.37	–
Durable goods	382.17	409.24	407.79	419.32	410.59	403.60	412.41	410.23	411.84	417.31	410.06	412.05	420.21	418.78	423.72
Lumber and wood products	312.78	320.40	315.95	321.98	315.90	309.85	317.56	317.58	325.61	336.19	325.54	333.70	337.39	334.51	327.86
Furniture and fixtures	260.83	271.95	276.70	283.79	276.19	270.59	277.85	276.83	275.16	281.46	276.53	285.19	290.14	291.27	290.60
Stone, clay, and glass products	385.12	401.94	406.14	404.62	392.85	393.09	404.91	411.60	415.52	418.20	418.35	418.49	420.75	418.83	413.55
Primary metal industries	459.86	478.30	475.09	477.98	473.55	478.12	481.56	480.73	479.57	486.87	485.34	480.32	487.47	481.07	484.34
Blast furnaces and basic steel products	509.16	527.30	524.80	516.71	517.57	544.85	540.09	547.45	543.06	552.96	559.31	550.84	554.14	547.24	564.62
Fabricated metal products	370.27	388.33	389.87	405.20	395.11	387.44	396.34	395.24	395.79	400.48	394.13	395.93	403.52	401.72	402.97
Machinery, except electrical	388.78	417.32	422.94	434.85	422.42	415.74	424.27	417.99	421.06	427.65	420.65	422.10	432.22	430.56	437.92
Electrical and electronic equipment	351.14	370.84	379.04	389.58	379.73	373.20	383.11	378.00	377.48	385.02	376.91	383.80	387.73	388.14	395.79
Transportation equipment	491.31	521.79	531.62	554.02	546.08	524.15	537.59	536.04	536.30	539.32	531.30	531.30	544.43	544.85	549.98
Motor vehicles and equipment	525.66	556.01	565.07	587.15	584.06	559.37	576.79	566.82	567.38	579.79	574.00	566.95	566.33	568.64	566.50
Instruments and related products	342.50	365.51	373.22	382.87	369.90	369.87	374.01	368.96	372.50	376.07	370.76	373.41	381.41	376.88	384.19
Miscellaneous manufacturing	266.27	277.38	280.99	285.08	279.06	276.82	282.24	280.86	285.38	286.10	281.76	284.59	292.00	293.79	291.13
Nondurable goods	318.35	331.45	337.39	342.00	336.73	333.66	336.37	337.26	339.55	342.54	341.82	344.20	346.00	346.73	350.60
Food and kindred products	323.51	333.52	337.20	342.23	334.98	331.69	335.23	336.73	343.20	340.29	341.60	341.34	347.21	343.00	344.96
Tobacco manufactures	388.21	436.40	460.78	433.40	424.85	442.50	452.40	424.38	469.32	483.69	437.65	461.52	438.15	449.99	468.12
Textile mill products	249.67	257.75	257.42	258.86	257.01	254.10	258.98	257.28	260.52	266.93	258.23	270.14	275.40	276.89	281.52
Apparel and other textile products	194.76	202.02	203.06	206.75	205.13	202.35	206.65	203.20	205.98	209.19	206.34	207.32	209.88	211.23	212.54
Paper and allied products	423.02	446.67	460.71	466.91	456.03	451.14	454.33	458.62	460.10	463.97	465.86	466.89	473.06	470.45	475.87
Printing and publishing	342.54	356.29	364.24	366.53	359.25	358.08	362.30	360.00	358.08	358.45	360.09	369.74	373.96	370.28	373.76
Chemicals and allied products	440.13	464.25	473.80	480.82	477.24	476.10	478.66	481.01	480.17	484.99	482.56	483.39	487.81	487.14	496.10
Petroleum and coal products	582.90	588.89	596.94	584.30	597.49	594.56	601.77	595.56	583.80	596.52	606.10	605.77	620.49	614.75	606.53
Rubber and miscellaneous plastics products	320.00	345.66	349.44	356.32	352.34	343.44	347.71	346.83	345.61	350.20	346.72	346.36	351.41	350.99	353.46
Leather and leather products	203.87	209.76	210.82	215.16	211.85	207.20	212.43	215.60	218.04	221.54	218.63	216.82	219.41	216.95	222.50
TRANSPORTATION AND PUBLIC UTILITIES	420.81	437.73	444.38	445.56	438.01	440.66	441.73	441.78	441.73	449.40	448.33	454.86	457.34	453.07	451.96
WHOLESALE TRADE	329.16	345.86	351.40	357.40	351.74	352.20	353.82	354.82	357.59	360.99	359.06	358.90	362.00	357.59	359.75
RETAIL TRADE	171.05	176.40	176.12	179.65	173.73	174.31	175.52	175.22	177.91	179.39	180.27	179.07	177.90	175.52	176.09
FINANCE, INSURANCE, AND REAL ESTATE	263.90	278.13	280.64	285.53	282.83	286.47	286.47	285.74	284.23	291.77	285.68	286.77	292.29	289.96	289.66
SERVICES	239.04	250.59	254.08	257.94	254.80	256.56	256.56	257.21	257.68	261.03	260.17	260.50	263.71	263.71	263.73

- Data not available.
p = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

17. The Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Not seasonally adjusted					Seasonally adjusted						
	Oct. 1984	Aug. 1985	Sept. 1985p	Oct. 1985p	Percent change from: Oct. 1984 to Oct. 1985	Oct. 1984	June 1985	July 1985	Aug. 1985	Sept. 1985p	Oct. 1985p	Percent change from: Sept. 1985 to Oct. 1985
PRIVATE SECTOR (in current dollars)	161.7	165.1	166.9	166.6	3.2	161.6	165.7	165.4	165.7	166.6	166.7	0.1
Mining	174.8	178.8	178.5	179.4	2.6	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Construction	149.5	149.8	151.7	151.7	1.5	147.7	149.3	149.1	149.4	149.9	149.9	.1
Manufacturing	163.9	166.6	169.2	169.2	3.2	164.1	168.6	169.0	169.3	169.1	169.4	.2
Transportation and public utilities	163.3	166.9	168.0	167.8	2.6	162.8	166.5	166.0	166.1	167.0	167.1	.1
Wholesale trade	166.7	170.8	172.3	172.3	3.3	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Retail trade	153.7	156.3	157.3	156.8	2.0	154.0	155.9	156.6	156.0	157.2	157.1	−.1
Finance, insurance, and real estate	166.3	171.2	173.6	173.4	4.3	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Services	164.1	168.2	171.3	171.4	4.4	164.1	169.6	169.0	169.6	171.3	171.4	(2)
PRIVATE SECTOR (in constant dollars)	94.0	93.6	94.5	(3)	(3)	94.1	94.5	94.3	94.3	94.6	(3)	(3)

[1] This series is not seasonally adjusted because the seasonal component is small relative to the trend-cycle, irregular components, or both, and consequently cannot be separated with sufficient precision.

[2] Percent change is less than 0.05 percent.

[3] Not available.

p = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

18. Indexes of diffusion: industries in which employment increased, data seasonally adjusted

(In percent)

Time span and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Over 1-month span												
1983	52.2	45.9	59.7	70.0	69.9	69.0	72.7	68.5	73.2	74.1	69.8	69.9
1984	67.3	72.7	69.8	67.3	60.5	64.3	65.7	58.1	48.4	66.5	56.1	63.5
1985	57.8	50.3	55.9	44.6	50.3	47.0	54.9	56.9	[1] 43.5	[1] 63.8	–	–
Over 3-month span												
1983	46.2	53.2	63.0	73.5	71.9	73.8	72.7	80.3	80.8	78.8	74.6	74.3
1984	78.1	75.9	77.6	68.9	60.7	67.0	65.4	60.3	60.0	58.5	67.0	60.0
1985	58.6	54.1	46.8	45.9	44.1	49.7	50.5	[1] 48.9	[1] 52.4	–	–	–
Over 6-month span												
1983	50.0	62.4	65.7	67.8	74.3	78.4	79.7	79.5	78.9	79.2	78.7	78.4
1984	79.2	77.8	77.3	75.4	69.2	64.9	63.2	64.1	67.0	59.7	57.6	60.3
1985	52.2	48.5	44.3	44.6	44.3	[1] 41.4	[1] 47.3	–	–	–	–	–
Over 12-month span												
1983	46.6	56.1	61.4	68.6	72.4	75.1	77.0	79.7	78.4	80.8	81.8	81.1
1984	81.9	78.4	76.8	75.1	72.7	73.0	70.0	65.7	63.5	60.5	[1] 55.4	[1] 51.6
1985	50.8	48.4	[1] 48.9	[1] 48.8	–	–	–	–	–	–	–	–

[1] Preliminary data.

– Data not available.

NOTE: Figures are the percent of industries with employment rising. (Half of the unchanged components are counted as rising.) Data are centered within the spans. See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

19. Annual data: Employment status of the noninstitutional population

(Number in thousands)

Employment status	1976	1977	1978	1979	1980	1981	1982	1983	1984
Noninstitutional population	157,818	160,689	163,541	166,460	169,349	171,775	173,939	175,891	178,080
Labor force									
Total (number)	97,826	100,665	103,882	106,559	108,544	110,315	111,872	113,226	115,241
Percent of population	62.0	62.6	63.5	64.0	64.1	64.2	64.3	64.4	64.7
Employed									
Total (number)	90,420	93,673	97,679	100,421	100,907	102,042	101,194	102,510	106,702
Percent of population	–	–	–	–	–	–	–	–	–
Resident Armed Forces	1668.0	1656.0	1631.0	1597.0	1604.0	1645.0	1668.0	1676.0	1697.0
Civilian									
Total	88,752	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005
Agriculture	3,331	3,283	3,387	3,347	3,364	3,368	3,401	3,383	3,321
Nonagricultural industries	85,421	88,734	92,661	95,477	95,938	97,030	96,125	97,450	101,685
Unemployed									
Total (number)	7,406	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539
Percent of labor force	7.6	6.9	6.0	5.8	7.0	7.5	9.5	9.5	7.4
Not in labor force (number)	59,991	60,025	59,659	59,900	60,806	61,460	62,067	62,665	62,839

– Data not available.

20. Annual data: Employment levels by industry

(Number in thousands)

Industry	1976	1977	1978	1979	1980	1981	1982	1983	1984
Total employment	79,382	82,471	86,697	89,823	90,406	91,156	89,566	90,196	94,461
Private sector	64,511	67,344	71,026	73,876	74,166	75,126	73,729	74,330	78,477
Goods-producing	23,352	24,346	25,585	26,461	25,658	25,497	23,813	23,334	24,730
Mining	779	813	851	958	1,027	1,139	1,128	952	974
Construction	3,576	3,851	4,229	4,463	4,346	4,188	3,905	3,948	4,345
Manufacturing	18,997	19,682	20,505	21,040	20,285	20,170	18,781	18,434	19,412
Service-producing	56,030	58,125	61,113	63,363	64,748	65,659	65,753	66,862	69,731
Transportation and public utilities	4,582	4,713	4,923	5,136	5,146	5,165	5,082	4,954	5,171
Wholesale trade	4,546	4,708	4,969	5,204	5,275	5,358	5,278	5,268	5,550
Retail trade	13,209	13,808	14,573	14,989	15,035	15,189	15,179	15,613	16,584
Finance, insurance, and real estate	4,271	4,467	4,724	4,975	5,160	5,298	5,341	5,468	5,682
Services	14,551	15,303	16,252	17,112	17,890	18,619	19,036	19,694	20,761
Government	14,871	15,127	15,672	15,947	16,241	16,031	15,837	15,869	15,984
Federal	2,733	2,727	2,753	2,773	2,866	2,772	2,739	2,774	2,807
State	3,273	3,377	3,474	3,541	3,610	3,640	3,640	3,662	3,712
Local	8,865	9,023	9,446	9,633	9,765	9,619	9,458	9,434	9,465

NOTE: Data include Alaska and Hawaii beginning in 1959. See "Notes on the data" for a description of the most recent benchmark revision.

21. Annual data: Average hours and earnings of production or nonsupervisory workers on nonagricultural payrolls, by industry

Industry	1976	1977	1978	1979	1980	1981	1982	1983	1984
Private sector									
Average weekly hours	36.1	36.0	35.8	35.7	35.3	35.2	34.8	35.0	35.3
Average hourly earnings	4.86	5.25	5.69	6.16	6.66	7.25	7.68	8.02	8.33
Average weekly earnings	175.45	189.00	203.70	219.91	235.10	255.20	267.26	280.70	294.05
Mining									
Average weekly hours	42.4	43.4	43.4	43.0	43.3	43.7	42.7	42.5	43.3
Average hourly earnings	6.46	6.94	7.67	8.49	9.17	10.04	10.77	11.28	11.63
Average weekly earnings	273.90	301.20	332.88	365.07	397.06	438.75	459.88	479.40	503.58
Construction									
Average weekly hours	36.8	36.5	36.8	37.0	37.0	36.9	36.7	37.1	37.7
Average hourly earnings	7.71	8.10	8.66	9.27	9.94	10.82	11.63	11.94	12.12
Average weekly earnings	283.73	295.65	318.69	342.99	367.78	399.26	426.82	442.97	456.92
Manufacturing									
Average weekly hours	40.1	40.3	40.4	40.2	39.7	39.8	38.9	40.1	40.7
Average hourly earnings	5.22	5.68	6.17	6.70	7.27	7.99	8.49	8.83	9.18
Average weekly earnings	209.32	228.90	249.27	269.34	288.62	318.00	330.26	354.08	373.63
Transportation and public utilities									
Average weekly hours	39.8	39.9	40.0	39.9	39.6	39.4	39.0	39.0	39.4
Average hourly earnings	6.45	6.99	7.57	8.16	8.87	9.70	10.32	10.79	11.11
Average weekly earnings	256.71	278.90	302.80	325.58	351.25	382.18	402.48	420.81	437.73
Wholesale trade									
Average weekly hours	38.7	38.8	38.8	38.8	38.5	38.5	38.3	38.5	38.6
Average hourly earnings	5.03	5.39	5.88	6.39	6.96	7.56	8.09	8.55	8.96
Average weekly earnings	194.66	209.13	228.14	247.93	267.96	291.06	309.85	329.18	345.86
Retail trade									
Average weekly hours	32.1	31.6	31.0	30.6	30.2	30.1	29.9	29.8	30.0
Average hourly earnings	3.57	3.85	4.20	4.53	4.88	5.25	5.48	5.74	5.88
Average weekly earnings	114.60	121.66	130.20	138.62	147.38	158.03	163.85	171.05	176.40
Finance, insurance, and real estate									
Average weekly hours	36.4	36.4	36.4	36.2	36.2	36.3	36.2	36.2	36.5
Average hourly earnings	4.27	4.54	4.89	5.27	5.79	6.31	6.78	7.29	7.62
Average weekly earnings	155.43	165.26	178.00	190.77	209.60	229.05	245.44	263.90	278.13
Services									
Average weekly hours	33.3	33.0	32.8	32.7	32.6	32.6	32.6	32.7	32.8
Average hourly earnings	4.31	4.65	4.99	5.36	5.85	6.41	6.92	7.31	7.64
Average weekly earnings	143.52	153.45	163.67	175.27	190.71	208.97	225.59	239.04	250.59

22. Employment Cost Index, compensation,[1] by occupation and industry group

(June 1981 = 100)

Series	1983		1984				1985			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept., 1985	
Civilian workers [2]	116.5	117.8	119.8	120.8	122.4	123.9	125.5	126.4	128.4	1.6	4.9
Workers, by occupational group:											
White-collar workers	117.6	118.9	120.9	122.1	124.0	125.5	127.3	128.3	130.7	1.9	5.4
Blue-collar workers	114.8	115.8	117.7	118.6	119.6	120.9	122.2	123.1	124.4	1.1	4.0
Service workers	116.7	119.1	122.0	122.1	124.6	126.8	127.8	128.0	130.9	2.3	5.1
Workers, by industry division:											
Manufacturing	115.0	116.0	117.9	119.1	120.4	122.0	123.9	124.6	125.5	.7	4.2
Nonmanufacturing	117.2	118.6	120.7	121.6	123.3	124.8	126.2	127.2	129.7	2.0	5.2
Services	121.1	122.6	125.0	125.5	128.8	130.9	131.9	132.6	136.4	2.9	5.9
Public administration [3]	119.8	121.4	122.9	123.7	126.9	128.6	130.1	130.3	134.2	3.0	5.8
Private industry workers	115.6	117.0	119.0	120.1	121.1	122.7	124.2	125.2	126.8	1.3	4.7
Workers, by occupational group:											
White-collar workers	116.5	117.9	119.9	121.4	122.4	123.9	125.8	127.1	128.8	1.3	5.2
Blue-collar workers	114.6	115.7	117.5	118.4	119.3	120.6	121.9	122.8	124.0	1.0	3.9
Service workers	115.1	117.9	121.5	121.2	123.2	125.7	126.3	126.5	128.8	1.8	4.5
Workers, by industry division:											
Manufacturing	115.0	116.0	117.9	119.1	120.4	122.0	123.9	124.6	125.5	.7	4.2
Nonmanufacturing	116.0	117.5	119.6	120.7	121.6	123.1	124.4	125.6	127.6	1.6	4.9
State and local government workers	120.8	122.0	123.9	124.4	128.8	130.1	131.7	132.0	136.5	3.4	6.0
Workers, by occupational group:											
White-collar workers	121.5	122.8	124.5	125.0	129.7	131.1	132.5	132.9	137.6	3.5	6.1
Blue-collar workers	118.0	119.2	121.9	122.3	125.0	125.9	128.1	128.5	131.9	2.6	5.5
Workers, by industry division:											
Services	121.7	122.6	124.5	125.0	129.9	131.3	132.8	133.2	137.9	3.5	6.2
Schools	121.9	122.6	124.5	124.7	130.6	132.0	133.4	133.7	139.1	4.0	6.5
Elementary and secondary	123.3	123.9	125.4	125.7	132.1	133.5	134.4	134.6	140.9	4.7	6.7
Hospitals and other services[4]	121.1	122.6	124.4	125.7	127.9	129.2	131.1	131.5	134.1	2.0	4.8
Public administration[3]	119.8	121.4	122.9	123.7	126.9	128.6	130.1	130.3	134.2	3.0	5.6

[1] Cost (cents-per-hour worked) measured in the Employment Cost Index consists of wages, salaries and employer cost of employee benefits.

[2] Consist of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[3] Consists of legislative, judicial, administrative, and regulatory activities.

[4] Includes, for example, library, social, and health services.

23. Employment Cost Index, wages and salaries, by occupation and industry group

(June 1981=100)

Series	1983		1984				1985			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept., 1985	
Civilian workers [1]	115.3	116.5	117.9	118.8	120.3	121.7	123.1	124.2	126.3	1.7	5.0
Workers, by occupational group:											
White-collar workers	116.7	117.9	119.3	120.4	122.2	123.5	125.2	126.4	128.8	1.9	5.4
Blue-collar workers	113.1	114.0	115.3	116.1	117.0	118.2	119.3	120.5	122.0	1.2	4.3
Service workers	115.1	117.4	120.0	119.8	122.3	124.3	124.8	125.3	128.0	2.2	4.7
Workers, by industry division											
Manufacturing	113.3	114.5	115.7	116.8	118.0	119.5	121.0	122.3	123.2	.7	4.4
Nonmanufacturing	116.1	117.4	118.9	119.7	121.3	122.6	123.9	125.0	127.6	2.1	5.2
Services	120.1	121.3	123.3	123.8	127.2	128.9	129.7	130.5	134.2	2.8	5.5
Public administration [2]	118.2	119.4	120.4	121.3	124.4	125.7	127.0	127.2	131.4	3.3	5.6
Private industry workers	114.5	115.8	117.2	118.2	119.2	120.6	122.0	123.3	124.9	1.3	4.8
Workers, by occupational group:											
White-collar workers	115.9	117.2	118.5	119.9	120.9	122.3	124.0	125.5	127.3	1.4	5.3
Professional and technical	119.9	120.4	122.2	123.6	125.2	127.3	127.7	128.7	131.2	1.9	4.8
Managers and administrators	114.8	115.7	118.0	119.2	121.0	122.2	123.8	126.5	127.7	.9	5.5
Salesworkers	108.4	111.2	110.2	111.9	110.5	111.6	116.3	117.4	119.3	1.6	8.0
Clerical workers	116.7	118.3	119.8	120.7	122.0	122.9	124.7	125.6	127.1	1.2	4.2
Blue-collar workers	112.9	113.9	115.1	115.9	116.7	118.0	119.1	120.3	121.7	1.2	4.3
Craft and kindred workers	114.3	115.4	116.5	117.3	118.0	119.4	120.8	122.0	123.7	1.4	4.8
Operatives, except transport	112.3	113.6	114.9	115.8	116.6	117.9	118.9	120.1	121.1	.8	3.9
Transport equipment operatives	110.7	110.2	111.7	112.7	113.4	114.0	114.5	115.7	117.7	1.7	3.8
Nonfarm laborers	110.8	112.1	112.9	114.1	114.7	115.9	116.7	118.5	118.6	.1	3.4
Service workers	113.7	116.5	119.8	119.3	121.2	123.7	123.8	124.4	126.3	1.5	4.2
Workers, by industry division:											
Manufacturing	113.3	114.5	115.7	116.8	118.0	119.5	121.0	122.3	123.2	.7	4.4
Durables	112.9	114.4	115.7	116.6	117.7	119.1	120.6	122.0	122.7	.6	4.2
Nondurables	113.9	114.6	115.8	117.1	118.6	120.2	121.6	122.6	124.0	1.1	4.6
Nonmanufacturing	115.2	116.5	118.0	119.0	119.9	121.2	122.6	123.9	125.9	1.6	5.0
Construction	112.2	112.9	113.3	114.0	114.3	114.4	115.5	116.6	117.3	.6	2.6
Transportation and public utilities	115.7	116.8	118.5	119.3	119.9	120.7	121.7	122.8	124.8	1.6	4.1
Wholesale and retail trade	111.5	112.3	114.3	116.0	116.5	118.1	118.8	121.1	122.7	1.3	5.3
Wholesale trade	115.7	116.5	118.2	120.0	120.7	122.9	123.7	126.8	127.7	.7	5.8
Retail trade	109.9	110.6	112.8	114.4	114.9	116.2	116.9	118.9	120.8	1.6	5.1
Finance, insurance, and real estate	113.5	116.9	116.1	116.9	115.3	115.8	122.0	121.7	124.1	2.0	7.6
Services	120.4	121.9	124.2	124.7	127.1	129.5	129.9	131.0	133.9	2.2	5.4
State and local government workers	119.2	120.0	121.6	122.0	126.1	127.1	128.4	128.7	133.2	3.5	5.6
Workers, by occupational group											
White-collar workers	119.8	120.6	122.2	122.5	127.1	128.0	129.3	129.6	134.3	3.6	5.7
Blue-collar workers	116.4	116.9	119.1	119.6	121.9	122.5	124.2	124.5	127.9	2.7	4.9
Workers, by industry division											
Services	119.8	120.6	122.2	122.5	127.2	128.1	129.4	129.7	134.5	3.7	5.7
Schools	119.9	120.6	122.2	122.3	127.8	128.7	129.9	130.2	135.8	4.3	6.3
Elementary and secondary	121.1	121.7	122.9	123.0	129.3	130.2	130.8	131.1	137.5	4.9	6.3
Hospitals and other services [3]	119.7	120.6	121.9	123.1	125.1	125.9	127.7	128.0	130.2	1.7	4.1
Public administration [2]	118.2	119.4	120.4	121.3	124.4	125.7	127.0	127.2	131.4	3.3	5.6

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[1] Consist of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[2] Consist of legislative, judicial, administrative, and regulatory activities.

[3] Includes, for example, library, social and health services.

24. Employment Cost Index, private nonfarm workers, by bargaining status, region, and area size

(June 1981 = 100)

Series	1983		1984				1985			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept., 1985	
COMPENSATION											
Workers, by bargaining status[1]											
Union	117.8	118.8	120.6	121.7	122.6	123.9	124.8	125.5	126.5	0.8	3.2
Manufacturing	116.3	117.2	119.3	120.5	121.6	123.2	124.2	124.2	125.0	.6	2.8
Nonmanufacturing	119.2	120.4	121.9	122.8	123.6	124.5	125.3	126.6	127.8	.9	3.4
Nonunion	114.4	115.9	118.0	119.2	120.3	121.9	123.8	125.0	126.8	1.4	5.4
Manufacturing	113.8	114.9	116.6	117.9	119.3	120.8	123.6	124.8	125.7	.7	5.4
Nonmanufacturing	114.7	116.4	118.6	119.8	120.7	122.4	123.9	125.1	127.3	1.8	5.5
Workers, by region[1]											
Northeast	116.0	117.5	118.9	120.7	122.4	123.6	125.1	126.4	128.8	1.9	5.2
South	115.6	117.1	119.7	120.7	120.7	122.2	124.2	125.2	126.5	1.0	4.8
Midwest (formerly North Central)	113.9	114.7	117.2	117.9	119.7	120.8	122.0	122.7	124.2	1.2	3.8
West	118.0	120.0	121.0	122.2	122.5	124.9	126.8	127.9	129.1	.9	5.4
Workers, by area size[1]											
Metropolitan areas	116.0	117.4	119.4	120.6	121.5	123.2	124.7	125.7	127.3	1.3	4.8
Other areas	113.4	114.5	116.7	117.4	119.0	119.8	121.4	122.5	123.9	1.1	4.1
WAGES AND SALARIES											
Workers, by bargaining status[1]											
Union	116.0	116.9	118.1	119.0	119.8	120.9	121.7	123.0	124.1	.9	3.6
Manufacturing	113.7	114.8	116.1	117.1	118.1	119.5	120.4	121.7	122.8	.9	4.0
Nonmanufacturing	118.3	118.9	120.1	120.7	121.3	122.1	122.8	124.1	125.3	1.0	3.3
Nonunion	113.7	115.2	116.7	117.8	118.8	120.4	122.1	123.4	125.2	1.5	5.4
Manufacturing	113.0	114.2	115.4	116.5	117.9	119.5	121.5	122.8	123.7	.7	4.9
Nonmanufacturing	114.0	115.6	117.2	118.3	119.2	120.7	122.3	123.6	125.9	1.9	5.6
Workers, by region[1]											
Northeast	115.3	116.6	117.4	118.9	120.5	121.9	123.0	124.6	126.8	1.8	5.2
South	114.3	115.7	117.9	119.0	119.0	120.2	122.3	123.4	124.8	1.1	4.9
Midwest (formerly North Central)	112.8	113.6	115.5	116.0	117.8	118.7	119.6	121.1	122.5	1.2	4.0
West	116.5	118.5	118.8	119.6	120.0	122.5	124.0	125.1	126.6	1.2	5.5
Workers, by area size[1]											
Metropolitan areas	114.9	116.2	117.6	118.6	119.5	121.0	122.4	123.8	125.5	1.4	5.0
Other areas	112.3	113.4	115.1	116.0	117.5	118.3	119.6	120.6	121.9	1.1	3.7

[1] The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the Monthly Labor Review Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

25. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		Quarterly average							
	1983	1984	1983	1984				1985		
			IV	I	II	III	IV	I[p]	II[p]	III[p]
Specified adjustments:										
Total compensation[1] adjustments,[2] settlements covering 5,000 workers or more:										
First year of contract	3.4	3.6	4.9	5.1	3.5	2.7	3.7	4.4	3.5	1.7
Annual rate over life of contract	3.0	2.8	3.1	4.7	3.2	3.1	2.0	4.0	3.5	2.9
Wage adjustments, settlements covering 1,000 workers or more:										
First year of contract	2.6	2.4	4.2	2.8	2.6	2.1	2.3	3.4	2.5	1.7
Annual rate over life of contract	2.8	2.4	2.8	3.3	2.7	2.6	1.5	3.2	2.9	2.9
Effective adjustments:										
Total effective wage adjustment[3]	4.0	3.7	1.1	.9	.9	1.2	.7	.7	.8	1.2
From settlements reached in period	.8	.8	.6	.1	.1	.2	.3	.1	.2	.2
Deferred from settlements reached in earlier periods	2.5	2.0	.3	.4	.7	.7	.2	.6	.5	.6
From cost-of-living-adjustments clauses	.6	.9	.2	.3	.2	.3	.2	.1	.1	.4

[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases and no changes in compensation or wages.

[3] Because of rounding total may not equal sum of parts.

p = preliminary.

26. Average specified compensation and wage adjustments, major collective bargaining settlements in private industry situations covering 1,000 workers or more during 4-quarter periods (in percent)

Measure	Average for four quarters ending–							
	1983	1984				1985		
	IV	I	II	III	IV	I[p]	II[p]	III[p]
Specified total compensation adjustments, settlements covering 5,000 workers or more, all industries:								
First year of contract	3.4	4.8	4.7	4.2	3.6	3.4	3.5	3.1
Annual rate over life of contract	3.0	3.6	3.5	3.2	2.8	2.7	2.8	2.8
Specified wage adjustments, settlements covering 1,000 workers or more:								
All industries								
First year of contract	2.6	3.5	3.5	3.2	2.4	2.4	2.4	2.3
Contracts with COLA clauses	1.9	4.0	4.6	4.5	2.9	2.5	2.3	2.0
Contracts without COLA clauses	3.3	3.0	2.7	2.3	2.1	2.4	2.4	2.6
Annual rate over life of contract	2.8	3.0	3.1	2.8	2.4	2.3	2.4	2.4
Contracts with COLA clauses	2.0	2.8	2.9	2.8	1.8	1.3	1.8	1.8
Contracts without COLA clauses	3.7	3.4	3.2	2.8	2.7	2.8	2.8	2.9
Manufacturing								
First year of contract	.4	2.6	3.0	2.6	2.3	2.1	2.0	1.5
Contracts with COLA clauses	-.7	2.4	3.2	1.5	2.1	2.0	1.9	1.5
Contracts without COLA clauses	3.2	2.9	2.8	3.7	2.0	2.5	2.2	1.4
Annual rate over life of contract	2.1	2.8	3.1	2.8	1.5	1.4	1.4	1.6
Contracts with COLA clauses	1.4	2.2	2.8	1.8	1.0	.9	1.0	1.4
Contracts without COLA clauses	3.9	3.7	3.6	3.8	3.3	3.2	3.0	2.4
Nonmanufacturing								
First year of contract	3.8	3.8	3.7	3.3	2.5	2.6	2.7	3.1
Contracts with COLA clauses	4.4	4.9	5.2	5.4	5.5	5.1	4.3	4.0
Contracts without COLA clauses	3.3	3.0	2.6	2.1	2.0	2.4	2.5	2.9
Annual rate over life of contract	3.2	3.1	3.0	2.8	2.9	2.8	2.9	3.2
Contracts with COLA clauses	2.6	2.9	3.0	3.1	4.8	4.0	3.8	3.9
Contracts without COLA clauses	3.7	3.3	3.0	2.6	2.6	2.7	2.8	3.1
Construction								
First year of contract	1.5	1.2	.8	.9	.5	.9	1.1	1.0
Contracts with COLA clauses	-.8	.1	-.4	4.0	4.0	4.6	9.2	(1)
Contracts without COLA clauses	1.9	1.4	.9	.9	.4	.8	1.0	(1)
Annual rate over life of contract	2.4	2.0	1.7	1.4	1.0	1.4	1.8	1.7
Contracts with COLA clauses	.9	.7	.0	1.4	1.4	1.7	4.6	(1)
Contracts without COLA clauses	2.6	2.2	1.8	1.4	1.0	1.4	1.7	(1)

[1] Data do not meet publication standards.

[p] = preliminary.

27. Average effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more during 4-quarter periods (in percent)

Effective wage adjustment	Average for four quarters ending–						
	1984				1985		
	I	II	III	IV	I[p]	II[p]	III[p]
For all workers:[1]							
Total	4.7	4.3	4.2	3.7	3.6	3.5	3.4
From settlements reached in period	1.2	1.0	1.0	.8	.7	.9	.8
Deferred from settlements reached in earlier period	2.5	2.2	2.1	2.0	2.2	1.9	1.8
From cost-of-living-adjustments clauses	1.0	1.1	1.2	.9	.7	.7	.8
For workers receiving changes:							
Total	5.5	5.3	5.0	4.4	4.5	4.2	4.3
From settlements reached in period	4.2	3.6	3.7	3.0	2.9	2.9	2.8
Deferred from settlements reached in earlier period	5.5	4.9	4.2	4.0	4.2	3.9	3.7
From cost-of-living-adjustments clauses	3.6	4.0	3.2	2.7	2.3	2.3	2.8

[1] Because of rounding total may not equal sum of parts.

[p] = preliminary.

28. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, State and local government collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		First 6 months 1985[p]
	1983	1984	
Specified adjustments:			
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:			
First year of contract	4.6	5.2	4.7
Annual rate over life of contract	5.2	5.4	4.9
Wage adjustments, settlements covering 1,000 workers or more:			
First year of contract	-	4.8	4.9
Annual rate over life of contract	-	5.1	5.1
Effective adjustments:			
Total effective wage adjustment [3]	-	5.0	1.6
From settlements reached in period	-	1.9	.9
Deferred from settlements reached in earlier periods	-	3.1	.8
From cost-of-living-adjustment clauses	-	.0	(4)

[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases and no changes in compensation or wages.

[3] Because of rounding total may not equal sum of parts.

[4] Less than 0.05 percent

- Data not available.

p = preliminary.

29. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1984		1985										
	1983	1984	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June[p]	July[p]	Aug.[p]	Sept.[p]	Oct.[p]	Nov.[p]
Number of stoppages:															
Beginning in period	81	62	4	3	2	4	4	3	2	2	9	6	11	4	2
In effect during period	83	68	15	13	9	13	12	8	8	8	13	18	20	18	11
Workers involved:															
Beginning in period (in thousands)	909.0	376.0	12.0	42.5	4.7	29.3	15.2	6.2	6.9	15.7	52.3	15.3	69.5	74.6	25.0
In effect during period (in thousands)	945.0	391.0	32.3	59.0	16.0	43.9	46.2	14.1	14.8	28.5	60.2	66.8	93.9	117.3	64.6
Days idle:															
Number (in thousands)	17,461.0	8,499.0	500.1	655.8	278.3	259.3	696.5	229.5	203.3	454.3	500.2	869.7	931.4	1,433.0	651.2
Percent of estimated working time[1]	.08	.04	.03	.04	.01	.01	.03	.01	.01	.02	.02	.03	.04	.06	.03

[1] Agricultural and government employees are included in the total employed and total working time: private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time worked is found in "Total Economy' Measure of Strike Idleness," Monthly Labor Review, October 1968, pp. 54-56.

p = preliminary.

30. Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity service group; and CPI for urban wage earners and clerical workers, All items

(1967=100, unless otherwise indicated)

Series	Annual average 1983	Annual average 1984	1984 Nov.	1984 Dec.	1985 Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS:															
All items	298.4	311.1	315.3	315.5	316.1	317.4	318.8	320.1	321.3	322.3	322.8	323.5	324.5	325.5	326.6
All items (1957-59=100)	347.1	361.9	366.7	367.0	367.8	369.1	370.7	372.3	373.7	374.8	375.5	376.2	377.4	378.5	379.9
Food and beverages	284.4	295.1	296.3	297.2	299.3	301.4	301.6	301.6	301.0	301.4	301.8	301.8	302.1	302.5	303.6
Food	291.7	302.9	304.1	305.1	307.3	309.5	309.7	309.6	308.9	309.3	309.5	309.7	309.9	309.8	311.0
Food at home	282.2	292.6	292.4	293.2	296.1	298.6	298.4	297.7	296.2	296.0	296.2	295.9	295.6	295.3	296.6
Cereals and bakery products	292.5	305.3	309.0	310.7	312.4	313.7	314.4	314.6	315.6	317.3	317.3	318.5	318.2	318.9	319.9
Meats, poultry, fish, and eggs	261.0	266.5	262.4	265.9	268.5	267.0	266.1	263.6	259.6	259.8	260.5	259.7	260.6	261.1	266.1
Dairy products	250.0	253.2	257.2	258.4	258.6	259.2	258.9	258.3	258.4	257.8	257.8	257.4	258.0	257.1	257.1
Fruits and vegetables	292.2	317.4	314.8	309.7	320.6	333.0	332.1	333.2	330.3	329.0	328.9	328.3	318.9	317.1	314.3
Other foods at home	340.0	352.2	355.0	354.8	358.0	359.6	360.5	360.6	361.3	360.8	360.6	361.7	362.6	363.0	362.2
Sugar and sweets	374.4	386.1	390.9	391.7	394.5	394.8	394.6	396.1	397.6	398.3	400.2	401.6	401.1	402.6	401.4
Fats and oils	283.1	289.0	293.0	293.7	295.9	295.1	294.9	294.0	294.0	296.0	297.8	297.1	294.6	291.2	292.1
Nonalcoholic beverages	432.2	443.0	445.5	443.4	448.4	452.7	454.0	454.0	454.1	451.5	448.2	448.6	452.8	454.1	451.7
Other prepared foods	276.5	284.9	287.5	287.7	289.6	291.5	292.2	292.6	293.4	293.4	294.5	295.6	296.3	296.6	296.8
Food away from home	319.9	333.4	337.7	339.2	339.9	341.4	342.6	343.9	345.1	346.9	347.3	348.4	349.9	350.3	351.3
Alcoholic beverages	216.5	222.1	223.8	223.9	224.3	225.6	226.5	226.7	227.7	227.6	227.8	228.9	229.3	229.4	230.2
Housing	323.1	336.5	340.9	341.2	342.0	343.6	344.7	345.9	348.5	350.4	351.6	352.9	353.8	354.4	355.0
Shelter	344.8	361.7	368.9	370.1	371.2	373.3	374.3	375.9	378.5	381.0	383.2	385.9	386.9	389.1	391.3
Renters' costs (12/82=100)	103.0	108.6	110.9	111.3	111.8	112.4	112.9	113.5	114.5	115.1	115.6	116.6	117.0	117.9	118.4
Rent, residential	236.9	249.3	254.8	256.1	257.1	258.4	259.2	260.4	262.6	263.6	265.0	266.6	267.7	269.9	271.7
Other renters' costs	360.6	373.4	379.1	375.1	378.5	381.9	386.1	390.9	396.5	401.6	405.1	409.9	410.7	412.5	406.7
Homeowners' costs (12/82=100)	102.5	107.3	109.4	109.8	110.0	110.7	110.8	111.3	112.4	112.8	113.5	114.3	114.6	115.1	115.8
Owners' equivalent rent (12/82=100)	102.5	107.3	109.4	109.8	110.0	110.7	110.9	111.3	112.5	112.8	113.5	114.3	114.6	115.1	115.9
Household insurance (12/82=100)	103.2	107.5	108.8	108.9	109.0	109.5	110.4	111.4	112.0	112.7	112.7	113.0	113.7	114.6	114.5
Maintenance and repairs	346.3	359.2	362.9	364.4	366.0	366.6	370.0	366.0	366.2	367.0	367.8	370.6	368.7	369.5	372.7
Maintenance and repair services	386.2	409.7	412.6	414.2	414.7	415.8	422.2	418.2	416.0	423.2	421.1	425.1	421.9	422.2	426.4
Maintenance and repair commodities	260.5	262.7	266.5	267.7	269.9	270.5	270.6	270.4	268.2	265.7	267.8	269.2	268.6	269.0	271.5
Fuel and other utilities	370.3	387.3	387.5	386.0	387.2	386.5	386.2	386.7	393.0	399.4	399.9	398.9	400.5	395.6	392.1
Fuels	469.2	485.5	482.6	480.2	481.2	480.6	482.2	483.0	490.0	497.7	497.3	494.4	496.6	488.4	481.5
Fuel oil, coal, and bottled gas	639.0	641.8	626.9	625.9	621.6	623.4	620.6	623.5	620.6	612.0	601.9	594.6	601.7	615.3	641.6
Gas (piped) and electricity	426.7	445.2	444.7	442.2	444.1	443.2	445.5	445.9	454.7	465.6	467.1	465.1	466.5	453.9	440.5
Other utilities and public services	213.7	230.2	234.4	234.1	235.3	234.3	236.3	236.4	236.8	241.1	242.8	244.2	244.6	244.7	245.9
Household furnishings and operations	238.5	242.5	244.2	244.2	244.2	246.2	246.9	247.9	247.6	247.1	248.5	247.0	247.1	248.4	248.9
Housefurnishings	197.5	199.1	200.2	199.7	198.8	200.7	200.6	201.7	201.2	200.0	198.8	199.1	199.0	200.3	200.8
Housekeeping supplies	296.2	303.2	306.2	307.5	309.9	311.5	311.8	312.6	312.9	313.6	313.1	313.5	313.9	315.7	316.4
Housekeeping services	318.9	327.5	330.3	330.6	331.3	333.9	337.4	337.9	338.0	338.3	339.8	340.7	341.5	342.2	342.7
Apparel and upkeep	196.5	200.2	205.2	203.2	199.8	201.8	205.3	206.9	205.3	204.6	202.6	205.3	209.6	211.1	211.2
Apparel commodities	184.5	187.0	191.9	189.6	185.7	187.5	191.3	191.8	191.0	190.2	188.0	190.6	195.3	198.7	198.8
Men's and boys' apparel	188.9	192.4	197.8	196.0	193.2	192.8	195.2	197.4	197.8	196.4	194.5	197.2	201.5	203.2	203.6
Women's and girls' apparel	161.9	163.6	170.4	167.2	161.3	164.1	168.9	170.0	169.0	168.5	163.4	167.7	176.1	177.9	178.5
Infants' and toddlers' apparel	282.7	287.0	290.2	291.9	290.3	298.8	302.1	295.3	298.3	300.7	294.5	300.6	302.0	302.1	307.0
Footwear	206.9	209.5	212.9	211.4	206.6	210.1	213.1	213.2	213.2	213.9	211.4	210.3	210.9	212.3	215.5
Other apparel commodities	214.9	216.4	215.4	213.3	212.2	215.5	216.9	215.8	215.1	216.3	216.7	217.5	215.2	214.9	214.9
Apparel services	290.9	305.0	310.8	311.5	312.5	316.0	317.1	318.4	319.4	319.9	321.4	322.9	324.1	325.7	326.3
Transportation	298.4	311.7	316.1	315.8	314.7	314.3	316.7	320.0	321.4	321.8	321.8	320.7	319.7	320.9	323.2
Private transportation	293.9	306.6	310.8	310.4	309.1	308.7	311.0	314.6	316.0	316.3	316.1	314.9	313.6	314.7	317.0
New vehicles	202.4	208.0	211.0	211.6	212.7	213.6	213.6	213.9	214.2	214.3	214.3	214.2	214.2	215.9	218.2
New cars	202.6	208.5	211.4	212.0	213.1	213.9	214.1	214.1	214.5	214.7	214.7	214.6	214.5	216.2	218.4
Used cars	329.7	375.7	383.6	382.7	382.9	384.6	386.1	386.4	384.2	380.3	376.7	374.0	374.3	375.3	376.4
Motor fuel	376.4	370.7	369.8	366.4	357.6	352.4	360.6	374.2	381.6	384.7	385.5	381.9	377.7	374.6	376.7
Gasoline	376.3	370.2	369.2	365.7	356.6	351.8	360.0	373.6	381.4	384.5	385.3	381.6	377.4	374.2	376.1
Maintenance and repair	330.0	341.5	345.8	346.2	346.9	348.2	348.5	348.2	349.6	350.4	351.1	351.9	353.5	355.7	355.8
Other private transportation	260.8	273.3	280.7	282.3	283.9	284.4	284.5	285.8	285.6	286.6	287.5	287.7	288.6	289.6	289.9
Other private transportation commodities	210.9	201.5	201.0	202.2	202.0	203.8	201.9	202.8	201.3	203.9	202.2	202.8	203.4	202.8	201.8
Other private transportation services	276.5	295.0	304.6	306.2	308.3	308.5	309.1	310.5	310.7	311.3	313.0	313.0	310.4	315.4	321.2
Public transportation	362.6	385.2	391.8	392.8	394.5	394.4	397.3	398.0	396.4	399.3	402.4	403.7	408.0	411.5	412.8
Medical care	357.3	379.5	387.5	388.5	391.1	393.6	396.5	398.0	399.5	401.7	404.0	406.6	408.3	410.6	413.0
Medical care commodities	223.3	239.7	245.6	247.3	248.2	249.6	251.9	253.9	255.2	257.0	257.8	258.3	260.2	261.3	262.7
Medical care services	387.0	410.3	418.5	419.3	422.4	425.3	428.1	429.4	430.9	433.0	436.8	438.6	440.5	443.0	445.8
Professional services	323.0	346.1	353.1	354.0	356.8	360.3	361.9	363.0	364.5	366.4	368.1	370.0	371.7	373.2	375.5
Other medical care services	464.4	488.0	497.7	499.2	501.7	505.2	508.0	509.6	511.2	513.6	517.6	521.6	523.9	527.4	530.8
Entertainment	246.0	255.1	259.0	260.1	261.0	261.3	262.2	263.3	263.6	264.8	265.7	265.7	266.8	268.4	269.0
Entertainment commodities	246.9	253.3	256.0	256.8	257.1	257.9	258.7	259.5	259.5	260.1	260.8	260.5	262.5	264.0	264.0
Entertainment services	245.3	258.3	263.8	265.5	267.0	266.7	267.6	269.2	269.9	272.0	273.3	273.6	273.3	275.2	276.6
Other goods and services	286.3	307.7	316.5	316.7	319.1	320.5	321.1	321.8	322.3	323.0	325.0	326.0	333.3	334.9	335.3
Tobacco products	291.0	310.0	314.7	314.6	321.0	323.2	323.7	324.0	324.1	324.8	330.0	331.5	332.8	334.4	334.7
Personal care	261.1	271.4	276.3	276.6	277.2	278.2	278.7	279.6	280.9	281.7	282.3	283.3	284.1	285.0	285.4
Toilet goods and personal care appliances	260.6	269.6	273.4	273.6	274.0	275.4	276.0	277.1	277.5	277.9	278.9	279.4	280.6	281.4	281.1
Personal care services	262.5	274.1	279.9	280.4	281.1	281.7	282.0	283.3	285.0	286.1	286.3	287.7	289.2	289.2	290.2
Personal and educational expenses	333.3	356.7	364.1	364.3	365.6	366.9	367.6	368.3	368.5	369.1	390.1	390.7	412.5	414.7	415.4
School books and supplies	297.6	322.8	333.8	334.0	340.7	343.6	343.9	344.5	344.5	344.9	345.5	346.1	362.1	364.5	364.7
Personal and educational services	341.8	375.6	385.4	385.5	395.9	396.9	397.8	398.5	398.8	399.4	400.4	401.1	423.9	426.2	426.9

See footnotes at end of table.

30. Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity service group; and CPI for urban wage earners and clerical workers, All items

(1967=100, unless otherwise indicated)

Series	Annual average		1984		1985										
	1983	1984	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
All items	298.4	311.1	315.3	315.5	316.1	317.4	318.8	320.1	321.3	322.3	322.8	323.5	324.5	325.5	326.6
Commodities	271.5	280.7	283.0	282.8	282.7	284.0	285.3	286.8	287.0	286.9	286.5	286.5	287.1	287.9	289.2
Food and beverages	284.4	295.1	298.3	297.2	299.3	301.4	301.6	301.6	301.0	301.4	301.6	301.8	302.1	302.5	303.6
Commodities less food and beverages	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nondurables less food and beverages	271.2	275.7	276.2	277.0	274.4	274.7	277.9	281.5	283.1	283.5	282.9	283.1	284.6	285.3	286.6
Apparel commodities	184.5	187.0	191.9	189.6	185.7	187.5	191.3	191.8	191.0	190.2	188.0	190.6	195.3	196.7	196.8
Nondurables less food, beverages, and apparel	320.3	325.8	327.3	326.6	324.5	324.2	327.1	332.3	335.1	336.2	336.4	335.4	335.3	335.6	337.8
Durables	253.0	266.5	270.0	269.8	270.2	271.4	271.9	272.6	271.6	270.4	269.3	268.6	268.7	270.2	271.5
Services	344.9	363.0	369.9	370.6	372.1	373.5	375.0	376.2	378.9	381.3	383.3	384.9	386.5	387.7	388.7
Rent of shelter	102.7	107.7	109.9	110.3	110.6	111.3	111.5	112.0	113.2	113.6	114.3	115.1	115.4	116.1	116.7
Household services less rent of shelter	103.4	108.1	108.8	108.5	108.9	108.9	109.7	109.8	110.9	112.7	113.2	113.2	113.5	112.1	110.8
Transportation services	303.6	321.1	326.9	330.1	331.8	332.2	333.2	334.1	334.5	335.3	337.0	337.4	337.1	341.1	344.7
Medical care services	367.0	410.3	418.5	419.3	422.4	425.3	428.1	429.4	430.9	433.0	435.8	438.6	440.5	443.0	445.8
Other services	278.0	296.0	305.2	306.1	307.1	307.8	308.8	309.9	310.7	312.0	313.0	313.8	319.7	321.4	322.5
Special indexes:															
All items less food	298.3	311.1	316.2	316.2	316.3	317.4	319.1	320.8	322.4	323.6	324.2	325.0	326.2	327.4	328.5
All items less shelter	283.5	295.1	298.6	298.6	298.9	300.0	301.5	302.8	303.4	304.3	304.4	304.6	305.7	306.3	307.2
All items less homeowners' costs	102.0	106.3	107.6	107.6	107.8	108.2	108.7	109.2	109.5	109.8	109.9	110.1	110.4	110.7	111.1
All items less medical care	295.1	307.3	311.3	311.5	311.9	313.1	314.5	315.8	317.0	317.9	318.4	318.9	319.9	320.8	321.9
Commodities less food	259.0	267.0	269.9	269.2	267.8	268.6	270.6	272.8	273.4	273.1	272.4	272.3	273.1	274.4	275.7
Nondurables less food	266.3	270.8	273.3	272.2	269.7	270.2	273.2	276.5	278.0	278.4	277.9	278.1	279.6	280.7	282.0
Nondurables less food and apparel	306.4	311.9	313.4	312.8	310.9	310.8	313.5	318.1	320.7	321.7	321.9	321.1	321.0	322.0	324.0
Nondurables	279.0	286.6	288.5	288.3	288.0	289.2	291.0	292.7	293.3	293.7	293.5	293.7	294.6	296.1	296.4
Services less rent of shelter	102.9	108.5	110.5	110.6	111.1	111.3	111.9	112.2	112.6	113.7	114.2	114.5	115.0	115.1	115.2
Services less medical care	336.1	355.6	362.3	363.0	364.3	365.5	366.9	368.1	370.9	373.3	375.2	376.7	378.3	379.3	380.1
Energy	419.3	423.6	421.8	418.9	414.5	411.4	416.6	424.4	431.7	436.8	437.1	433.8	432.6	427.1	425.1
All items less energy	289.3	302.9	307.7	308.2	309.2	310.9	312.0	312.7	313.8	313.9	314.5	315.6	316.8	318.4	319.8
All items less food and energy	287.0	301.2	306.9	307.3	307.9	309.5	310.8	311.8	312.8	313.4	314.1	315.3	316.9	318.9	320.4
Commodities less food and energy	242.9	253.1	257.0	256.7	256.5	258.1	259.3	260.0	259.8	259.0	258.2	258.8	260.2	262.0	262.7
Energy commodities	413.2	409.8	407.2	404.1	395.7	391.3	398.3	410.8	417.0	418.7	418.1	414.0	411.2	410.1	415.2
Services less energy	338.1	356.4	364.0	365.0	366.4	368.0	369.4	370.7	372.9	374.8	376.6	378.6	380.2	382.5	384.8
Purchasing power of the consumer dollar:															
1967=$1.00	33.5	32.1	31.7	31.7	31.6	31.5	31.4	31.2	31.1	31.0	31.0	30.9	30.8	30.7	30.6
1957-59=$1.00	28.8	27.6	27.3	27.2	27.2	27.1	27.0	26.9	26.8	26.7	26.6	26.6	26.5	26.4	26.3
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS:															
All items	297.4	307.6	311.9	312.2	312.6	313.9	315.3	316.7	317.8	318.7	319.1	319.6	320.5	321.3	322.6
All items (1957-59=100)	345.9	357.7	362.8	363.1	363.6	365.1	366.7	368.3	369.6	370.6	371.2	371.8	372.7	373.7	375.1
Food and beverages	284.7	295.2	296.2	297.1	299.1	301.2	301.6	301.4	300.8	301.2	301.4	301.6	301.8	302.2	303.4
Food	291.6	302.7	303.7	304.7	306.9	309.0	309.3	309.2	308.4	308.8	309.0	309.1	309.3	309.3	310.6
Food at home	281.3	291.2	290.9	291.7	294.5	297.0	296.0	295.1	294.6	294.5	294.6	294.3	294.0	293.7	295.2
Cereals and bakery products	291.1	303.7	307.4	309.0	310.7	311.9	312.7	313.1	314.1	315.7	315.7	316.8	317.6	317.3	318.2
Meats, poultry, fish, and eggs	260.6	266.0	261.8	265.3	266.0	266.3	265.6	262.9	259.2	259.3	258.7	259.0	259.9	260.4	265.4
Dairy products	249.2	252.2	256.2	257.3	257.8	258.3	257.8	257.2	257.3	256.7	256.6	256.3	256.8	255.9	255.9
Fruits and vegetables	288.[illegible]	312.5	308.9	303.9	314.9	327.1	326.8	328.1	324.8	323.5	323.9	320.6	313.6	311.2	309.4
Other foods at home	340.8	352.7	355.3	354.9	358.3	360.2	361.0	361.3	361.6	361.3	361.1	362.2	362.9	363.4	362.5
Sugar and sweets	374.3	386.6	390.5	391.4	394.0	394.4	394.2	395.5	396.9	398.0	399.8	401.4	400.8	402.2	400.9
Fats and oils	283.0	287.5	292.5	293.1	295.3	294.7	294.3	293.7	293.6	295.6	297.3	296.5	294.1	290.6	291.8
Nonalcoholic beverages	433.9	444.4	446.7	444.7	450.9	454.2	455.5	455.6	455.4	453.0	449.8	451.2	454.1	455.6	453.1
Other prepared foods	278.1	286.4	288.8	289.1	290.9	292.9	293.7	294.2	294.9	295.0	296.1	297.3	297.7	298.3	299.3
Food away from home	323.2	338.7	340.9	342.3	343.0	344.6	345.8	347.1	348.4	350.1	350.4	351.5	353.0	353.4	354.4
Alcoholic beverages	219.1	225.3	227.1	227.2	227.6	229.1	229.9	229.9	230.8	231.0	231.0	232.2	232.6	233.1	233.6
Housing	322.0	329.2	334.4	335.0	335.7	337.2	338.2	339.5	342.1	344.0	345.0	346.2	347.2	347.5	348.3
Shelter	343.6	350.0	357.7	359.0	360.0	362.0	363.0	364.7	368.1	369.5	371.5	374.0	375.0	377.1	379.3
Renters' costs (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rent, residential	236.3	248.6	254.0	255.3	256.3	257.5	258.4	259.6	261.8	262.7	264.1	265.7	266.8	268.9	270.7
Other renters' costs	348.5	372.4	376.7	374.8	377.8	380.8	385.3	391.0	396.7	401.0	405.2	409.8	409.8	411.6	408.0
Homeowners' costs (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Owners' equivalent rent (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Household insurance (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maintenance and repairs	342.5	356.3	356.5	356.8	360.9	361.5	364.3	363.1	361.8	362.9	363.4	365.6	364.4	364.6	367.7
Maintenance and repair services	363.4	403.5	406.8	407.7	407.8	408.8	414.8	411.7	410.1	417.0	415.3	419.6	418.8	417.4	420.9
Maintenance and repair commodities	256.6	257.2	257.8	259.3	260.8	261.1	261.6	261.6	260.7	258.4	260.0	260.6	260.5	260.5	262.7
Fuel and other utilities	371.6	386.6	388.7	387.1	388.3	387.5	389.2	389.7	393.8	400.9	401.2	400.1	401.9	398.3	393.2
Fuels	469.1	485.0	482.1	479.7	480.7	480.3	481.6	482.3	486.9	497.7	497.0	494.0	498.7	487.2	481.0
Fuel oil, coal, and bottled gas	630.3	644.3	629.3	628.4	623.9	625.7	623.1	625.9	623.2	614.3	604.2	598.9	604.3	618.1	644.3
Gas (piped) and electricity	429.2	444.1	443.7	441.0	443.2	442.3	444.4	444.6	453.0	465.1	456.3	464.2	465.0	452.0	439.5
Other utilities and public services	214.6	231.2	235.3	236.0	236.3	235.1	237.2	237.3	237.7	242.0	243.7	245.1	245.6	245.7	246.8
Household furnishings and operations	235.3	239.1	240.6	240.5	240.4	242.6	243.2	244.1	244.0	243.3	242.6	243.1	243.2	244.5	245.1
Housefurnishings	195.5	197.0	197.6	197.3	198.3	198.3	198.2	199.2	198.9	197.6	196.2	196.6	196.5	197.7	198.3
Housekeeping supplies	293.1	300.2	303.5	304.8	306.9	306.5	308.9	308.8	310.0	310.8	310.3	310.4	311.0	312.7	313.5
Housekeeping services	318.7	326.0	330.9	331.1	331.8	334.9	338.5	339.0	339.2	339.5	341.0	342.2	342.9	343.9	344.5
Apparel and upkeep	195.6	199.1	204.2	202.1	196.5	200.7	204.2	204.9	204.2	203.7	201.8	204.3	206.7	210.2	210.2

See footnotes at end of table.

30. Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity service group; and CPI for urban wage earners and clerical workers, All Items

(1967-100, unless otherwise indicated)

Series	Annual average		1984		1985										
	1983	1984	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
Apparel commodities	184.2	186.6	191.6	189.2	185.1	187.2	190.9	191.5	190.7	190.0	187.8	190.4	195.1	196.6	196.5
Men's and boys' apparel	189.1	192.9	198.6	196.8	193.6	193.1	195.7	197.8	198.2	196.6	194.8	197.3	201.8	203.5	203.7
Women's and girls' apparel	163.7	165.0	171.9	166.6	162.1	165.8	171.5	172.0	169.7	168.4	165.6	169.9	178.2	180.0	178.3
Infants' and toddlers' apparel	293.1	297.6	302.1	302.9	298.7	310.1	314.5	306.4	310.6	313.5	306.4	311.2	314.9	314.8	320.7
Footwear	206.6	210.0	213.1	211.7	209.5	210.8	213.4	213.3	213.3	214.1	211.6	210.5	211.0	212.6	215.9
Other apparel commodities	203.4	204.5	203.1	201.0	199.9	203.0	204.2	203.3	202.7	204.0	204.5	205.2	202.5	202.4	202.5
Apparel services	299.1	302.9	306.6	309.3	310.2	313.6	314.7	316.1	317.0	317.6	319.0	320.5	321.6	323.2	323.6
Transportation	300.0	313.9	318.3	317.9	316.7	316.3	318.7	322.0	323.3	323.6	323.5	322.3	321.1	322.2	324.6
Private transportation	296.6	310.1	314.4	313.9	312.6	312.2	314.6	318.0	319.4	319.6	319.3	318.0	316.6	317.6	320.1
New vehicles	202.0	207.3	210.3	210.8	212.0	212.8	213.2	213.2	213.5	213.6	213.6	213.5	213.5	215.3	217.5
New cars	202.2	207.9	210.8	211.3	212.4	213.1	213.4	213.4	213.8	214.0	214.0	213.9	218.8	215.5	217.8
Used cars	329.7	375.7	363.6	362.6	362.8	364.6	366.2	366.4	364.2	360.3	376.7	374.0	374.3	375.3	376.4
Motor fuel	378.0	372.2	371.2	367.8	359.0	354.0	362.2	375.7	383.0	386.2	387.2	383.8	379.5	376.3	376.7
Gasoline	378.0	371.8	370.5	367.1	358.2	353.2	361.6	375.3	382.7	386.0	387.0	383.7	379.2	375.8	376.1
Maintenance and repair	330.6	342.2	346.7	347.1	347.9	340.2	349.6	349.3	350.6	351.5	352.2	352.8	354.5	356.9	357.2
Other private transportation	261.8	274.2	281.9	283.3	284.7	285.2	286.1	286.3	285.9	286.9	287.7	287.6	[illegible]	289.2	289.7
Other private transportation commodities	213.3	203.9	203.5	204.7	204.2	206.1	204.2	205.1	203.5	205.9	204.3	204.9	206.5	205.0	203.7
Other private transportation services	277.2	295.4	305.3	306.7	306.6	308.7	309.2	310.4	310.4	310.9	312.4	312.1	309.9	314.1	320.2
Public transportation	353.9	376.6	382.0	382.8	384.2	384.2	386.7	387.4	387.6	388.4	392.1	393.5	396.6	399.3	400.1
Medical care	355.1	377.7	385.6	386.7	389.3	392.0	394.6	396.1	397.7	399.8	402.0	404.5	406.3	408.5	410.9
Medical care commodities	223.7	239.7	245.6	247.2	248.0	249.6	251.5	253.5	254.8	256.7	257.4	259.0	259.8	260.9	262.2
Medical care services	384.1	407.9	416.1	417.0	420.1	423.1	425.7	427.1	428.7	430.7	433.3	436.1	438.1	440.6	443.2
Professional services	323.4	346.5	353.4	354.4	357.2	359.7	362.4	363.6	365.0	366.8	368.5	370.4	372.1	373.7	375.8
Other medical care services	460.4	484.7	494.6	495.3	498.8	502.3	505.0	506.6	508.2	510.5	514.4	516.4	520.7	524.4	527.5
Entertainment	242.4	251.2	254.8	255.6	256.6	256.9	257.3	258.6	258.9	260.1	260.9	260.8	261.6	263.0	263.7
Entertainment commodities	241.2	247.7	250.2	250.9	251.1	251.9	252.2	253.2	253.1	253.9	254.5	254.3	256.0	257.1	257.2
Entertainment services	245.7	258.5	264.0	265.6	267.4	266.8	267.4	269.2	270.0	272.0	273.2	273.3	272.6	274.6	276.3
Other goods and services	286.3	304.9	312.6	312.6	315.6	317.1	317.6	318.3	318.8	319.5	321.8	322.9	328.7	330.1	330.5
Tobacco products	290.6	309.7	314.3	314.2	320.8	323.0	323.4	323.6	323.6	324.4	329.7	331.1	332.4	334.0	334.3
Personal care	259.1	269.4	274.0	274.4	274.9	275.9	276.3	277.5	278.6	279.2	279.9	280.9	281.8	282.7	283.1
Toilet goods and personal care appliances	261.4	270.3	274.0	274.2	274.6	275.9	276.5	277.5	277.8	278.2	279.2	280.0	281.1	282.0	281.9
Personal care services	257.2	268.8	274.4	275.0	275.7	276.3	276.5	278.0	279.7	280.7	280.9	282.2	282.8	283.7	284.8
Personal and educational expenses	335.1	368.2	386.2	386.4	387.9	389.3	390.1	390.7	390.9	391.6	392.5	393.2	414.6	416.5	417.3
School books and supplies	301.9	327.5	336.7	338.9	345.5	346.7	348.6	349.4	349.5	349.9	350.6	351.2	366.9	369.2	369.3
Personal and educational services	343.5	378.2	397.6	397.8	398.3	399.4	400.3	401.0	401.2	401.9	402.9	403.6	426.1	426.1	426.9
All items	297.4	307.6	311.9	312.2	312.6	313.9	315.3	316.7	317.8	318.7	319.1	319.6	320.5	321.3	322.6
Commodities	272.9	280.4	282.8	282.7	282.5	283.8	285.2	286.7	286.8	286.8	286.4	286.3	286.8	287.6	288.9
Food and beverages	284.7	295.2	296.2	297.1	299.1	301.2	301.6	301.4	300.8	301.2	301.4	301.6	301.8	302.2	303.4
Commodities less food and beverages	263.3	269.3	272.3	271.8	270.7	271.4	273.6	276.3	277.5	277.7	-	-	-	-	-
Nondurables less food and beverages	273.2	277.5	279.9	278.7	275.8	276.2	279.4	283.2	284.9	285.4	285.0	285.1	286.5	287.0	288.5
Apparel commodities	184.2	186.6	191.6	189.2	185.1	187.2	190.9	191.5	190.7	190.0	187.8	190.4	195.1	196.6	196.5
Nondurables less food, beverages, and apparel	321.7	327.0	328.3	327.5	325.2	324.7	327.8	333.1	336.0	337.2	337.6	336.6	336.4	336.5	338.8
Durables	253.8	261.1	264.5	264.6	264.9	266.2	266.7	267.3	266.3	265.1	263.8	263.1	263.1	264.5	265.7
Services	342.8	358.0	365.9	366.8	368.3	369.6	371.0	372.2	374.9	377.4	379.2	380.7	382.0	383.0	384.2
Rent of shelter (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Household services less rent of shelter (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transportation services	300.0	317.2	325.1	326.1	327.7	328.1	328.8	329.6	329.9	330.6	332.2	332.4	331.4	335.5	339.3
Medical care services	384.1	407.9	416.1	417.0	420.1	423.1	425.7	427.1	428.7	430.7	433.3	436.1	438.1	440.6	443.2
Other services	275.6	292.9	301.5	302.3	303.5	304.2	304.9	306.2	307.2	308.4	309.3	310.1	315.0	316.7	317.8
Special indexes:															
All items less food	297.5	307.5	312.6	312.7	312.7	313.7	315.4	317.2	318.7	319.8	320.3	320.9	321.9	322.9	324.2
All items less shelter	283.5	295.1	298.3	298.3	298.6	299.7	301.1	302.4	303.0	303.9	304.0	304.0	304.8	305.4	306.4
All items less homeowners' costs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All items less medical care	294.3	304.0	308.2	308.4	308.7	309.9	311.3	312.6	313.7	314.6	314.9	315.3	316.1	316.9	318.1
Commodities less food	261.1	267.1	270.1	269.6	268.2	269.0	271.0	273.3	273.8	273.6	272.8	272.7	273.4	274.5	275.9
Nondurables less food	266.3	272.6	275.0	273.9	271.2	271.7	274.7	278.2	279.8	280.4	280.0	280.2	281.5	282.4	283.8
Nondurables less food and apparel	307.9	313.2	314.5	313.6	311.8	311.5	314.4	319.1	321.8	322.9	323.2	322.4	322.3	323.1	325.0
Nondurables	280.0	287.4	289.2	289.0	288.6	289.8	291.6	293.4	294.0	294.4	294.3	294.5	295.2	295.7	297.1
Services less rent of shelter (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Services less medical care	336.1	350.5	358.2	359.2	360.4	361.6	362.8	364.1	366.8	369.3	371.1	372.5	373.6	374.5	375.5
Energy	420.0	423.3	421.5	418.5	413.8	410.6	416.0	424.2	431.3	436.9	437.2	433.9	432.5	426.6	425.4
All items less energy	287.5	298.3	303.2	303.8	304.7	306.4	307.4	308.1	308.6	309.1	309.5	310.4	311.5	313.0	314.5
All items less food and energy	285.1	295.8	301.6	302.1	302.7	304.3	305.5	306.4	307.3	307.8	308.3	309.4	310.7	312.7	314.2
Commodities less food and energy	243.3	250.5	254.2	254.0	253.8	255.5	256.6	257.2	256.8	256.2	255.3	255.8	257.2	258.8	259.5
Energy commodities	414.2	410.5	407.8	404.7	396.2	391.8	399.0	411.6	418.0	419.9	419.6	415.7	412.6	411.2	416.3
Services less energy	335.6	350.6	359.4	360.7	362.0	363.6	364.9	366.2	368.4	369.9	371.9	373.7	374.9	377.3	379.8
Purchasing power of the consumer dollar:															
1967=$1.00	33.6	32.5	32.1	32.0	32.0	31.9	31.7	31.6	31.5	31.4	31.3	31.3	31.2	31.1	31.0
1957-59=$1.00	28.9	28.0	27.6	27.5	27.5	27.4	27.3	27.2	27.1	27.0	26.9	26.9	26.8	26.8	26.7

- Data not available.

31. Consumer Price Index: U.S. city average and available local area data: all items

(1967 = 100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1984	1985						1984	1985					
			Nov.	June	July	Aug.	Sept.	Oct.	Nov.	Nov.	June	July	Aug.	Sept.	Oct.	Nov.
U.S. city average		–	315.3	322.3	322.8	323.5	324.5	325.5	326.6	311.9	318.7	319.1	319.6	320.5	321.3	322.6
Chicago, Ill.-Northwestern Ind.	M	–	313.9	324.1	324.4	325.9	326.3	322.6	324.2	302.6	310.9	311.1	312.1	312.1	308.9	310.9
Detroit, Mich.	M	–	308.7	317.0	318.0	318.0	320.5	319.7	323.1	299.6	307.4	308.3	308.3	310.3	309.7	313.2
Los Angeles-Long Beach, Anaheim, Calif.	M	–	311.7	319.3	321.3	323.9	323.8	326.1	325.0	304.2	314.1	315.8	318.0	317.7	320.0	319.1
New York, N.Y.-Northeastern N.J.	M	–	306.0	313.2	313.5	315.7	316.9	317.4	319.9	301.2	306.3	306.5	308.5	309.3	309.9	312.5
Philadelphia, Pa.-N.J.	M	–	306.0	314.2	315.5	315.8	316.5	317.4	318.8	309.2	317.2	318.6	318.5	319.1	320.3	321.5
Anchorage, Alaska (10/67 = 100)	1	10/67	277.5	–	283.1	–	284.5	–	286.9	270.9	–	276.0	–	277.3	–	280.1
Baltimore, Md.	1	–	315.3	–	324.0	–	327.5	–	327.3	315.1	–	323.4	–	326.3	–	326.3
Boston, Mass.	1	–	307.8	–	317.7	–	321.3	–	325.4	306.5	–	315.7	–	319.3	–	323.0
Cincinnati, Ohio-Ky.-Ind.	1	–	325.4	–	330.0	–	329.8	–	333.4	319.3	–	323.2	–	322.8	–	326.2
Denver-Boulder, Colo.	1	–	349.4	–	360.3	–	358.0	–	350.4	345.1	–	355.9	–	353.3	–	354.1
Miami, Fla. (11/77 = 100)	1	11/77	166.3	–	171.4	–	173.5	–	173.9	169.6	–	172.7	–	174.5	–	174.9
Milwaukee, Wis.	1	–	324.3	–	331.1	–	332.4	–	333.9	342.7	–	350.4	–	351.4	–	353.2
Northeast, Pa.	1	–	301.1	–	306.6	–	306.8	–	310.6	300.6	–	305.7	–	306.3	–	309.6
Portland, Oreg.-Wash.	1	–	304.8	–	312.9	–	314.9	–	317.1	295.7	–	303.2	–	305.4	–	307.3
St. Louis, Mo.-Ill.	1	–	309.1	–	319.9	–	321.6	–	321.6	307.1	–	316.6	–	318.5	–	318.5
San Diego, Calif.	1	–	363.7	–	372.8	–	377.3	–	379.0	328.8	–	336.9	–	340.3	–	341.9
Seattle-Everett, Wash.	1	–	318.1	–	322.0	–	321.8	–	324.0	305.5	–	309.1	–	308.9	–	310.8
Washington, D.C.-Md.-Va.	1	–	315.1	–	323.3	–	323.6	–	326.9	318.2	–	325.9	–	327.4	–	330.5
Atlanta, Ga.	2	–	–	328.0	–	331.4	–	333.0	–	–	326.0	–	329.3	–	330.0	–
Buffalo, N.Y.	2	–	–	307.3	–	306.5	–	309.3	–	–	293.7	–	292.9	–	295.3	–
Cleveland, Ohio	2	–	–	346.4	–	348.1	–	346.6	–	–	325.3	–	327.0	–	327.0	–
Dallas-Ft. Worth, Tex.	2	–	–	339.6	–	343.4	–	343.9	–	–	333.5	–	337.0	–	337.5	–
Honolulu, Hawaii	2	–	–	283.5	–	294.2	–	295.6	–	–	300.4	–	301.3	–	302.7	–
Houston, Tex.	2	–	–	337.6	–	336.2	–	337.6	–	–	335.0	–	335.3	–	335.0	–
Kansas City, Mo.-Kansas	2	–	–	320.1	–	321.1	–	323.1	–	–	310.5	–	311.2	–	312.9	–
Minneapolis-St. Paul, Minn.-Wis.	2	–	–	336.7	–	338.8	–	340.6	–	–	332.3	–	334.4	–	336.0	–
Pittsburgh, Pa.	2	–	–	325.9	–	325.9	–	328.4	–	–	306.3	–	306.0	–	309.9	–
San Francisco-Oakland, Calif.	2	–	–	333.2	–	335.8	–	336.7	–	–	326.7	–	330.8	–	331.0	–
Region[3]																
Northeast	2	12/77	–	170.4	–	171.0	–	172.5	–	–	168.4	–	169.0	–	170.3	–
North Central	2	12/77	–	174.2	–	174.3	–	174.9	–	–	171.0	–	171.0	–	171.4	–
South	2	12/77	–	173.8	–	174.5	–	175.7	–	–	173.7	–	174.3	–	175.3	–
West	2	12/77	–	174.6	–	175.9	–	176.9	–	–	172.8	–	173.9	–	174.8	–
Population size class[3]																
A-1	2	12/77	–	170.9	–	172.3	–	172.9	–	–	167.2	–	168.3	–	168.7	–
A-2	2	12/77	–	176.0	–	176.6	–	177.6	–	–	173.2	–	173.7	–	174.6	–
B	2	12/77	–	174.7	–	174.9	–	176.3	–	–	172.3	–	172.4	–	173.6	–
C	2	12/77	–	172.3	–	172.5	–	173.8	–	–	172.9	–	173.0	–	174.1	–
D	2	12/77	–	171.9	–	172.3	–	173.8	–	–	173.5	–	173.8	–	174.9	–
Region/population size class cross classification[3]																
Class A:																
Northeast	2	12/77	–	167.5	–	168.5	–	169.6	–	–	164.2	–	165.0	–	166.1	–
North Central	2	12/77	–	177.6	–	178.3	–	178.2	–	–	172.8	–	173.3	–	173.1	–
South	2	12/77	–	174.1	–	174.8	–	175.6	–	–	174.2	–	174.9	–	175.7	–
West	2	11/77	–	176.1	–	178.0	–	179.1	–	–	172.2	–	173.8	–	174.6	–
Class B:																
Northeast	2	12/77	–	173.5	–	173.3	–	174.9	–	–	170.5	–	170.4	–	171.8	–
North Central	2	12/77	–	172.6	–	171.5	–	173.4	–	–	169.0	–	168.0	–	169.5	–
South	2	12/77	–	175.3	–	176.0	–	177.4	–	–	172.2	–	172.7	–	173.9	–
West	2	12/77	–	176.2	–	176.9	–	177.9	–	–	176.8	–	177.5	–	178.4	–

See footnotes at end of table.

31. Continued— Consumer Price Index: U.S. city average and available local area data: all items

(1967=100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1984	1985						1984	1985					
			Nov.	June	July	Aug.	Sept.	Oct.	Nov.	Nov.	June	July	Aug.	Sept.	Oct.	Nov.
Class C:																
Northeast	2	12/77	-	179.0	-	178.9	-	181.7	-	-	183.7	-	183.8	-	186.5	-
North Central	2	12/77	-	169.6	-	169.1	-	170.1	-	-	166.7	-	166.0	-	166.9	-
South	2	12/77	-	172.8	-	173.5	-	174.3	-	-	174.5	-	175.1	-	175.7	-
West	2	12/77	-	166.4	-	166.9	-	169.7	-	-	167.2	-	167.7	-	168.3	-
Class D:																
Northeast	2	12/77	-	173.7	-	173.7	-	175.6	-	-	173.8	-	173.6	-	175.3	-
North Central	2	12/77	-	170.4	-	170.7	-	171.6	-	-	172.5	-	172.7	-	173.1	-
South	2	12/77	-	172.2	-	172.8	-	174.8	-	-	174.0	-	174.5	-	176.2	-
West	2	12/77	-	172.5	-	173.3	-	174.5	-	-	174.2	-	174.8	-	176.0	-

[1] Area is generally the Standard Metropolitan Statistical Area (SMSA), exclusive of farms. L.A.-Long Beach, Anaheim, Calif. is a combination of two SMSA's, and N.Y., N.Y.-Northeastern N.J. and Chicago, Ill.-Northwestern Ind. are the more extensive Standard Consolidated Areas. Area definitions are those established by the Office of Management and Budget in 1973, except for Denver-Boulder, Colo. which does not include Douglas County. Definitions do not include revisions made since 1973.

[2] Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated:

M - Every month.
1 - January, March, May, July, September, and November.
2 - February, April, June, August, October, and December.

[3] Regions are defined as the four Census regions.

The population size classes are aggregations of areas which have urban population as defined:

A-1 - More than 4,000,000.
A-2 - 1,250,000 to 4,000,000.
B - 385,000 to 1,250,000
C - 75,000 to 385,000.
D - Less than 75,000.

Population size class A is the aggregation of population size classes A-1 and A-2.

- Data not available.

NOTE: Local area CPI indexes are by-products of the national CPI program. Because each local index is a small subset of the national index, it has a smaller sample size and is, therefore, subject to substantially more sampling and other measurement error than the national index. As a result, local area indexes show greater volatility than the national index, although their long-term trends are quite similar. Therefore, the Bureau of Labor Statistics strongly urges users to consider adopting the national average CPI for use in escalator clauses.

32. Annual data: Consumer Price Index All Items

Series	1976	1977	1978	1979	1980	1981	1982	1983	1984
Consumer Price Index for									
All Urban Consumers:									
All items:									
Index	170.5	181.5	195.4	217.4	246.8	272.4	289.1	298.4	311.1
Percent change	5.8	6.5	7.7	11.3	13.5	10.4	6.1	3.2	4.3
Food and beverages:									
Index	177.4	188.0	206.3	228.5	248.0	267.3	278.2	284.4	295.1
Percent change	3.1	6.0	9.7	10.8	8.5	7.8	4.1	2.2	3.8
Housing									
Index	174.6	186.5	202.8	227.6	263.3	293.5	314.7	323.1	336.5
Percent change	6.1	6.8	8.7	12.2	15.7	11.5	7.2	2.7	4.1
Apparel and upkeep:									
Index	147.6	154.2	159.6	166.6	178.4	186.9	191.8	196.5	200.2
Percent change	3.7	4.5	3.5	4.4	7.1	4.8	2.6	2.5	1.9
Transportation:									
Index	165.5	177.2	185.5	212.0	249.7	280.0	291.5	298.4	311.7
Percent change	9.9	7.1	4.7	14.3	17.8	12.1	4.1	2.4	4.5
Medical care:									
Index	184.7	202.4	219.4	239.7	265.9	294.5	328.7	357.3	379.5
Percent change	9.5	9.6	8.4	9.3	10.9	10.8	11.6	8.7	6.2
Entertainment:									
Index	159.8	167.7	176.6	188.5	205.3	221.4	235.8	246.0	255.1
Percent change	5.0	4.9	5.3	6.7	8.9	7.8	6.5	4.3	3.7
Other goods and services:									
Index	162.7	172.2	183.3	196.7	214.5	235.7	259.9	288.3	307.7
Percent change	5.7	5.8	6.4	7.3	9.0	9.9	10.3	10.9	6.7
Consumer Price Index for Urban Wage Earners and									
Clerical workers									
All items:									
Index	170.5	181.5	195.3	217.7	247.0	272.3	288.6	297.4	307.6
Percent change	5.8	6.5	7.6	11.5	13.5	10.2	6.0	3.0	3.4

33. Producer Price Indexes, by stage of processing

(1967=100)

Grouping	Annual average		1984	1985										
	1983	1984	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
Finished goods	285.2	291.1	292.0	292.1	292.8	292.1	293.1	294.1	294.0	294.8	293.5	290.2	294.8	296.7
Finished consumer goods	284.6	290.3	290.9	290.6	290.7	290.1	291.2	292.4	292.2	293.1	291.4	288.5	292.4	294.7
Finished consumer foods	261.8	273.3	273.6	273.7	275.6	273.7	272.2	269.5	268.7	271.2	268.7	266.5	268.7	272.0
Finished consumer goods excluding foods	291.4	294.1	294.8	294.3	293.5	293.6	295.9	299.0	299.0	299.2	297.8	294.7	299.4	301.1
Nondurable goods less food	335.3	337.3	336.7	334.9	332.7	333.4	337.4	342.4	342.1	342.4	340.0	340.3	340.2	343.3
Durable goods	233.1	236.8	239.2	240.2	240.9	240.4	240.7	241.4	241.9	241.9	241.8	234.4	244.9	245.0
Capital equipment	287.2	294.0	295.6	297.4	299.2	299.3	299.9	300.3	300.5	300.8	301.0	296.4	303.7	303.8
Intermediate materials, supplies, and components	312.3	320.0	318.9	319.5	318.7	318.6	319.3	319.9	319.3	318.6	317.9	317.9	317.8	318.1
Materials and components for manufacturing	293.4	301.8	301.1	300.6	300.5	300.0	300.6	300.5	300.3	299.8	299.1	298.3	298.0	297.6
Materials for food manufacturing	258.4	271.1	268.2	265.2	265.3	263.9	263.9	261.9	262.0	260.3	253.0	250.2	252.3	253.6
Materials for nondurable manufacturing	280.0	290.5	289.2	288.9	288.0	287.3	287.1	286.7	286.4	285.5	285.8	284.8	283.6	282.6
Materials for durable manufacturing	319.4	325.1	321.9	320.6	320.7	319.9	322.1	323.0	322.3	320.9	320.3	319.2	318.6	317.4
Components for manufacturing	280.4	287.5	289.9	290.4	290.8	291.0	291.1	291.1	291.3	291.6	291.9	292.0	292.2	292.4
Materials and components for construction	301.8	310.3	312.4	313.4	313.3	313.5	314.0	315.9	317.3	316.9	316.5	315.5	315.4	315.1
Processed fuels and lubricants	584.8	566.2	561.3	556.3	546.3	547.9	552.3	558.0	549.1	544.0	539.8	546.3	544.9	550.7
Containers	286.6	302.3	310.4	311.1	311.8	313.1	312.4	311.7	312.0	311.4	310.3	309.9	310.4	309.8
Supplies	277.1	283.4	283.1	283.9	283.8	283.8	283.7	283.4	283.3	283.6	284.1	284.3	285.0	285.8
Crude materials for further processing	323.6	330.8	322.4	318.9	318.1	312.3	311.0	309.1	305.6	303.9	295.3	292.4	298.0	305.6
Foodstuffs and feedstuffs	252.2	259.5	253.0	250.7	250.0	242.9	239.9	236.3	233.7	231.6	221.0	215.9	224.5	236.7
Nonfood materials[1]	372.2	380.5	366.4	361.9	358.2	356.4	360.2	357.7	354.0	353.5	351.2	352.5	353.3	352.3
Special groupings														
Finished goods, excluding foods	290.8	294.8	295.8	296.0	295.9	296.0	297.8	300.1	300.2	300.5	298.5	296.0	301.4	302.7
Finished energy goods	783.6	750.3	736.0	711.7	692.0	693.2	714.9	746.1	741.4	733.8	719.9	718.9	716.1	732.9
Finished goods less energy	257.4	265.1	266.6	267.9	269.3	268.8	268.8	268.4	268.4	269.7	269.0	265.7	270.6	271.7
Finished consumer goods less energy	249.9	257.8	259.3	260.5	261.8	261.1	260.9	260.3	260.3	261.9	260.9	257.9	262.2	263.5
Finished goods less food and energy	256.1	262.3	264.3	266.0	267.2	267.2	267.7	268.2	268.6	269.4	269.4	265.6	271.6	271.8
Finished consumer goods less food and energy	239.9	245.9	248.0	249.6	250.5	250.5	251.1	251.5	252.0	252.9	252.9	249.5	254.9	255.1
Consumer nondurable goods less food and energy	231.5	239.0	240.7	242.8	243.9	244.4	245.0	245.2	245.6	247.4	247.3	247.8	248.2	248.6
Intermediate materials less food and feeds	317.1	325.0	325.6	325.4	324.5	324.7	325.5	326.4	325.7	325.0	324.5	324.6	324.3	324.5
Intermediate foods and feeds	247.9	253.1	243.0	240.7	239.2	236.7	235.4	232.6	232.2	231.7	227.1	225.5	226.5	231.0
Intermediate energy goods	543.9	545.0	540.4	535.7	526.0	527.5	531.5	536.7	528.6	523.8	519.8	526.0	524.4	529.5
Intermediate goods less energy	295.2	303.8	304.1	304.2	304.2	304.0	304.3	304.5	304.6	304.3	303.9	303.3	303.3	303.2
Intermediate materials less food and energy	294.8	303.6	304.8	305.1	305.3	305.2	305.6	305.9	306.0	305.6	305.5	304.9	304.6	304.2
Crude energy materials	791.1	785.2	773.1	757.5	754.1	746.4	749.1	760.7	754.5	752.6	742.9	745.4	743.4	742.9
Crude materials less energy	246.5	255.5	247.8	246.2	245.9	240.4	238.6	234.8	231.7	230.1	221.6	218.3	224.8	233.4
Crude nonfood materials less energy	250.7	266.1	253.9	254.4	255.3	255.4	257.3	252.3	247.4	247.2	245.8	246.9	247.2	244.9

[1] Crude nonfood materials except fuel.

34. Producer Price Indexes, by durability of product

(1967 = 100)

Grouping	Annual average		1984	1985										
	1983	1984	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
Total durable goods	286.7	293.6	294.8	295.6	296.4	296.3	297.1	297.6	297.8	297.8	297.8	295.3	296.8	298.7
Total nondurable goods	315.7	323.8	321.3	320.1	319.0	317.7	318.4	318.9	317.5	317.3	314.1	313.4	314.6	317.9
Total manufactures	295.7	302.9	303.5	303.7	303.4	303.3	304.2	305.2	304.8	304.6	303.8	302.3	304.6	305.4
Durable	287.3	293.9	295.5	296.2	297.0	296.9	297.6	298.4	298.7	298.7	298.6	298.1	298.7	299.6
Nondurable	304.4	312.3	311.7	311.4	309.9	309.9	310.8	312.1	311.0	310.6	309.0	306.7	309.4	311.3
Total raw or slightly processed goods	330.8	346.6	339.8	336.7	336.6	332.2	332.1	329.8	327.3	327.5	320.2	318.5	320.9	327.7
Durable	249.3	256.7	252.2	256.0	259.2	261.2	262.1	255.4	247.3	247.6	249.7	249.7	246.6	245.9
Nondurable	345.4	351.4	345.1	341.5	341.4	336.4	336.2	334.3	332.1	332.3	324.4	322.5	325.2	332.7

35. Annual data: Producer Price Indexes, by stage of processing

(1967 = 100)

Index	1976	1977	1978	1979	1980	1981	1982	1983	1984
Finished goods:									
Total	170.6	181.7	195.9	217.7	247.0	269.8	280.7	285.2	291.1
Consumer goods	169.7	180.7	194.9	217.9	248.9	271.3	281.0	284.6	290.3
Capital equipment	173.4	184.6	199.2	216.5	239.8	264.3	279.4	287.2	294.0
Intermediate materials, supplies, and components:									
Total	189.1	201.5	215.6	243.2	280.3	306.0	310.4	312.3	320.0
Materials and components for manufacturing	185.4	195.4	208.7	234.4	265.7	286.1	289.8	293.4	301.8
Materials and components for construction	188.4	203.4	224.7	247.4	268.3	287.6	293.7	301.8	310.3
Processed fuels and lubricants	250.1	262.5	295.3	364.8	503.0	595.4	591.7	564.8	566.2
Containers	180.2	188.3	202.8	226.8	254.5	276.1	285.6	288.6	302.3
Supplies	179.0	186.7	198.5	218.2	244.5	263.8	272.1	277.1	283.4
Crude materials for further processing:									
Total	202.7	209.2	234.4	274.3	304.6	329.0	319.5	323.6	330.8
Foodstuffs and feedstuffs	190.2	192.1	216.2	247.9	259.2	257.4	247.8	252.2	259.5
Nonfood materials except fuel	206.7	212.2	233.1	284.5	346.1	413.7	378.8	372.2	380.5
Fuel	305.3	372.1	426.8	507.6	615.0	751.2	886.1	931.5	931.3

36. U.S. export price indexes by Standard International Trade Classification,

(June 1977=100, unless otherwise indicated)

Category	1974 SITC	1983				1984				1985		
		March	June	Sept.	Dec.	March	June	Sept.	Dec.	March	June	Sept.
ALL COMMODITIES (9/83=100)		–	–	100.0	99.5	100.2	101.5	99.3	98.1	97.5	97.5	96.5
Food (3/83=100)	0	100.0	105.1	113.1	108.8	108.2	109.6	103.5	98.5	95.8	94.0	90.2
Meat (3/83=100)	01	100.0	100.5	100.8	101.2	108.9	108.7	105.6	104.4	103.9	104.7	106.1
Fish (3/83=100)	03	100.0	98.5	97.7	100.4	99.8	98.7	98.0	96.7	101.0	103.6	102.6
Grain and grain preparations (3/80=100)	04	96.9	103.5	111.5	105.6	102.7	107.4	101.2	92.9	92.4	90.3	82.6
Vegetables and fruit (3/83=100)	05	100.0	105.8	114.8	118.1	116.2	128.8	125.5	114.6	119.4	120.1	128.8
Feed stuffs for animals (3/83=100)	08	100.0	100.6	121.4	117.4	108.9	98.8	83.5	82.4	72.8	68.6	75.7
Misc. food products (3/83=100)	09	100.0	101.1	102.6	101.7	104.9	110.6	109.5	108.4	110.6	109.2	107.6
Beverages and tobacco (6/83=100)	1	–	100.0	100.0	101.5	101.6	101.9	102.8	101.3	99.9	100.1	99.7
Beverages (9/83=100)	11	–	–	100.0	103.3	102.3	102.9	103.3	103.7	104.0	105.3	101.8
Tobacco and tobacco products (6/83=100)	12	–	100.0	100.0	101.4	101.6	101.8	102.7	101.1	99.5	98.6	99.5
Crude materials (6/83=100)	2	–	100.0	114.8	112.2	112.5	118.3	105.2	101.4	97.5	96.8	93.3
Raw hides and skins (6/80=100)	21	101.8	118.2	129.2	135.2	145.6	154.7	153.7	133.6	121.0	126.2	129.0
Oilseeds and oleaginous fruit (9/77=100)	22	70.0	75.0	105.6	98.8	93.9	104.3	79.9	74.8	71.0	71.2	64.2
Crude rubber (including synthetic and reclaimed 9/83=100)	23	–	–	100.0	102.2	103.3	106.0	104.1	104.0	106.4	106.3	107.1
Wood	24	123.2	127.1	128.7	129.8	131.1	129.4	123.8	125.4	128.7	125.7	124.5
Pulp and waste paper (6/83=100)	25	–	100.0	103.5	106.0	112.6	122.1	120.8	114.2	100.5	96.1	93.6
Textile fibers	26	102.6	111.3	117.3	123.1	129.5	125.6	109.4	106.7	102.4	105.8	103.6
Crude fertilizers and minerals	27	145.6	145.0	144.8	144.8	146.6	147.7	163.0	163.2	165.6	167.9	169.4
Metalliferous ores and metal scrap	28	–	–	100.0	96.7	100.2	98.5	90.2	82.4	89.2	82.0	80.1
Mineral fuels	3	–	–	100.0	99.2	99.1	99.7	99.7	99.7	100.1	99.2	97.4
Animal and vegetables oils, fats and waxes	4	–	100.0	125.6	122.0	129.8	164.5	145.7	147.9	142.0	144.5	114.5
Fixed vegetable oils and fats (6/83=100)	42	–	100.0	138.2	129.3	133.2	176.4	150.0	156.7	152.9	164.8	128.8
Chemicals (3/83=100)	5	100.0	98.4	97.0	98.6	101.4	99.7	98.3	97.7	97.0	98.8	97.1
Organic chemicals (12/83=100)	51	–	–	–	100.0	100.2	101.0	97.4	94.7	93.8	96.5	97.1
Fertilizers, manufactured (3/83=100)	56	100.0	88.9	89.8	96.8	106.3	96.9	97.4	94.8	92.5	87.9	89.8
Intermediate manufactured products (9/81=100)	–	99.7	100.4	100.8	100.0	101.0	101.3	102.0	100.4	99.4	99.2	99.2
Leather and furskins (9/79=100)	6	65.5	67.2	70.1	75.8	83.5	81.2	80.8	79.0	82.5	79.2	75.9
Rubber manufactures	61	146.2	144.8	146.0	145.0	146.7	147.5	148.9	148.5	150.2	149.0	148.3
Paper and paperboard products (6/78=100)	62	135.0	135.6	139.7	145.5	150.2	154.7	160.0	159.5	155.0	151.6	149.8
Iron and steel (3/82=100)	64	95.2	95.9	98.6	96.3	95.9	96.1	96.8	96.5	95.5	95.3	95.9
Non-ferrous metals (9/81=100)	–	100.3	102.8	102.3	93.8	94.2	92.9	90.4	82.5	79.7	79.6	79.6
Metal manufactures, n.e.s. (3/82=100)	–	100.9	101.5	101.9	102.1	103.1	104.6	105.1	105.0	105.4	105.2	105.4
Machinery and transport equipment, excluding	67	134.6	135.3	135.0	137.0	138.5	139.4	140.1	141.5	142.3	143.0	143.2
Power generating machinery and equipment (12/78=100)	68	151.7	152.5	152.3	154.4	156.4	156.9	160.6	167.5	165.3	167.4	167.1
Machinery specialized for particular industries (9/78=100)	69	148.9	148.9	149.1	151.1	152.3	152.8	153.7	153.4	155.0	155.7	156.0
Metalworking machinery (6/78=100)	7	147.6	148.4	148.3	148.7	150.8	151.2	151.7	151.9	153.4	155.1	156.3
General industrial machines and parts n.e.s. 9/78=100)	71	144.6	145.0	145.4	145.9	148.6	149.0	149.3	150.2	152.4	152.0	152.4
Office machines and automatic data processing equipment	72	103.3	103.6	103.2	102.5	101.4	101.5	99.8	101.4	100.9	100.0	99.9
Telecommunications, sound recording and reproducing equipment	73	130.5	131.1	132.2	132.1	133.0	132.3	134.4	134.3	133.3	133.3	134.1
Electrical machinery and equipment	74	107.8	108.5	109.4	108.8	110.2	112.6	113.8	114.6	114.9	116.1	115.3
Road vehicles and parts (3/80=100)	75	124.4	125.6	127.5	128.8	130.2	131.2	131.0	131.8	133.1	133.9	134.0
Other transport equipment, excl. military and commercial aviation	76	174.3	175.8	176.4	179.3	183.1	187.7	189.6	191.7	195.5	196.9	199.6
Other manufactured articles	77	–	–	100.0	100.2	100.8	100.4	100.7	99.3	99.5	100.4	100.3
Apparel (9/83=100)	78	–	–	100.0	100.6	101.9	102.1	103.9	103.4	104.7	104.7	105.0
Professional, scientific and controlling instrument and apparatus	79	167.2	169.8	169.0	171.5	171.8	172.0	175.8	171.7	175.5	178.3	178.4
Photographic apparatus and supplies, optical goods, watches and clocks (12/1977=100)	8	128.2	129.8	130.0	132.0	132.0	131.3	132.7	130.3	129.0	129.1	127.5
Miscellaneous manufactured articles, n.e.s.	84	–	100.0	100.0	98.2	98.5	97.9	95.2	94.1	92.4	93.1	93.1
Gold, non-monetary (6/82=100)	971	–	–	–	–	–	–	–	–	–	–	–

– Data not available.

37. U.S. import price indexes by Standard International Trade Classification

(June 1977=100, unless otherwise indicated)

Category	1974 SITC	1983		1984				1985		
		Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.
ALL COMMODITIES (9/82=100)		95.9	97.3	98.0	98.3	96.7	95.7	93.6	93.0	93.0
Food (9/77=100)	0	98.2	100.4	102.5	103.5	102.0	98.1	96.5	96.8	94.9
Meat	01	139.4	134.1	133.4	133.8	135.4	132.3	130.4	118.2	120.6
Dairy products and eggs (6/81=100)	02	99.9	99.8	100.8	99.8	98.9	98.4	98.3	97.9	99.1
Fish	03	135.2	136.0	132.7	134.2	134.2	133.9	132.9	129.4	129.7
Bakery goods, pasta products, grain and grain preparations (9/77=100)	04	132.3	132.7	136.5	134.8	132.9	132.8	131.8	132.3	136.3
Fruits and vegetables	05	132.3	125.0	136.1	135.8	135.4	117.2	127.1	129.4	120.2
Sugar, sugar preparations and honey (3/82=100)	06	118.9	117.9	117.1	120.3	119.0	118.5	118.4	122.8	123.1
Coffee, tea, cocoa	07	54.7	59.6	61.4	62.4	60.3	56.4	57.0	56.0	54.4
Beverages and tobacco	1	153.7	155.4	156.3	156.3	157.1	156.5	156.2	157.1	158.0
Beverages	11	153.6	152.7	152.6	153.6	153.5	152.8	154.2	154.3	156.0
Crude materials	2	100.0	98.6	103.2	102.6	100.6	98.9	94.0	93.6	91.5
Crude rubber (inc. synthetic & reclaimed) (3/84=100)	23	-	-	100.0	93.7	90.7	83.8	77.8	76.4	68.9
Wood (9/81=100)	24	110.0	107.2	114.8	103.2	99.6	104.0	100.7	106.9	101.6
Pulp and waste paper (12/81=100)	25	80.3	80.9	87.6	96.1	96.3	93.2	84.0	80.4	76.8
Crude fertilizers & crude minerals (12/83=100)	27	-	100.0	100.0	98.2	98.0	98.6	100.3	101.7	102.7
Metalliferous ores & metal scrap (3/84=100)	28	-	-	100.0	102.8	100.1	95.6	90.4	87.6	89.5
Crude vegetable and animal materials, n.e.s.	29	-	-	100.0	100.8	101.1	106.4	104.3	104.9	102.5
Fuels and related products (6/82=100)	3	87.7	87.6	88.3	88.0	86.9	85.2	82.9	80.9	80.0
Petroleum and petroleum products (6/82=100)	33	88.0	87.6	88.2	88.1	87.0	85.2	83.8	81.6	80.5
Fats and oils (9/83=100)	4	100.0	100.4	117.4	141.8	124.4	114.9	89.9	76.7	57.6
Vegetable oils (9/83=100)	42	100.0	100.5	118.1	143.1	125.9	115.3	89.5	75.9	56.2
Chemicals (9/82=100)	5	97.8	99.5	101.1	100.6	98.8	97.1	95.7	95.0	94.6
Medicinal & pharmaceutical products (3/84=100)	54	-	-	100.0	98.5	96.4	94.8	91.6	95.1	95.3
Manufactured fertilizers (3/84=100)	56	-	-	100.0	101.7	96.5	92.9	94.2	82.0	80.8
Chemical materials and products, n.e.s. (9/84=100)	59	-	-	-	-	100.0	97.5	96.1	95.6	96.9
Intermediate manufactured products (12/77=100)	6	137.3	137.3	137.8	139.6	137.2	136.8	133.1	132.4	133.6
Leather and furskins	61	136.6	137.8	141.8	145.3	144.0	140.4	135.3	133.3	137.0
Rubber manufactures, n.e.s.	62	141.0	141.1	141.8	140.8	139.6	140.5	139.5	138.6	137.3
Cork and wood manufactures	63	138.2	134.7	130.1	131.0	126.4	126.1	121.3	121.2	123.4
Paper and paperboard products	64	147.3	147.0	148.0	150.4	156.1	157.5	157.6	157.2	157.8
Textiles	65	127.6	128.5	130.8	130.1	131.6	132.9	130.4	127.5	126.5
Non-metallic mineral manufactures, n.e.s.	66	166.4	166.4	168.4	166.6	156.6	159.4	154.3	151.8	157.6
Iron and steel (9/78=100)	67	115.0	119.5	118.5	123.8	124.7	123.7	121.0	120.1	119.1
Non-ferrous metals (12/81=100)	68	99.3	94.8	95.0	96.3	90.2	87.3	81.3	82.3	83.7
Metal manufactures, n.e.s.	69	118.0	118.9	119.7	120.5	119.3	119.3	117.4	117.8	119.5
Machinery and transport equipment (6/81=100)	7	103.0	104.1	104.0	104.1	102.6	102.9	101.6	102.6	103.5
Machinery specialized for particular industries (9/78=100)	72	101.2	100.8	100.4	100.0	98.8	98.0	98.2	97.0	101.4
Metalworking machinery (3/80=100)	73	96.0	95.7	94.3	93.8	92.1	89.9	88.3	90.5	94.2
General industrial machinery and parts (6/81=100), n.e.s.	74	93.4	93.5	93.7	94.4	92.4	91.3	89.2	91.1	94.4
Office machines and automatic data processing equipment (3/80=100)	75	94.0	98.9	97.8	96.7	94.1	92.2	89.8	89.4	90.3
Telecommunications, sound recording and reproducing apparatus (3/80=100)	76	96.5	94.9	94.2	94.6	93.6	91.3	90.0	88.8	88.3
Electrical machinery and equipment (12/81=100)	77	96.4	95.9	94.2	91.2	87.0	86.4	82.1	83.9	81.4
Road vehicles and parts (6/81=100)	78	106.7	109.5	109.0	110.4	109.8	111.3	111.5	112.1	112.7
Misc. manufactured articles (3/80=100)	8	100.2	100.0	100.6	101.5	99.7	100.0	97.0	98.0	100.0
Plumbing, heating, and lighting fixtures (6/80=100)	81	107.9	108.2	109.5	112.0	110.7	111.6	113.9	114.1	117.8
Furniture and parts (6/80=100)	82	96.1	94.7	94.9	96.0	95.4	94.3	92.7	94.4	96.1
Clothing (9/77=100)	84	125.6	128.5	130.2	132.5	135.4	138.5	136.7	133.9	136.0
Footwear	85	-	-	-	-	-	-	-	-	-
Professional, scientific, and controlling instruments and apparatus (12/79=100)	87	96.8	97.6	98.7	97.8	95.8	92.9	89.2	92.3	98.8
Photographic apparatus and supplies, optical goods, watches, and clocks (3/80=100)	88	89.7	90.6	89.6	92.8	91.2	91.3	88.9	89.5	91.2
Misc. manufactured articles, n.e.s. (6/82=100)	89	107.5	104.9	105.2	104.0	98.3	98.3	91.2	95.2	96.4
Gold, non-monetary (9/82=100)	971	-	-	-	-	-	-	-	-	-

- Data not available.

38. U.S. export price indexes by end-use category

(September 1983 = 100 unless otherwise indicated)

Category	Percentage of 1980 Trade Value	1983		1984				1985		
		Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.
Foods, feeds, and beverages	16.294	100.0	95.0	92.8	98.5	88.8	83.0	81.5	80.9	76.2
Raw materials	30.696	100.0	100.7	102.2	102.5	100.5	99.1	97.6	97.2	96.5
Raw materials, nondurable	21.327	100.0	101.9	103.6	104.4	102.8	101.4	99.6	99.5	98.7
Raw materials, durable	9.369	100.0	97.7	98.8	97.7	95.0	93.3	92.6	91.6	91.1
Capital goods, (12/82=100)	30.186	101.1	102.0	103.2	103.9	104.6	105.6	106.2	106.6	106.6
Automotive vehicles parts, and engines (12/82=100)	7.483	102.5	103.9	104.5	105.3	105.3	105.7	106.7	106.0	108.1
Consumer goods	7.467	100.0	99.3	100.5	100.3	99.8	99.1	98.5	99.0	99.5
Durables	3.965	100.0	98.5	99.4	98.7	96.9	96.3	94.8	95.3	96.1
Nondurables	3.501	100.0	100.3	101.8	102.1	103.0	102.3	102.7	103.0	103.3

39. U.S. import price indexes by end-use category

(December 1982=100)

Category	Percentage of 1980 Trade Value	Monthly Values								
		1983		1984				1985		
		Sept.	Dec.	March	June	Sept.	Dec.	March	June	Sept.
Food, feeds, and beverages	7.477	103.1	104.0	106.0	107.2	105.6	101.8	102.1	100.4	99.0
Petroleum & products, excl. natural gas	31.108	88.5	87.8	88.3	88.1	87.1	85.1	83.9	82.3	80.9
Raw materials, excluding petroleum	19.205	–	–	–	–	–	–	–	–	–
Raw materials, nondurable	9.391	97.0	99.0	100.7	102.1	101.7	100.7	95.0	93.9	93.6
Raw materials, durable	9.814	106.4	104.7	106.5	106.7	103.3	101.6	97.7	97.6	97.4
Capital goods	13.164	101.2	101.3	100.8	99.8	98.0	97.8	94.8	96.3	97.6
Automotive vehicles parts and engines	11.750	101.3	103.8	103.6	104.9	104.0	105.2	105.4	105.9	106.4
Consumer goods	14.250	99.5	99.7	100.3	100.9	98.9	99.2	97.0	97.3	99.1
Durable	5.507	100.4	99.9	99.9	99.8	96.1	95.6	93.1	93.8	95.6
Nondurable	8.743	98.1	99.5	100.9	102.5	103.0	104.6	103.0	102.5	104.6

– Data not available.

40. U.S. export price indexes by Standard Industrial Classification [1]

Industry group	1983		1984				1985		
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.
Manufacturing:									
Food and kindred products (6/83=100)	109.4	108.3	109.0	112.7	105.6	103.3	99.5	99.5	96.6
Tobacco manufactures	–	–	–	–	–	–	–	–	–
Textile mill products	–	–	–	–	–	–	–	–	–
Apparel and related products	–	–	–	–	–	–	–	–	–
Lumber and wood products, except furniture (6/83=100)	100.1	101.0	101.5	100.1	97.0	97.9	99.9	99.5	98.3
Furniture and fixtures (9/83=100)	100.0	100.9	101.8	103.1	103.5	104.9	105.2	106.5	107.1
Paper and allied products (3/81=100)	91.2	94.7	98.6	104.3	106.2	103.6	97.1	94.7	93.2
Printing, publishing, and allied products	–	–	–	–	–	–	–	–	–
Chemicals and allied products (12/84=100)	99.7	101.4	103.3	102.3	101.3	100.7	100.3	99.6	99.7
Petroleum and coal products (12/83=100)	–	100.0	101.6	102.1	100.7	100.4	101.3	102.7	102.0
Rubber and miscellaneous plastic products	–	–	–	–	–	–	–	–	–
Leather and leather products	–	–	–	–	–	–	–	–	–
Stone, clay, glass, and concrete products	–	–	–	–	–	–	–	–	–
Primary metal products (3/82=100)	110.1	105.0	105.1	104.0	100.0	95.8	91.2	92.7	93.6
Fabricated metal products	–	–	–	–	–	–	–	–	–
Machinery, except electrical (9/78=100)	135.1	135.8	137.4	137.9	138.0	139.9	140.4	140.5	140.6
Electrical machinery (12/80=100)	107.4	107.6	108.0	109.5	110.7	111.1	111.3	112.4	111.9
Transportation equipment (12/78=100)	150.8	153.6	155.7	157.2	157.8	158.9	160.5	162.0	162.9
Scientific instruments; optical goods; clocks (6/77=100)	150.9	152.8	153.1	153.2	156.0	153.0	154.9	156.6	156.0
Miscellaneous manufactured commodities	–	–	–	–	–	–	–	–	–

[1] SIC - based classification.

– Data not available.

41. U.S. import price indexes by Standard Industrial Classification[1]

Industry group	1983		1984				1985		
	Sept.	Dec.	March	June	Sept.	Dec.	March	June	Sept.
Manufacturing:									
Food and kindred products (6/77=100)	121.0	120.8	122.3	126.6	124.1	122.6	118.8	115.2	114.4
Tobacco manufactures	–	–	–	–	–	–	–	–	–
Textile mill products (9/82=100)	99.5	103.3	104.4	103.8	104.3	104.7	102.8	101.0	100.4
Apparel and related products (6/77=100)	123.2	126.5	128.1	129.6	133.9	138.2	135.6	133.0	135.9
Lumber and wood products, except furniture (6/77=100)	128.3	125.0	129.4	121.1	117.3	120.0	116.3	120.6	117.5
Furniture and fixtures (6/80=100)	97.1	95.5	95.7	96.9	96.2	95.6	93.9	96.1	97.7
Paper and allied products (6/77=100)	132.7	132.9	136.5	141.9	146.0	145.5	141.5	139.6	138.7
Printing, publishing, allied products	–	–	–	–	–	–	–	–	–
Chemicals and allied products (9/82=100)	99.2	99.5	101.8	101.8	99.8	98.2	95.3	93.9	93.3
Petroleum and coal products	–	–	–	–	–	–	–	–	–
Rubber and miscellaneous plastic products (12/80=100)	97.5	97.4	98.1	98.5	97.8	98.0	96.9	96.7	96.5
Leather and leather products	–	–	–	–	–	–	–	–	–
Stone, clay, glass, concrete products	–	–	–	–	–	–	–	–	–
Primary metal products (6/81=100)	91.3	90.5	90.1	91.9	88.3	86.6	82.2	83.0	83.4
Fabricated metal products (12/84=100)	–	–	–	–	–	100.0	99.0	99.1	101.1
Machinery, except electrical (3/80=100)	98.0	98.0	97.8	97.1	95.5	94.1	91.8	93.4	96.6
Electrical machinery (9/84=100)	–	–	–	–	100.0	96.6	95.1	95.8	94.5
Transportation equipment (6/81=100)	107.8	110.3	110.6	111.6	110.7	112.9	113.1	114.2	114.8
Scientific instruments optical goods; clocks (12/79=100)	93.5	94.3	94.0	95.5	94.4	93.2	90.7	91.7	94.7
Miscellaneous manufactured commodities (9/82=100)	100.6	99.7	99.8	99.1	95.8	96.4	96.1	95.1	96.6

– Data not available.

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[1] SIC - based classification.

42. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

(1977=100)

Item	Annual average	Quarterly indexes										
		1983				1984				1985		
	1983	I	II	III	IV	I	II	III	IV	I	II	III
Business:												
Output per hour of all persons	103.7	102.2	103.6	104.3	104.7	105.7	107.0	107.2	108.0	106.9	107.3	108.3
Compensation per hour	161.7	160.2	161.0	161.8	164.2	166.7	167.5	169.3	171.1	173.1	174.5	176.8
Real compensation per hour	98.4	99.0	98.5	97.9	98.4	98.6	98.2	98.3	98.5	98.9	98.6	99.4
Unit labor costs	156.0	156.8	155.4	155.1	156.8	157.7	156.5	158.0	158.4	161.9	162.6	163.2
Unit nonlabor payments	145.5	139.8	144.6	147.9	149.1	151.6	157.2	158.5	160.2	159.1	159.9	160.5
Implicit price deflator	152.4	151.0	151.7	152.7	154.2	155.6	156.7	158.1	159.0	160.9	161.7	162.3
Nonfarm business:												
Output per hour of all persons	103.4	101.6	103.6	104.1	104.4	105.2	106.6	106.3	106.9	106.0	106.3	106.9
Compensation per hour	162.0	160.1	161.5	162.4	164.0	166.5	168.0	169.5	171.0	173.1	174.6	176.2
Real compensation per hour	98.6	99.0	98.8	98.3	98.3	98.4	98.4	98.4	98.5	98.9	98.7	99.0
Unit labor costs	156.6	157.6	155.9	155.9	157.1	158.3	157.6	159.5	160.0	163.3	164.1	164.8
Unit nonlabor payments	147.0	140.6	146.4	149.4	151.4	152.2	156.8	158.0	160.3	160.3	161.8	163.0
Implicit price deflator	153.4	151.9	152.7	153.8	155.2	156.3	157.3	159.0	160.1	162.3	163.4	164.2
Nonfinancial corporations:												
Output per hour of all employees	106.1	104.0	105.8	107.2	107.2	108.1	108.9	108.2	108.8	109.1	108.1	109.2
Compensation per hour	161.0	159.2	160.6	161.8	162.6	164.8	165.8	167.1	168.7	170.3	171.6	173.0
Real compensation per hour	97.9	98.4	98.2	97.9	97.4	97.5	97.2	97.1	97.1	97.3	97.0	97.2
Total unit costs	155.2	156.7	155.2	154.4	154.7	155.0	155.0	157.5	158.0	160.2	161.6	161.1
Unit labor costs	151.8	153.1	151.7	150.9	151.7	152.5	152.3	154.5	155.0	157.5	158.8	158.3
Unit nonlabor costs	164.9	167.0	165.1	164.4	163.3	162.0	162.8	165.9	166.4	166.1	169.8	166.8
Unit profits	117.2	92.5	111.8	126.6	135.9	143.2	151.1	145.3	150.7	150.4	148.9	160.1
Unit nonlabor payments	149.1	142.3	147.4	151.9	154.2	155.7	158.9	159.1	161.2	162.2	162.9	165.9
Implicit price deflator	150.9	149.4	150.2	151.2	152.6	153.6	154.6	156.1	157.1	159.1	160.2	160.9
Manufacturing:												
Output per hour of all persons	111.8	110.0	110.9	113.0	112.7	114.2	114.8	116.7	116.5	116.7	118.6	119.7
Compensation per hour	163.4	162.7	163.0	163.5	164.6	167.1	168.3	169.9	172.1	174.4	176.5	177.8
Real compensation per hour	99.4	100.6	99.6	98.9	98.6	98.8	98.6	98.7	99.1	99.6	99.7	99.9
Unit labor costs	146.4	147.9	147.0	144.7	146.1	146.3	146.6	145.5	147.7	149.5	148.8	148.6

43. Annual indexes of multifactor productivity and related measures selected years

(1977 = 100)

Item	1950	1960	1970	1973	1975	1976	1978	1979	1980	1981	1982	1983
Private business												
Productivity:												
Output per hour of all persons	49.7	64.8	86.1	94.8	94.5	97.6	100.5	99.3	98.7	100.6	100.8	103.7
Output per unit of capital services	98.5	98.4	98.5	103.0	92.0	96.1	101.8	100.3	95.6	94.1	89.5	92.3
Multifactor productivity	63.6	75.4	90.2	97.5	93.6	97.1	101.0	99.7	97.6	98.3	96.6	99.6
Output	39.5	53.3	78.3	91.6	88.0	93.7	105.5	107.9	106.4	109.2	106.3	111.1
Inputs:												
Hours of all persons	79.4	82.2	90.8	96.6	93.1	95.9	105.0	108.6	107.8	108.5	105.4	107.2
Capital services	40.1	54.1	79.4	89.1	95.7	97.5	103.6	107.5	111.4	116.0	118.8	120.4
Combined units of labor and capital input	62.1	70.7	86.7	94.1	94.0	96.5	104.5	108.2	109.0	111.0	109.9	111.6
Capital per hour or all persons	50.5	65.9	87.4	92.0	102.8	101.6	98.7	98.9	103.3	106.9	112.7	112.3
Private nonfarm business												
Productivity:												
Output per hour of all persons	55.6	68.0	86.8	95.3	94.8	97.8	100.6	99.0	98.2	99.6	99.9	103.5
Output per unit of capital services	98.1	98.4	98.6	103.2	91.7	96.1	101.9	100.1	95.2	93.2	88.7	91.9
Multifactor productivity	68.1	77.6	90.7	97.9	93.6	97.2	101.0	99.4	97.2	97.4	95.9	99.4
Output	38.3	52.3	77.8	91.7	87.6	93.6	105.7	108.0	106.4	108.7	105.9	111.3
Inputs:												
Hours of all persons	69.0	77.0	89.7	96.2	92.4	95.7	105.1	109.1	108.4	109.1	106.0	107.6
Capital services	39.1	53.2	78.9	88.8	95.6	97.4	103.7	107.9	111.7	116.6	119.4	121.1
Combined units of labor and capital input	56.3	67.4	85.9	93.6	93.5	96.3	104.6	108.7	109.5	111.6	110.4	112.0
Capital per hour of all persons	56.6	69.1	88.0	92.4	103.4	101.8	98.7	98.9	103.1	106.8	112.6	112.6
Manufacturing												
Productivity:												
Output per hour of all persons	49.4	60.0	79.2	93.0	93.4	97.6	100.9	101.6	101.7	104.9	107.1	111.6
Output per unit of capital services	94.2	87.9	91.8	108.2	89.4	96.1	101.5	99.5	90.7	89.9	82.9	87.6
Multifactor productivity	59.8	67.0	82.3	96.8	92.2	97.1	101.1	101.0	98.8	100.8	100.3	104.9
Output	38.6	50.7	77.0	95.9	85.4	93.6	105.3	108.2	103.5	106.1	99.3	104.4
Inputs:												
Hours of all persons	78.2	84.4	97.3	103.1	91.4	95.9	104.4	106.5	101.7	101.1	92.7	93.5
Capital services	41.0	57.6	83.9	88.6	95.5	97.4	103.8	108.8	114.1	118.0	119.8	119.2
Combined units of labor and capital inputs	64.6	75.6	93.5	99.0	92.6	96.3	104.2	107.1	104.8	105.2	99.0	99.5
Capital per hour of all persons	52.5	68.3	86.2	85.9	104.5	101.6	99.4	102.1	112.2	116.7	129.2	127.5

44. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years

(1977 = 100)

Item	1950	1960	1970	1973	1975	1976	1978	1979	1980	1981	1982	1983	1984
Business:													
Output per hour of all persons	50.4	65.2	88.2	94.8	94.6	97.6	100.5	99.3	98.8	100.7	100.9	103.7	107.0
Compensation per hour	20.0	33.9	58.2	71.4	85.6	92.9	108.5	118.7	131.1	143.4	155.0	161.7	168.6
Real compensation per hour	50.5	69.5	90.8	97.3	96.4	98.9	100.8	99.1	96.4	95.5	97.3	98.4	98.4
Unit labor costs	39.6	52.1	67.5	75.3	90.5	95.1	108.0	119.5	132.6	142.4	153.6	156.0	157.6
Unit nonlabor payments	43.4	50.6	63.2	75.2	90.4	94.0	106.7	112.8	119.3	136.7	136.8	145.5	157.0
Implicit price deflator	41.0	51.6	66.0	75.3	90.4	94.7	107.5	117.2	128.1	140.4	147.9	152.4	157.4
Nonfarm business:													
Output per hour of all persons	56.3	68.3	86.6	95.2	94.8	97.8	100.6	99.0	98.3	99.8	100.0	103.4	106.2
Compensation per hour	21.9	35.7	58.7	71.8	88.1	93.0	108.6	118.4	130.6	143.1	154.5	162.0	169.7
Real compensation per hour	55.1	73.1	91.5	97.9	96.9	99.0	100.8	98.8	96.0	95.3	97.0	98.6	98.4
Unit labor costs	38.8	52.3	67.6	75.8	90.8	95.1	108.0	119.6	132.8	143.5	154.5	156.6	158.8
Unit nonlabor payments	42.7	50.4	63.8	71.8	88.5	93.5	105.3	110.4	118.6	135.0	136.9	147.0	156.9
Implicit price deflator	40.1	51.6	66.3	74.0	90.0	94.6	107.1	116.5	128.1	140.6	148.6	153.4	158.2
Nonfinancial corporations:													
Output per hour of all employees	-	68.0	87.4	96.4	95.5	98.2	100.8	100.6	99.7	101.8	102.6	106.1	108.5
Compensation per hour	-	37.0	59.4	71.9	88.1	92.9	108.4	118.6	130.8	143.1	154.6	161.0	168.6
Real compensation per hour	-	75.8	92.7	98.0	97.0	98.9	100.7	99.0	98.2	95.3	97.0	97.9	97.2
Unit labor costs	-	54.4	68.0	74.5	90.2	94.6	107.5	117.8	131.2	140.9	150.6	151.8	153.6
Unit nonlabor payments	-	54.6	63.1	70.6	90.8	95.0	104.2	106.9	117.4	135.1	138.1	149.1	158.8
Implicit price deflator	-	54.5	66.3	73.2	90.4	94.7	106.4	114.1	126.4	138.9	146.3	150.9	155.4
Manufacturing:													
Output per hour of all persons	49.4	60.0	79.2	93.0	93.4	97.6	100.9	101.6	101.7	104.9	107.1	111.6	115.6
Compensation per hour	21.5	36.7	57.6	69.0	85.5	92.3	108.3	118.8	132.7	145.2	158.0	163.4	169.4
Real compensation per hour	54.0	75.1	89.8	94.1	96.2	98.3	100.6	99.2	97.6	96.8	99.2	99.4	98.8
Unit labor costs	43.4	61.1	72.7	74.2	91.5	94.6	107.3	117.0	130.5	138.4	147.6	146.4	146.5
Unit nonlabor payments	54.3	61.1	65.1	70.7	87.3	93.9	102.7	99.9	97.9	111.6	110.5	128.8	140.3
Implicit price deflator	46.6	61.1	70.5	73.2	90.3	94.4	106.0	112.0	120.9	130.6	136.7	141.2	144.7

- Data not available.

45. Unemployment rates in nine countries, quarterly data seasonally adjusted

Country	Annual average		1984				1985		
	1983	1984	I	II	III	IV	I	II	III
Total labor force basis									
United States	-	-	-	-	-	-	-	-	-
Canada	-	-	11.4	11.3	11.2	11.1	11.1	10.5	10.2
Australia	-	-	9.3	9.1	8.8	8.5	8.5	8.4	8.1
Japan	-	-	2.7	2.7	2.8	2.7	2.8	2.6	-
France	-	-	9.4	9.8	10.0	10.2	10.3	10.2	10.2
Germany	-	-	7.6	7.7	7.8	7.7	7.8	7.8	7.8
Great Britain	-	-	12.7	12.8	13.1	12.9	13.0	13.2	13.4
Italy [1], [2]	-	-	6.0	5.9	5.7	5.5	5.3	5.5	-
Sweden	-	-	-	-	-	-	-	-	-
Civilian labor force basis									
United States	-	-	7.9	7.5	7.4	7.2	7.3	7.3	7.2
Canada	-	-	11.5	11.2	11.6	11.2	11.1	10.6	10.3
Australia	-	-	9.4	9.2	8.8	8.6	8.5	8.5	8.2
Japan	-	-	2.8	2.7	2.8	2.7	2.6	2.6	-
France	-	-	9.6	10.1	10.3	10.4	10.5	10.5	10.5
Germany	-	-	7.7	7.9	8.0	7.8	7.9	8.0	7.9
Great Britain	-	-	12.8	12.9	13.2	13.0	13.1	13.3	13.5
Italy	-	-	6.1	6.0	5.8	5.6	5.4	5.6	-
Sweden	-	-	-	-	-	-	-	-	-

[1] Quarterly rates are for the first month of the quarter.

[2] Major changes in the Italian labor force survey, introduced in 1977, resulted in a large increase in persons enumerated as unemployed. However, many persons reported that they had not actively sought work in the past 30 days, and they have been provisionally excluded for comparability with U.S. concepts. Inclusion of such persons would more than double the Italian unemployment rate shown.

- Data not available.

NOTE: Quarterly and monthly figures for France, Germany, and Great Britain are calculated by applying annual adjustment factors to current published data and therefore should be viewed as less precise indicators of unemployment under U.S. concepts than the annual figures.

48. Annual data: Employment status of the civilian working-age population, ten countries

(Numbers in thousands)

Employment status and country	1975	1976	1977	1978	1979	1980	1981	1982	1983
Labor force									
United States	93,775	96,158	99,009	102,251	104,962	106,940	108,670	110,204	111,550
Canada	9,974	10,203	10,500	10,895	11,231	11,573	11,904	11,958	12,183
Australia	6,168	6,244	6,358	6,443	6,519	6,693	6,810	6,910	6,997
Japan	52,530	53,100	53,820	54,610	55,210	55,740	56,320	56,980	58,110
France	21,600	21,840	22,100	22,290	22,470	22,570	22,640	22,900	22,800
Germany	26,130	25,900	25,870	26,000	26,240	26,500	26,610	26,640	26,640
Great Britain	25,130	25,290	25,430	25,620	25,710	25,870	25,870	25,880	25,980
Italy	20,080	20,300	20,530	20,630	20,910	21,210	21,410	21,450	21,610
Netherlands	4,820	4,890	4,950	5,010	5,100	5,290	5,500	5,560	5,720
Sweden	4,123	4,149	4,168	4,203	4,262	4,312	4,326	4,350	4,369
Participation rate									
United States	61.2	61.6	62.3	63.2	63.7	63.8	63.9	64.0	64.0
Canada	61.1	61.1	61.6	62.7	63.4	64.1	64.8	64.1	64.4
Australia	63.2	62.7	62.7	62.0	61.7	62.2	62.0	61.8	61.5
Japan	62.4	62.4	62.5	62.8	62.7	62.6	62.6	62.7	63.1
France	56.7	56.9	57.0	57.1	57.0	56.7	56.5	56.7	56.1
Germany	54.4	53.8	53.4	53.3	53.3	53.2	52.9	52.5	52.8
Great Britain	63.1	63.2	63.2	63.3	63.2	63.2	62.2	61.9	62.2
Italy	47.5	47.6	48.0	47.7	47.8	48.0	48.0	47.4	47.2
Netherlands	49.2	49.1	49.0	48.8	49.0	50.0	51.3	51.2	52.4
Sweden	65.9	66.0	65.9	66.1	66.6	67.0	66.8	66.8	66.9
Employed									
United States	85,846	88,752	92,017	96,048	98,824	99,303	100,397	99,526	100,834
Canada	9,284	9,477	9,651	9,987	10,395	10,708	11,006	10,644	10,734
Australia	5,866	5,946	6,000	6,038	6,111	6,284	6,416	6,415	6,300
Japan	51,530	52,020	52,720	53,370	54,040	54,600	55,060	55,620	56,550
France	20,700	20,850	21,030	21,110	21,110	21,120	20,950	20,980	20,840
Germany	25,230	25,010	24,970	25,130	25,460	25,730	25,520	25,060	24,650
Great Britain	24,000	23,810	23,840	24,040	24,360	24,100	23,190	22,820	22,650
Italy	19,490	19,600	19,800	19,870	20,100	20,380	20,480	20,430	20,470
Netherlands	4,570	4,630	4,700	4,750	4,830	4,960	4,990	4,930	4,890
Sweden	4,056	4,083	4,093	4,109	4,174	4,226	4,218	4,213	4,218
Employment-population ratio									
United States	56.1	56.8	57.9	59.3	59.9	59.2	59.0	57.8	57.9
Canada	56.9	56.7	56.6	57.5	58.7	59.3	59.9	57.0	56.7
Australia	60.1	59.7	59.2	58.1	57.9	58.4	58.4	57.3	55.4
Japan	61.2	61.1	61.2	61.3	61.4	61.3	61.2	61.2	61.4
France	54.3	54.3	54.3	54.1	53.6	53.1	52.3	51.9	51.3
Germany	52.5	52.0	51.6	51.5	51.7	51.6	50.7	49.4	48.8
Great Britain	60.3	59.5	59.3	59.4	59.8	58.9	55.8	54.6	54.2
Italy	46.1	46.1	46.3	45.9	45.9	46.1	45.9	45.2	44.7
Netherlands	46.8	46.5	46.5	46.3	46.4	46.9	46.5	45.4	44.8
Sweden	64.8	64.9	64.8	64.6	65.3	65.6	65.1	64.7	64.4
Unemployed									
United States	7,929	7,406	6,991	6,202	6,137	7,637	8,273	10,678	10,717
Canada	690	726	849	908	836	865	898	1,314	1,448
Australia	302	298	358	405	408	409	394	495	697
Japan	1,000	1,080	1,100	1,240	1,170	1,140	1,260	1,360	1,560
France	900	990	1,070	1,180	1,360	1,450	1,690	1,920	1,960
Germany	890	890	900	870	780	770	1,090	1,580	1,990
Great Britain	1,130	1,480	1,590	1,580	1,350	1,770	2,680	3,060	3,330
Italy	610	700	740	760	810	830	920	1,020	1,140
Netherlands	250	260	250	260	270	330	510	630	830
Sweden	67	66	75	94	88	86	108	137	151
Unemployment rate									
United States	8.5	7.7	7.1	6.1	5.8	7.1	7.6	9.7	9.6
Canada	6.9	7.1	8.1	8.3	7.4	7.5	7.5	11.0	11.9
Australia	4.9	4.8	5.6	6.3	6.3	6.1	5.8	7.2	10.0
Japan	1.9	2.0	2.0	2.3	2.1	2.0	2.2	2.4	2.7
France	4.2	4.5	4.8	5.3	6.1	6.4	7.5	8.4	8.6
Germany	3.4	3.4	3.5	3.4	3.0	2.9	4.1	5.9	7.5
Great Britain	4.5	5.9	6.3	6.2	5.3	6.8	10.4	11.8	12.8
Italy	3.0	3.4	3.6	3.7	3.9	3.9	4.3	4.8	5.3
Netherlands	5.2	5.3	5.0	5.2	5.3	6.2	9.3	11.3	14.5
Sweden	1.6	1.6	1.8	2.2	2.1	2.0	2.5	3.1	3.5

47. Annual indexes of productivity and related measures, twelve countries

(1977 = 100)

Item and country	1960	1970	1973	1975	1976	1978	1979	1980	1981	1982	1983	1984
Output per hour												
United States	60.0	79.2	93.0	93.4	97.6	100.9	101.6	101.7	104.9	107.1	111.6	115.6
Canada	50.3	76.6	91.3	91.0	96.2	101.4	104.2	101.9	104.0	101.1	107.6	111.9
Japan	22.0	61.4	80.2	85.3	93.3	107.9	117.4	128.8	135.7	145.4	152.8	167.4
Belgium	32.8	59.9	78.3	86.0	95.0	108.4	112.0	119.7	128.5	128.6	137.0	-
Denmark	36.4	65.3	82.8	94.4	99.0	102.4	108.3	114.3	116.2	115.3	118.8	123.6
France	36.3	69.3	82.0	88.4	94.9	105.9	110.8	112.4	116.0	123.5	126.8	135.2
Germany	39.8	70.9	83.4	89.8	98.2	102.5	107.4	108.4	110.3	111.6	116.8	122.3
Italy	36.5	72.7	90.9	91.1	98.9	103.0	110.5	116.9	121.0	123.4	128.4	134.4
Netherlands	31.7	63.0	80.1	85.1	96.1	106.6	112.1	114.6	118.7	121.5	130.4	-
Norway	54.6	81.7	94.7	96.8	99.7	101.8	107.2	109.3	109.7	112.7	119.4	121.4
Sweden	42.3	80.7	94.8	100.2	101.7	102.8	110.9	112.7	113.2	118.5	126.4	134.9
United Kingdom	53.8	77.6	93.1	94.5	99.4	101.6	102.1	99.9	106.1	110.9	118.3	123.0
Output												
United States	50.7	77.0	95.9	85.4	93.6	105.3	108.2	103.5	106.1	99.3	104.4	115.3
Canada	41.5	75.1	94.6	92.3	98.1	104.9	110.9	107.7	108.8	96.4	102.2	110.8
Japan	17.9	65.3	87.4	82.2	93.2	107.3	118.0	130.7	139.0	148.6	160.1	180.3
Belgium	41.6	78.0	95.7	92.1	99.4	101.6	104.2	107.3	104.8	104.8	106.2	-
Denmark	48.2	81.7	95.4	94.8	99.4	100.7	107.2	112.1	108.5	108.2	115.0	123.6
France	35.4	73.3	88.6	90.0	96.1	103.4	108.1	108.6	104.9	105.1	108.4	108.0
Germany	49.2	86.0	95.2	90.4	97.6	101.3	106.1	106.6	104.6	101.4	102.5	106.5
Italy	37.4	78.0	90.5	86.9	97.9	101.8	108.6	115.4	114.3	111.6	109.0	113.1
Netherlands	44.1	82.7	94.2	91.7	99.1	102.8	105.5	107.3	107.3	105.2	106.3	-
Norway	55.1	87.0	99.5	101.0	101.4	98.2	100.3	101.3	100.1	99.9	96.7	101.2
Sweden	52.6	92.5	100.3	106.1	106.1	97.3	103.6	104.0	100.6	100.1	106.0	113.2
United Kingdom	71.0	94.6	104.6	96.1	98.1	100.6	100.6	91.6	86.2	86.6	89.0	92.0
Total hours												
United States	84.4	97.3	103.1	91.4	95.9	104.4	106.5	101.7	101.1	92.7	93.5	99.8
Canada	82.6	97.7	103.6	101.4	102.0	103.4	106.4	105.7	104.6	95.4	94.9	99.0
Japan	81.5	106.4	109.0	96.4	99.9	99.5	100.5	101.6	102.4	102.2	104.8	107.7
Belgium	127.1	130.2	122.3	107.1	104.6	95.6	93.0	89.7	82.8	81.6	77.5	-
Denmark	132.4	125.1	115.2	100.4	101.4	98.3	99.0	96.0	93.4	93.9	96.8	99.9
France	97.6	105.7	106.0	101.9	101.3	97.6	95.9	94.8	90.4	85.0	82.6	79.9
Germany	123.6	121.3	114.2	100.6	101.5	98.8	96.8	96.4	94.8	90.8	87.7	87.0
Italy	102.3	107.4	99.6	95.4	99.0	98.8	98.2	98.7	94.5	90.5	86.2	84.2
Netherlands	139.1	131.1	117.7	107.8	103.1	96.4	94.1	93.7	90.4	86.5	81.5	-
Norway	101.0	106.4	105.1	104.3	101.7	96.5	93.6	92.6	91.3	88.6	82.7	83.4
Sweden	124.4	114.6	105.7	105.9	104.3	94.6	93.4	92.3	88.9	85.9	83.9	83.9
United Kingdom	131.8	121.9	112.4	101.7	98.7	99.0	98.6	91.9	81.3	78.2	75.2	74.8
Compensation per hour												
United States	36.7	57.6	69.0	85.5	92.3	108.3	118.8	132.7	145.2	158.0	163.4	169.4
Canada	27.1	46.5	59.2	78.2	89.9	106.7	118.3	130.6	151.5	167.2	178.5	181.4
Japan	8.9	33.9	55.7	85.4	91.1	105.9	112.8	121.2	130.2	136.9	141.5	146.0
Belgium	13.9	34.7	53.6	79.0	89.4	107.9	117.5	130.2	144.7	152.0	164.9	-
Denmark	12.6	36.3	58.1	81.0	90.4	110.2	123.2	135.9	149.7	165.4	172.6	182.8
France	15.1	36.5	52.1	76.6	88.8	113.7	129.7	148.1	171.3	202.7	227.4	247.5
Germany	18.8	48.1	67.6	84.8	91.4	107.7	115.4	125.0	133.8	140.9	146.7	152.1
Italy	8.3	26.1	43.7	70.2	84.1	114.5	134.7	160.2	197.1	237.3	277.0	306.0
Netherlands	12.2	38.5	60.1	81.9	92.1	106.7	117.3	123.5	130.3	139.4	147.3	-
Norway	15.8	37.9	54.6	77.2	88.9	110.0	116.0	128.0	142.8	156.1	173.8	185.8
Sweden	14.7	38.5	54.2	77.3	91.5	111.4	120.1	133.6	148.1	158.9	173.2	192.0
United Kingdom	14.9	30.9	45.0	75.1	88.9	116.8	137.1	162.8	185.8	201.8	218.2	233.4
Unit labor costs: National currency basis:												
United States	61.1	72.7	74.2	91.5	94.6	107.3	117.0	130.5	138.4	147.6	146.4	146.5
Canada	53.9	60.6	64.8	86.0	93.5	105.3	113.5	128.1	145.7	165.4	165.9	162.1
Japan	40.5	55.2	69.4	100.1	97.7	98.2	96.1	94.2	95.9	94.1	92.6	87.2
Belgium	42.4	57.9	68.5	91.9	94.1	101.4	104.9	108.9	114.4	118.3	120.4	-
Denmark	34.5	55.6	67.8	85.8	92.3	107.6	113.7	118.9	128.8	143.5	145.3	147.6
France	41.6	52.6	63.6	86.7	93.6	107.4	117.3	131.7	147.7	164.1	176.5	183.1
Germany	47.3	67.9	81.0	94.4	95.0	105.0	107.5	115.3	121.3	126.2	125.6	124.3
Italy	22.8	36.0	48.1	77.1	85.1	111.2	121.9	137.0	162.9	192.4	219.2	227.7
Netherlands	38.3	61.1	75.1	96.2	95.9	101.9	104.7	107.8	109.5	114.6	113.0	-
Norway	29.0	46.4	57.6	79.7	90.1	108.1	108.2	117.0	130.2	138.5	145.6	152.9
Sweden	34.8	47.7	57.2	77.1	90.0	108.4	108.3	118.6	130.9	136.3	137.1	142.3
United Kingdom	27.6	39.8	48.3	79.4	89.5	114.9	134.3	163.0	174.9	181.9	182.8	189.8
Unit labor costs: U.S. dollar basis:												
United States	61.1	72.7	74.2	91.5	94.6	107.3	117.0	130.5	138.4	147.6	146.4	146.5
Canada	59.0	61.7	68.8	89.8	100.7	98.1	103.0	118.4	129.1	142.3	143.1	133.0
Japan	30.2	41.3	68.6	90.4	88.2	128.2	117.9	111.8	116.4	101.2	104.4	98.4
Belgium	30.4	41.8	63.2	89.8	87.4	115.6	128.1	133.6	110.7	92.6	84.4	-
Denmark	30.1	44.5	67.6	89.8	91.7	117.3	129.7	126.6	108.4	103.2	95.3	85.7
France	41.7	48.8	70.4	99.5	96.3	117.3	135.5	153.4	133.4	122.6	113.9	103.0
Germany	26.3	43.2	71.0	89.2	87.6	121.6	136.2	147.5	124.9	120.7	114.1	101.4
Italy	32.5	50.6	73.1	104.3	90.5	115.6	129.5	141.4	128.3	125.4	127.4	114.5
Netherlands	24.9	41.4	66.3	93.5	89.0	115.7	128.1	133.2	108.2	105.2	97.2	-
Norway	21.7	34.5	53.4	81.4	86.9	109.7	113.8	126.2	120.6	114.1	108.2	99.7
Sweden	30.1	41.1	58.7	83.2	92.3	107.2	112.9	125.3	115.4	96.9	79.8	76.9
United Kingdom	44.5	54.6	67.9	101.1	92.6	126.4	163.4	217.2	202.9	182.2	158.6	145.4

- Data not available.

48. Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]								
	1976	1977	1978	1979	1980	1981	1982	1983	1984
PRIVATE SECTOR[3]									
Total cases	-	-	-	-	-	8.3	7.7	7.6	8.0
Lost workday cases	-	-	-	-	-	3.8	3.5	3.4	3.7
Lost workdays	-	-	-	-	-	61.7	58.7	58.5	63.4
Agriculture, forestry, and fishing[3]									
Total cases	-	-	-	-	-	12.3	11.8	11.9	12.0
Lost workday cases	-	-	-	-	-	5.9	5.9	6.1	6.1
Lost workdays	-	-	-	-	-	82.8	86.0	90.8	90.7
Mining									
Total cases	-	-	-	-	-	11.6	10.5	8.4	9.7
Lost workday cases	-	-	-	-	-	6.2	5.4	4.5	5.3
Lost workdays	-	-	-	-	-	146.4	137.3	125.1	160.2
Construction									
Total cases	-	-	-	-	-	15.1	14.6	14.8	15.5
Lost workday cases	-	-	-	-	-	6.3	6.0	6.3	6.9
Lost workdays	-	-	-	-	-	113.1	115.7	118.2	128.1
General building contractors:									
Total cases	-	-	-	-	-	15.1	14.1	14.4	15.4
Lost workday cases	-	-	-	-	-	6.1	5.9	6.2	6.9
Lost workdays	-	-	-	-	-	107.1	112.0	113.0	121.3
Heavy construction contractors:									
Total cases	-	-	-	-	-	14.9	15.1	15.4	14.9
Lost workday cases	-	-	-	-	-	6.0	5.8	6.2	6.4
Lost workdays	-	-	-	-	-	106.0	113.1	122.4	131.7
Special trade contractors:									
Total cases	-	-	-	-	-	15.2	14.7	14.8	15.8
Lost workday cases	-	-	-	-	-	6.6	6.2	6.4	7.1
Lost workdays	-	-	-	-	-	119.3	118.6	119.0	130.1
Manufacturing									
Total cases	-	-	-	-	-	11.5	10.2	10.0	10.6
Lost workday cases	-	-	-	-	-	5.1	4.4	4.3	4.7
Lost workdays	-	-	-	-	-	82.0	75.0	73.5	77.9
Durable goods									
Lumber and wood products:									
Total cases	-	-	-	-	-	17.6	16.9	18.3	19.6
Lost workday cases	-	-	-	-	-	9.0	8.3	9.2	9.9
Lost workdays	-	-	-	-	-	158.4	153.3	163.5	172.0
Furniture and fixtures:									
Total cases	-	-	-	-	-	15.1	13.9	14.1	15.3
Lost workday cases	-	-	-	-	-	6.2	5.5	5.7	6.4
Lost workdays	-	-	-	-	-	91.9	85.6	83.0	101.5
Stone, clay, and glass products:									
Total cases	-	-	-	-	-	14.1	13.0	13.1	13.6
Lost workday cases	-	-	-	-	-	6.9	6.1	6.0	6.6
Lost workdays	-	-	-	-	-	122.2	112.2	112.0	120.8
Primary metal industries:									
Total cases	-	-	-	-	-	14.4	12.4	12.4	13.3
Lost workday cases	-	-	-	-	-	6.7	5.4	5.4	6.1
Lost workdays	-	-	-	-	-	121.3	101.6	103.4	115.3
Fabricated metal products:									
Total cases	-	-	-	-	-	17.5	16.3	15.1	16.1
Lost workday cases	-	-	-	-	-	7.5	6.4	6.1	6.7
Lost workdays	-	-	-	-	-	109.9	102.5	96.5	104.9
Machinery, except electrical:									
Total cases	-	-	-	-	-	12.9	10.7	9.8	10.7
Lost workday cases	-	-	-	-	-	5.1	4.2	3.6	4.1
Lost workdays	-	-	-	-	-	74.9	66.0	58.1	65.8
Electric and electronic equipment:									
Total cases	-	-	-	-	-	7.4	6.5	6.3	6.8
Lost workday cases	-	-	-	-	-	3.1	2.7	2.6	2.8
Lost workdays	-	-	-	-	-	48.4	42.2	41.4	45.0
Transportation equipment:									
Total cases	-	-	-	-	-	9.6	9.2	8.4	9.3
Lost workday cases	-	-	-	-	-	4.6	4.0	3.6	4.2
Lost workdays	-	-	-	-	-	78.1	72.2	64.5	68.8
Instruments and related products:									
Total cases	-	-	-	-	-	6.5	5.6	5.2	5.4
Lost workday cases	-	-	-	-	-	2.7	2.3	2.1	2.2
Lost workdays	-	-	-	-	-	39.2	37.0	35.6	37.5
Miscellaneous manufacturing industries:									
Total cases	-	-	-	-	-	10.7	9.9	9.9	10.5
Lost workday cases	-	-	-	-	-	4.4	4.1	4.0	4.3
Lost workdays	-	-	-	-	-	68.3	69.9	66.3	70.2

See footnotes at end of table.

48.—Continued Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]								
	1976	1977	1978	1979	1980	1981	1982	1983	1984
Nondurable goods									
Food and kindred products:									
Total cases	-	-	-	-	-	17.8	16.7	16.5	16.7
Lost workday cases	-	-	-	-	-	8.6	8.0	7.9	8.1
Lost workdays	-	-	-	-	-	130.7	129.3	131.2	131.6
Tobacco manufacturing:									
Total cases	-	-	-	-	-	8.2	7.2	6.5	7.7
Lost workday cases	-	-	-	-	-	3.9	3.2	3.0	3.2
Lost workdays	-	-	-	-	-	56.8	44.6	42.8	51.7
Textile mill products:									
Total cases	-	-	-	-	-	8.8	7.6	7.4	8.0
Lost workday cases	-	-	-	-	-	3.2	2.8	2.8	3.0
Lost workdays	-	-	-	-	-	59.2	53.8	51.4	54.0
Apparel and other textile products:									
Total cases	-	-	-	-	-	6.3	6.0	6.4	6.7
Lost workday cases	-	-	-	-	-	2.2	2.1	2.4	2.5
Lost workdays	-	-	-	-	-	35.0	36.4	40.6	40.9
Paper and allied products:									
Total cases	-	-	-	-	-	11.6	10.6	10.0	10.4
Lost workday cases	-	-	-	-	-	5.4	4.9	4.5	4.7
Lost workdays	-	-	-	-	-	103.6	99.1	90.3	93.6
Printing and publishing:									
Total cases	-	-	-	-	-	6.7	6.6	6.6	6.5
Lost workday cases	-	-	-	-	-	3.0	2.8	2.9	2.9
Lost workdays	-	-	-	-	-	47.4	45.7	44.6	46.0
Chemicals and allied products:									
Total cases	-	-	-	-	-	6.6	5.7	5.5	5.3
Lost workday cases	-	-	-	-	-	3.0	2.5	2.5	2.4
Lost workdays	-	-	-	-	-	48.1	39.4	42.3	40.8
Petroleum and coal products:									
Total cases	-	-	-	-	-	6.7	5.3	5.5	5.1
Lost workday cases	-	-	-	-	-	2.9	2.5	2.4	2.4
Lost workdays	-	-	-	-	-	51.2	46.4	46.6	53.5
Rubber and miscellaneous plastics products:									
Total cases	-	-	-	-	-	14.6	12.7	13.0	13.6
Lost workday cases	-	-	-	-	-	7.2	6.0	6.2	6.4
Lost workdays	-	-	-	-	-	117.4	100.9	101.4	104.3
Leather and leather products:									
Total cases	-	-	-	-	-	11.5	9.9	10.0	10.5
Lost workday cases	-	-	-	-	-	5.1	4.5	4.4	4.7
Lost workdays	-	-	-	-	-	82.6	86.5	87.3	94.4
Transportation and public utilities									
Total cases	-	-	-	-	-	9.0	8.5	8.2	8.8
Lost workday cases	-	-	-	-	-	5.3	4.9	4.7	5.2
Lost workdays	-	-	-	-	-	100.6	96.7	94.9	105.1
Wholesale and retail trade									
Total cases	-	-	-	-	-	7.3	7.2	7.2	7.4
Lost workday cases	-	-	-	-	-	3.1	3.1	3.1	3.3
Lost workdays	-	-	-	-	-	45.3	45.5	47.8	50.5
Wholesale trade:									
Total cases	-	-	-	-	-	7.7	7.1	7.0	7.2
Lost workday cases	-	-	-	-	-	3.6	3.4	3.2	3.5
Lost workdays	-	-	-	-	-	54.7	52.1	50.6	55.5
Retail trade:									
Total cases	-	-	-	-	-	7.1	7.2	7.3	7.5
Lost workday cases	-	-	-	-	-	2.9	2.9	3.0	3.2
Lost workdays	-	-	-	-	-	41.1	42.6	46.7	48.4
Finance, insurance, and real estate									
Total cases	-	-	-	-	-	1.9	2.0	2.0	1.9
Lost workday cases	-	-	-	-	-	.8	.9	.9	.9
Lost workdays	-	-	-	-	-	11.6	13.2	12.8	13.6
Services									
Total cases	-	-	-	-	-	5.0	4.9	5.1	5.2
Lost workday cases	-	-	-	-	-	2.3	2.3	2.4	2.5
Lost workdays	-	-	-	-	-	35.9	35.8	37.0	41.1

---

[1] Total cases include fatalities.

[2] The incidence rates represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as: (N/EH) X 200,000, where:

N = number of injuries and illnesses or lost workdays.

EH = total hours worked by all employees during calendar year.

200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year.)

[3] Excludes farms with fewer than 11 employees since 1976.

- Data not available.

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SALES PUBLICATIONS

Area Wage Surveys

These bulletins cover office, professional, technical, maintenance, custodial, and material movement jobs in major metropolitan areas. The annual series of 70 is available by subscription for $102 per year. Individual area bulletins are also available separately. Published in November were:

Albany—Schenectady—Troy, New York, Metropolitan Area, September 1985. Bulletin 3030-44, 29 pp., $1.25 (GPO Stock No. 829-001-00044-6).

Cleveland, Ohio, Metropolitan Area, September 1985. Bulletin 3030-45, 39 pp., $1.75 (GPO Stock No. 829-001-00045-4).

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Periodicals

CPI Detailed Report. The September issue provides a comprehensive report on price movements for the month, plus statistical tables, charts, and technical notes. 77 pp., $4 ($25 per year).

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Occupational Outlook Quarterly. The Fall issue features articles on intelligence, workers, archivists and curators, counselors, adult and vocational teachers, gem cutters; and the shrinking middle class. 36 pp., $3 ($11 per year).

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U.S. Department of State Indexes of Living Costs Abroad, Quarters Allowances, and Hardship Differentials. October 1985. Tabulations computed quarterly by the Department of States for use in establishing allowances to compensate American civilian government employees for costs and hardships related to assignments abroad. The information is also used by many business firms and private organizations to assist in establishing private compensation systems. 8 pp., $2.75 ($10 per year).

OTHER PUBLICATIONS

(Single copies available upon request while supplies last.)

Area Wage Summaries

Ann Arbor, MI., October 1985. 5 pp.
Biloxi—Gulfport and Pascagoula—Moss Point, MS., September 1985. 5 pp.
Binghamton, NY., August 1985. 4 pp.
Las Vegas—Tonopah, NV., October 1985. 5 pp.
Sherman—Denison, TX, September 1985. 6 pp.

BLS Reports

Employment in Perspective: Women in the Labor Force (formerly called Working Women), Third Quarter 1985. Report 725, 3 pp. Describes women's employment situation in the third quarter and summarizes information on women who are self-employed.

BLS Summaries

Occupational Earnings in Banking, Selected Metropolitan Areas, 1985. Summary 85-11 (No. 1 of 2). 5 pp.

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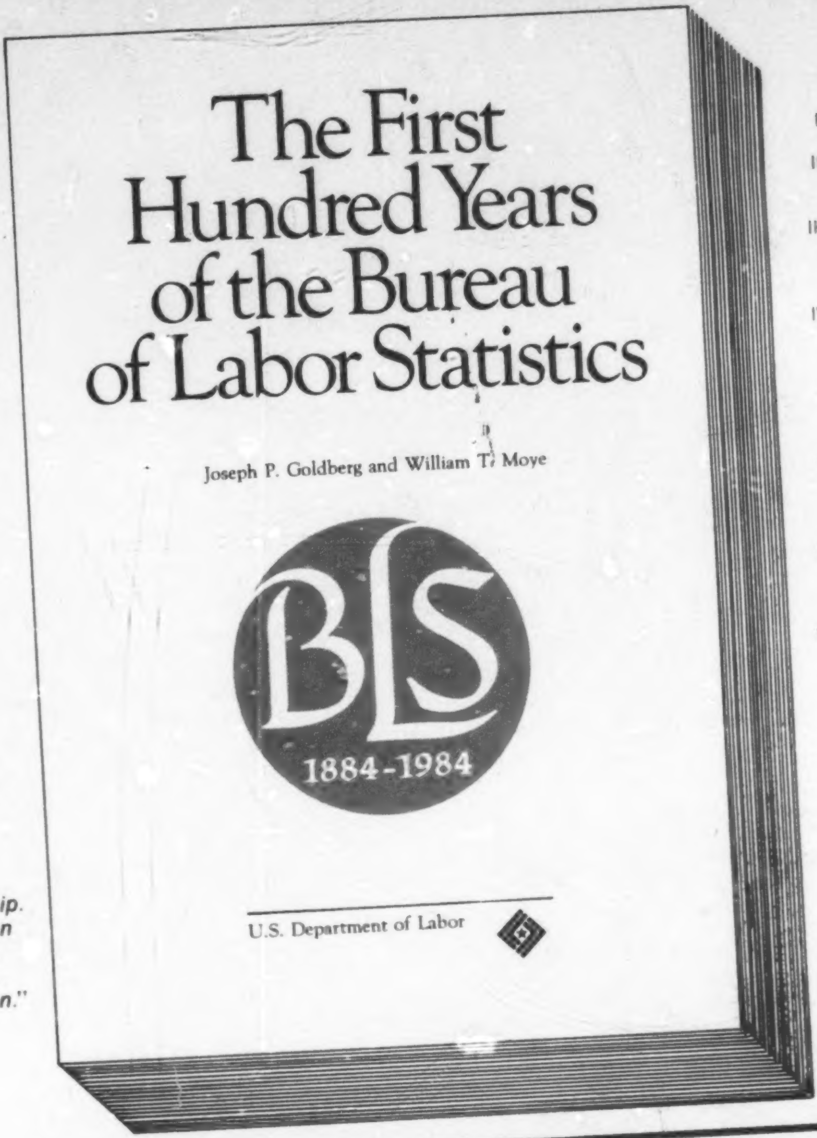

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Joseph P. Goldberg and William T. Moye

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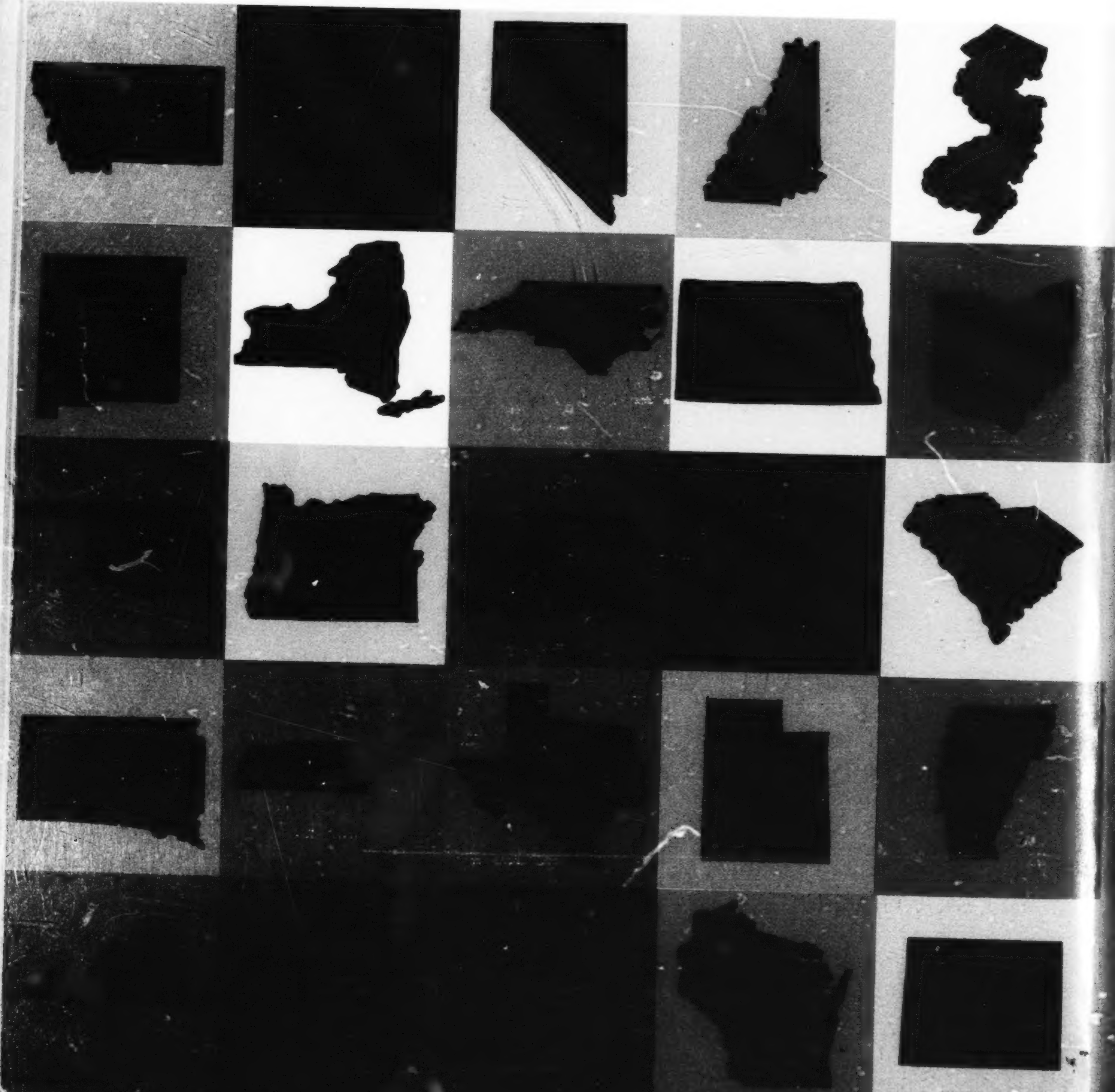

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U.S. Department of Labor
Bureau of Labor Statistics
February 1986

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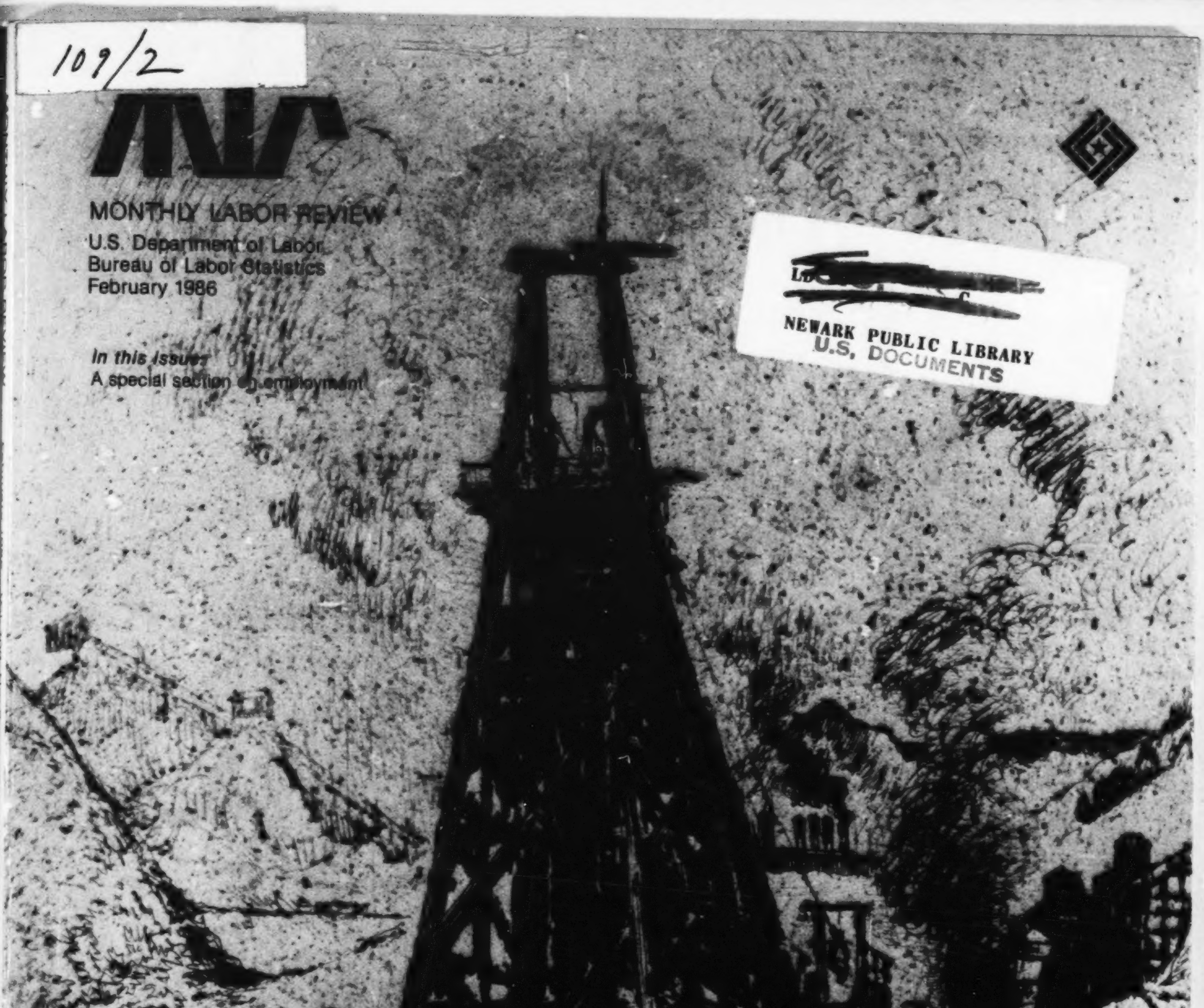

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Labor Month In Review

SEX SEGREGATION. The National Academy of Sciences published a study examining the cause, the extent, and the future direction of sex segregation in the workplace. The study, sponsored by the U.S. Departments of Labor and Education and the Carnegie Corporation, was conducted for the Academy by a 14-member committee of academic and business experts, chaired by Alice S. Ilchman, president of Sarah Lawrence College. Excerpts:

Measuring sex segregation. During the past decade, women's occupational options have unquestionably expanded. Their participation has increased sharply in several occupations previously predominantly male by tradition or policy: for example, lawyers, bank managers, insurance adjusters, postal clerks, bus drivers, and janitors, among others. In other occupations, women's representation is small but increasing rapidly, for example: coal miners, police officers, and engineers. The overall index of occupational sex segregation declined by nearly 10 percent between 1972 and 1981, more than it had during any previous decade in this century. Much of this decline was due to women's increased participation in many occupations that were 20 to 60 percent female in 1970 as well as to the decline in the size of some female-dominated occupations, rather than to the entry of women (or men) into the most atypical jobs for their sex.

Nevertheless, sex segregation continues to characterize the American workplace, despite the changes that have occurred in some occupations. Millions of women continue to work in a small number of almost totally female clerical and service occupations, and men continue to make up the majority of workers in the majority of occupations.

Explaining sex segregation. Several explanations have been proposed to account for the persistence of sex segregation in the workplace; they emphasize different factors and differ strongly in the interventions they imply. Not surprisingly, the evidence neither provides full confirmation nor warrants full rejection of any single explanation. However, reviewed scientific evidence fails to support the argument that women's occupational outcomes result primarily from free choices that they make in an open market. It suggests rather that women face discrimination and institutional barriers in their education, training, and employment. Often the opportunities that women encounter in the labor market and in premarket training and education constrain their choices to a narrow set of alternatives.

The weight of scientific evidence indicates that discrimination has played a significant role in maintaining a sex-segregated work force. That women believe they face discrimination is evidenced by the thousands of sex discrimination complaints filed under Title VII of the 1964 Civil Rights Act (which prohibits sex discrimination in many employment practices). A number of statistical studies of large employers show, that equally qualified men and women are often assigned different jobs, with long-term effects on their subsequent careers. Case studies of some employers against which complaints have been filed and of certain industries provide corroborative evidence of the occurrence of sex discrimination in employment practices.

Responsibility for the daily care of family members, which women bear more than men, also undoubtedly affects labor market outcomes in many ways, but its link specifically to sex-segregated occupations is less clear. One hypothesis, based on human capital theory, is that women choose female-dominated occupations because those occupations are more compatible with child-rearing (by penalizing work interruptions less than male-dominated occupations); this hypothesis has found equivocal empirical support. Further research is warranted on connections between employment opportunities and family responsibilities for both sexes.

Reducing sex segregation. Laws and regulations of the 1960's and 1970's prohibit sex discrimination in employment and apprenticeship programs and mandate sex equity in federally funded job training programs and vocational and general education. Women have made substantial progress in entering some predominantly male occupations and training and educational programs.

Definitively establishing that women's gains were caused directly by interventions is quite difficult, however. On one hand, the very existence of anti-discrimination laws or regulations may contribute to change. According to one theory underlying law enforcement, most change occurs through voluntary compliance by establishments against which no action has been taken, either out of the desire to avoid sanctions or because laws help to reshape employers' opinions about acceptable behavior. At the same time, laws encourage women to believe that they will not face discrimination and hence to train for and pursue sex-atypical occupations. On the other hand, important changes—including women's heightened consciousness of their rights and possibilities, prompted by the feminist movement—occurred during the period in which most interventions were implemented and were an important force for their enactment. Obviously, disentangling such cultural changes is difficult. Some of the studies that attempt to demonstrate the impact of specific laws or regulations are imperfect. Taken together, however, the case studies and statistical research present a compelling case for the long-term effectiveness of legislative remedies.

The 173-page report, ***Women's Work, Men's Work: Sex Segregation on the Job***, is available ($15.50) from National Academy Press, 2101 Constitution Ave., N.W., Washington, DC 20418. □

Employment and unemployment: developments in 1985

Last year, the economy completed its third year of strong postrecession growth; however, the expansion has not been sufficient to return factory employment to its prerecession level or to drop most jobless rates to the lows of the late 1970's

SUSAN E. SHANK AND PATRICIA M. GETZ

Employment continued to increase in 1985, as the economy completed its third year of recovery from the 1981–82 recession. However, job growth slowed from the rapid pace recorded in the previous 2 years—a moderation that is typical in the third year after a business cycle trough.[1] Construction, as well as most industries in the service-producing sector, showed robust job gains throughout the year. In contrast, manufacturing employment, which had rebounded during 1983 and most of 1984, decreased in 1985—especially in the durable goods industries.

The civilian unemployment rate edged down in the second half of the year to 7.0 percent in the fourth quarter. The jobless rate had declined sharply in the first year and a half of recovery, then leveled off at about 7.3 percent from mid-1984 to mid-1985. By the fourth quarter of 1985, jobless rates for most worker groups had fallen to or below those of the July 1981 prerecession peak but remained above those in 1979—the last year that the unemployment rate had averaged less than 6 percent. All of the decline in unemployment during 1985 took place among adult workers.

This article describes labor market developments in 1985 for major age-sex, race-ethnic, industrial, and occupational groups. It also examines the performance of key employment and unemployment indicators in cyclical terms and evaluates selected developments from a secular perspective. Data discussed in this article come from two sources: household interviews and reports from employers.[2] Unless otherwise noted, over-the-year changes are based on fourth quarter-to-fourth quarter movements, and all data are seasonally adjusted.

Total employment

Civilian employment rose by 2.0 million in 1985 to 108 million at yearend. The increase took place entirely among adults—about 1.4 million women and 700,000 men. (See table 1.) The number of persons employed in agriculture decreased to approximately 3.1 million in the second half of 1985, after holding in the 3.3 to 3.4 million range over the previous decade. High levels of production worldwide contributed to sharply lower prices for U.S. farm products in 1985.[3] The unexpected deflation put many farmers in a severe credit squeeze and led to a large number of foreclosures on farm properties. Employment fell by similar amounts (about 100,000 persons) for both hired farmworkers and self-employed farmers.

Over the entire 3-year expansion (fourth-quarter 1982 to fourth-quarter 1985), civilian employment rose by almost 9 million, or 8.9 percent. The increase for adult men (about 8 percent) was the largest recorded in any 3-year recovery period since World War II; this reflected both the severity of the 1979–82 employment drop and the strength of the subsequent rebound. Employment rose even more rapidly for women (11 percent) during the 3 years of expansion. However, in contrast to the pattern for men, employment among women had continued to rise throughout the early 1980's,

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Susan E. Shank and Patricia M. Getz are economists in the Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

Table 1. Selected labor force indicators by sex, age, race, and Hispanic origin, seasonally adjusted quarterly averages, 1982–85

[Numbers in thousands]

Characteristic	1982	1983	1984	1985			
	IV	IV	IV	I	II	III	IV
Total							
Civilian labor force	110,926	112,142	114,235	115,024	115,206	115,468	116,158
Percent of population	64.1	64.1	64.5	64.8	64.7	64.7	64.9
Employed	99,135	102,600	105,959	106,618	106,804	107,200	107,996
Agriculture	3,475	3,308	3,325	3,319	3,259	3,077	3,093
Nonagriculture	95,660	99,292	102,634	103,298	103,545	104,123	104,903
Employment-population ratio	57.3	58.6	59.8	60.1	60.0	60.1	60.4
Unemployed	11,791	9,541	8,276	8,406	8,402	8,268	8,162
Unemployment rate	10.6	8.5	7.2	7.3	7.3	7.2	7.0
Men, 20 years and over							
Civilian labor force	58,340	59,026	59,981	60,063	60,217	60,278	60,542
Percent of population	78.7	78.4	78.2	78.2	78.1	78.0	78.0
Employed	52,552	54,427	56,234	56,306	56,439	56,597	56,909
Employment-population ratio	70.9	72.3	73.4	73.3	73.2	73.2	73.4
Unemployed	5,788	4,599	3,747	3,757	3,778	3,681	3,633
Unemployment rate	9.9	7.8	6.2	6.3	6.3	6.1	6.0
Women, 20 years and over							
Civilian labor force	44,115	45,057	46,366	46,900	47,123	47,363	47,749
Percent of population	52.9	53.3	54.0	54.5	54.6	54.7	54.9
Employed	40,139	41,761	43,280	43,744	43,947	44,210	44,716
Employment-population ratio	48.2	49.4	50.4	50.8	50.9	51.0	51.5
Unemployed	3,976	3,296	3,086	3,156	3,176	3,153	3,033
Unemployment rate	9.0	7.3	6.7	6.7	6.7	6.7	6.4
Both sexes, 16 to 19 years							
Civilian labor force	8,471	8,059	7,888	8,061	7,866	7,828	7,867
Percent of population	54.3	53.5	54.1	55.2	54.2	54.2	54.4
Employed	6,445	6,412	6,445	6,568	6,418	6,393	6,371
Employment-population ratio	41.3	42.5	44.2	45.0	44.2	44.2	44.0
Unemployed	2,027	1,647	1,443	1,493	1,448	1,434	1,496
Unemployment rate	23.9	20.4	18.3	18.5	18.4	18.3	19.0
White							
Civilian labor force	96,604	97,662	98,796	99,611	99,672	99,900	100,515
Percent of population	64.4	64.5	64.7	65.0	64.9	64.9	65.2
Employed	87,466	90,471	92,622	93,357	93,392	93,706	94,487
Employment-population ratio	58.3	59.8	60.7	60.9	60.8	60.9	61.3
Unemployed	9,138	7,192	6,175	6,254	6,280	6,195	6,028
Unemployment rate	9.5	7.4	6.3	6.3	6.3	6.2	6.0
Black							
Civilian labor force	11,500	11,617	12,242	12,299	12,351	12,340	12,464
Percent of population	61.4	61.0	62.8	62.9	63.0	62.6	63.0
Employed	9,150	9,550	10,393	10,402	10,498	10,520	10,580
Employment-population ratio	48.9	50.1	53.3	53.2	53.5	53.4	53.5
Unemployed	2,350	2,067	1,849	1,897	1,853	1,821	1,883
Unemployment rate	20.4	17.8	15.1	15.4	15.0	14.8	15.1
Hispanic origin							
Civilian labor force	6,723	6,982	7,392	7,341	7,383	7,525	7,536
Percent of population	63.6	63.9	65.4	64.4	64.3	65.0	64.6
Employed	5,693	6,142	6,619	6,587	6,603	6,729	6,730
Employment-population ratio	53.9	56.2	58.6	57.8	57.5	58.1	57.7
Unemployed	1,030	839	772	755	779	796	806
Unemployment rate	15.3	12.0	10.4	10.3	10.6	10.6	10.7

NOTE: Detail for race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups.

despite the occurrence of back-to-back recessions in 1980 and 1981–82.

Employment-population ratios. The proportions of the civilian noninstitutional population that are employed have moved differently for men, women, and teenagers in the first half of the 1980's. As the tabulation below shows, the long-term decline in the ratio for men accelerated during the recessions of the early 1980's. The ratio only partially rebounded in 1983 and 1984, and then showed little change in 1985.

	Men	*Women*	*Teenagers*
1979 annual average	76.5	47.7	48.5
Fourth-quarter:			
1982	70.9	48.2	41.3
1983	72.3	49.4	42.5
1984	73.4	50.4	44.2
1985	73.4	51.5	44.0

In contrast, the employment-population ratio for women continued the steady increase that has been evident since the mid-1950's. The increases slowed somewhat during recessions—as was the case in the early 1980's—and then resumed a strong uptrend in recoveries. The ratio for teenagers followed a pattern similar to that for men in the 1980's, but has not shown a consistent long-term trend.

Employment-population ratios for whites, blacks, and persons of Hispanic origin all declined during the recessions of the early 1980's and then rebounded in the 1983–85 period. However, as the following tabulation shows, only the ratio for whites stood above its 1979 level by late 1985.

	White	*Black*	*Hispanic*
1979 annual average	60.6	53.8	58.3
Fourth-quarter:			
1982	58.3	48.9	53.9
1983	59.8	50.1	56.2
1984	60.7	53.3	58.6
1985	61.3	53.5	57.7

The ratio for whites reached an all-time high in the fourth quarter of 1985, while that for blacks was slightly below the 1979 high. The stonger performance of the ratio for white women in the 1980's was a major factor in the overall difference; it also reversed the long-term pattern of higher ratios for black than for white women. In 1979, the ratio for black women (49 percent) exceeded that for their white counterparts (47 percent), but by the 1981–82 recession trough, the black ratio had declined to 47 percent, while that for whites had edged up to 48 percent. Both ratios increased to about 51 percent by late 1985. In contrast, the wide gap between the employment-population ratios of black and white teenagers narrowed very little in the 1980's. Only 1 out of 4 blacks aged 16 to 19 was employed in 1985, compared to about 1 out of 2 white teenagers.

The employment-population ratio for persons of Hispanic origin has remained between those of whites and blacks over the last decade. As the above tabulation shows, the Hispanic ratio, like that for blacks, fell sharply during the recession years of the early 1980's. The greater drop and subsequent rebound for minorities reflects, among other things, their heavier concentration in cyclically sensitive manual occupations.

Occupational changes. Employment growth between 1984 and 1985 was greatest for office workers, particularly highly skilled executives, administrators, and managers. The service occupations and technical, sales, and administrative support positions grew at a slightly faster pace than total employment. However, as the tabulation below shows, there was an over-the-year decrease for operators, fabricators, and laborers, as well as a sharp drop in farming, forestry, and fishing occupations.

	Percent change	
	Fourth quarter 1983–84	*Fourth quarter 1984–85*
Total	3.3	2.0
Managerial and professional	5.1	4.3
Technical, sales, and administrative	3.2	2.7
Service occupations	.9	2.6
Precision production, craft, and repair	3.5	1.4
Operators, fabricators, and laborers	3.1	−1.0
Farming, forestry, and fishing	.8	−7.9

While slower employment growth was evident in most major occupational groups from 1984 to 1985, the change was especially marked for nonfarm manual workers at all skill levels. In 1984, when construction and manufacturing rebounded strongly, job gains for skilled craft workers and for medium and low-skilled manual workers equaled the rise in total employment; in 1985, however, the increase slowed sharply for the former group and turned to a decrease for the latter. In fact, employment fell by about 3 percent over the year for machine operators, assemblers, and inspectors, most of whom are employed in manufacturing. Only managerial and professional occupations registered above-average employment increases in both 1984 and 1985.

Nonfarm payroll employment

Total nonagricultural payroll employment, as measured by the Bureau of Labor Statistics business survey, also continued to post substantial gains throughout 1985. This marked the third straight year of strong growth, which has resulted in an increase of 10 million jobs during the current recovery.[4] At 98.8 million in the fourth quarter of 1985, nonfarm employment had increased by about 3 million over the year. (See table 2.)

However, even a quick look beyond the total figure reveals marked differences among industries. All of the major divisions which make up the service-producing sector posted employment increases, with the largest gains coming in retail trade and services. Among the goods-producing industries, only construction produced a gain in employment. Significant and pervasive declines in employment characterized both mining and manufacturing. (See chart 1.) The widespread declines in manufacturing, which were concentrated in the first three quarters of 1985, reversed the strong growth trend of the previous 2 years.

Chart 2 illustrates the relative strength of the service-producing versus the goods-producing sector over the long term. Employment in the service-producing sector has been on an almost continuous upward climb for the past 40 years. Even during recessionary periods, growth slowed only temporarily, and there were no significant or prolonged declines in service-related employment during the postwar years. In marked contrast, the goods-producing sector showed only moderate overall employment growth throughout the postwar period, and each of the industries within the sector was substantially affected by recessions. Over the entire 1945–85 period, the service-producing sector gained approximately 51 million jobs, compared to 7½ million jobs in the goods-producing sector. As a result, service-producing employment grew from 57 to 75 percent of total payroll employment.

Viewed from a cyclical perspective, employment gains during the past 3 years were among the strongest in any comparable postwar period. The current expansion has already lasted longer than 3 of the 7 previous recoveries, and the growth in total nonfarm employment has outpaced that in 2 of the other 4 recoveries. (See table 3.) This has been the strongest recovery in the postwar period for construction and for most industries in the service-producing sector. For manufacturing, however, the recovery has been relatively modest, much of its earlier strength having dissipated in 1985.

Service-producing industries. In 1985, service-producing industries continued to add jobs at about the same rapid pace as during the first 2 years of the recovery, with employment in the sector increasing by 2.8 million.

The *services* division showed the largest increase, gaining well over a million jobs in 1985, with business services leading the way. Within business services, the "temporary help supply services" industry has been the strongest gainer, although there has been some moderation from the phenomenal growth rates evidenced earlier in the recovery. Health services employment continued its strong secular growth trend in 1985, and large increases were also registered in personal services and in amusement and recreation.

Retail trade also showed marked growth in 1985, as retail sales remained strong. Eating and drinking places and food stores continued their long-term uptrends, with sizable gains in each quarter. Auto dealers and service stations, which have had a strong cyclical recovery, also grew throughout 1985. Although small in terms of employment level, "radio, television, and music stores" posted the largest percentage increase—about 15 percent. This is linked to the rapidly increasing demand for video cassette recorders and the services of video clubs.

Wholesale trade employment continued to grow during 1985, particularly among wholesalers of machinery, equipment, and supplies. Employment in this industry grew despite declines in machinery and electrical equipment manufacturing jobs. Some of this strength can be attributed to the industry's strong ties to the construction industry and to large volumes of imports.

Finance, insurance, and real estate continued the healthy growth pace shown throughout the recovery. While the increases were not as spectacular as in retail trade and services, they have been very steady—between 40,000 and 80,000 jobs each quarter. One of the fastest-growing industries within this division has been "credit agencies other than banks," that is, savings and loan institutions, credit unions, and the like. This growth is tied to recent banking deregulation which has lowered barriers to entry and encouraged growth and competition in the savings and lending industry.

Transportation and public utilities employment increased

Table 2. Employees on nonagricultural payrolls by industry, seasonally adjusted quarterly averages, 1982–85
[In thousands]

Industry	1982	1983	1984	1985			
	IV	IV	IV	I	II	III	IV[1]
Total	88,721	91,804	95,849	96,640	97,338	97,933	98,786
Total private	72,891	75,932	79,745	80,522	81,143	81,578	82,295
Goods-producing	22,982	23,938	24,973	25,077	25,055	24,983	25,088
Mining	1,029	955	977	976	979	965	955
Oil and gas extraction	651	596	624	620	622	616	606
Construction	3,836	4,098	4,432	4,537	4,646	4,690	4,755
General building contractors	959	1,084	1,180	1,219	1,230	1,241	1,267
Manufacturing	18,117	18,885	19,564	19,564	19,430	19,328	19,378
Durable goods	10,486	11,082	11,673	11,676	11,585	11,491	11,508
Lumber and wood products	596	692	709	705	695	700	712
Furniture and fixtures	425	469	494	499	495	496	497
Stone, clay, and glass products	558	584	599	601	599	589	602
Primary metal industries	825	860	848	839	819	799	801
Blast furnaces and basic steel products	344	350	318	313	305	294	298
Fabricated metal products	1,349	1,410	1,486	1,483	1,476	1,465	1,464
Machinery, except electrical	2,050	2,088	2,232	2,224	2,200	2,161	2,140
Electrical and electronic equipment	1,854	2,089	2,250	2,248	2,215	2,186	2,182
Transportation equipment	1,663	1,815	1,947	1,972	1,984	1,987	2,013
Motor vehicles and equipment	660	815	877	878	875	865	869
Instruments and related products	699	698	722	725	725	724	724
Miscellaneous manufacturing	367	377	386	382	377	373	373
Nondurable goods	7,631	7,803	7,891	7,888	7,846	7,836	7,869
Food and kindred products	1,627	1,615	1,622	1,635	1,636	1,634	1,640
Tobacco manufactures	68	65	66	66	66	65	64
Textile mill products	729	757	726	713	702	696	699
Apparel and other textile products	1,140	1,191	1,182	1,175	1,153	1,156	1,163
Paper and allied products	654	670	683	682	682	683	686
Printing and publishing	1,271	1,324	1,395	1,405	1,415	1,427	1,438
Chemicals and allied products	1,055	1,041	1,052	1,052	1,045	1,039	1,034
Petroleum and coal products	200	192	187	184	181	175	170
Rubber and miscellaneous plastics products	679	743	796	796	792	790	800
Leather and leather products	209	204	182	177	174	175	174
Service-producing	65,740	67,866	70,876	71,563	72,283	72,950	73,698
Transportation and public utilities	5,023	5,040	5,233	5,267	5,291	5,301	5,342
Transportation	2,736	2,782	2,995	3,024	3,049	3,059	3,104
Communications and public utilities	2,288	2,258	2,238	2,243	2,243	2,242	2,238
Wholesale trade	5,214	5,362	5,649	5,699	5,750	5,789	5,840
Durable goods	3,034	3,142	3,334	3,367	3,401	3,433	3,464
Nondurable goods	2,179	2,220	2,315	2,332	2,348	2,355	2,376
Retail trade	15,183	15,942	16,980	17,168	17,366	17,501	17,626
General merchandise stores	2,140	2,195	2,330	2,344	2,360	2,353	2,344
Food stores	2,500	2,581	2,726	2,772	2,816	2,847	2,869
Automotive dealers and service stations	1,633	1,718	1,846	1,864	1,880	1,901	1,917
Eating and drinking places	4,870	5,180	5,513	5,587	5,665	5,731	5,778
Finance, insurance, and real estate	5,358	5,554	5,756	5,811	5,884	5,959	6,041
Finance	2,664	2,792	2,882	2,921	2,955	2,998	3,030
Insurance	1,715	1,724	1,775	1,788	1,807	1,825	1,845
Real estate	978	1,038	1,099	1,103	1,122	1,136	1,157
Services	19,133	20,096	21,174	21,502	21,797	22,046	22,358
Business services	3,289	3,755	4,233	4,332	4,422	4,479	4,578
Health services	5,891	6,044	6,130	6,186	6,234	6,295	6,362
Government	15,831	15,872	16,104	16,118	16,195	16,356	16,491
Federal	2,745	2,781	2,830	2,840	2,868	2,886	2,894
State	3,642	3,674	3,727	3,736	3,758	3,792	3,834
Local	9,444	9,417	9,547	9,542	9,569	9,677	9,760

[1] Data are preliminary.

in 1985, though at a considerably slower pace than in the year before. Within transportation, railroads continued their long-term secular decline, while airlines and trucking continued to post gains. Employment in communications and other public utilities was about unchanged over the year, as declines in communications were offset by slight growth in the other public utilities. Increased competition in the telephone industry drove companies to streamline operations, in part by reducing labor costs through job cuts.

Government employment also rose in 1985, as Federal, State, and local governments each showed increases. Some of the growth in local government may be related to increases in employment in public education resulting from moves to improve the quality of education, and legislation mandating education of handicapped children.

Goods-producing industries. Employment trends for 1985 were mixed in the goods-producing sector; construction continued to advance sharply but mining and manufacturing lost jobs.

Construction employment rose by about 300,000 or 7 percent during the year, matching the growth rate in each of the 2 previous years. The greatest strength was among special trade contractors, which have increased their share of total construction employment from approximately 50 to 57 percent over the past 5 years. This category spans the entire spectrum of construction trades, from painting and papering to plumbing, electrical work, stone masonry, and roofing. Special trade contractors may be employed in new construction, renovation, or maintenance and in both residential and nonresidential construction.

Residential construction employment rose moderately, helped by relatively low mortgage interest rates in 1985. Demographic trends continued to be favorable for the industry, as the last of the baby-boom generation entered the prime age group for first-time home buying. Nonresidential construction remained strong in 1985. Despite increasing office vacancy rates, incentives such as tax shelters and the perceived security of real estate investment continued to make nonresidential construction investment attractive.

Mining is the only major division in which employment at the end of 1985 was below the 1982 recession trough level. The last strong period for mining employment was 1981 through the first quarter of 1982, when increases in oil and gas extraction associated with energy shortages fueled job growth. Since then, a worldwide oil glut and resultant price declines have had dampening effects on employment.

The year brought a reversal in employment trends in *manufacturing*. What had been a relatively strong cyclical recovery collapsed in the face of increasing import competition and a slump in the computer-related industries. In the fourth quarter, factory jobs stood at 19.4 million, 190,000 below the year-earlier level. Employment had increased by 1.4 million in the first 2 years of the recovery, but the 1985 weakness was pervasive, particularly during the first three quarters. By the fourth quarter, most of the declines had flattened out and total manufacturing employment showed a small increase.

A sharp turnaround in the nonelectrical machinery and electrical and electronic equipment industries contributed the most to manufacturing's over-the-year decline. These two industries showed considerable strength during the first 2 years of the recovery, gaining 185,000 and 300,000 jobs, respectively. During 1985, however, nonelectrical machinery lost 90,000 jobs and electrical and electronic equipment, 70,000. The biggest reductions were registered in computer-related industries, particularly electronic computing equipment and electronic components including semiconductors. The computer industry has recently begun to face serious import competition, particularly in the semiconductor market. In addition, earlier overprojections of product demand, particularly in the personal computer market, were reflected in production and employment cutbacks. Two other industries, fabricated metals and miscellaneous manufacturing, also had gained jobs earlier in the recovery but suffered declines in 1985.

Six other industries had job losses in 1985—primary metals, textiles, apparel, chemicals, petroleum, and leather. With the exception of apparel, these industries had fewer jobs at the end of 1985 than at the trough of the 1981–82 recession. Their continuing weakness is largely a reflection of long-term structural adjustment problems, aggravated in recent years by increased import competition. These six industries had a combined loss of 140,000 jobs over the year.

Three manufacturing industries showed job gains over the year—transportation equipment (70,000), printing and publishing (40,000), and food processing (20,000). The growth in transportation equipment was due mainly to increases in aircraft, guided missiles, and spacecraft manufacturing. Automobile employment, which advanced very strongly in 1983 and 1984, held about steady during 1985. Job levels in the remaining manufacturing industries were also little changed over the year.

Other economic indicators reflect the 1985 slump in manufacturing. Following growth during the first 1½ years of the recovery, the index of industrial production has essentially been at a standstill since mid-1984. Capacity utilization also peaked in mid-1984 after steady increases during the first 2 years of recovery, and has since declined.

Hours of work

The workweek of production or nonsupervisory workers on private nonagricultural payrolls remained in the narrow range of 35.0–35.2 hours throughout 1985. Following a modest decline during the recession, hours had peaked at 35.4 in early 1984, but declined slightly later that year before stabilizing in 1985. Average weekly hours have shown a long-term secular downtrend over the entire postwar period, declining nearly 5 hours between 1945 and

1985. This has largely been due to increasing percentages of employment concentrated in retail trade and services, industries which have large—and growing—numbers of part-time employees.

Average weekly hours in manufacturing declined slightly in the first half of 1985. That trend was reversed in the second half, and the factory workweek rose to a very high 40.8 hours by yearend. Factory overtime followed the same general pattern and reached 3.5 hours in the fourth quarter.

In 1985, the index of aggregate weekly hours, a more comprehensive measure which takes into account both the number of production workers and their average hours, rose for the third straight year. Spurred by the strong employment growth, it stood at 117.7 (1977 = 100) in the last quarter, its highest level ever recorded. The aggregate hours index for manufacturing fell slightly between the fourth quarters of 1984 and 1985, reflecting the decline in employment.

Unemployment

The number of unemployed persons declined in the second half of 1985 to about 8 million in December. Similarly, the jobless rate, which had remained little changed from late 1984 through the first half of 1985, dipped to 7.0 percent in the fourth quarter, down sharply from the recession high of 10.6 percent in late 1982. During the past 3 years of economic expansion, jobless rates for all civilians and for most major labor force groups fell back to or below prerecession peak (July 1981) levels. Despite these declines, jobless rates for virtually all worker groups at year's end were still above those prevailing just before the onset of the 1980 recession. As the tabulation below shows, the unemployment rate increase over the period was sharpest for men—especially those in the 25–54 age group.

	Fourth-quarter		
	1979	*1982*	*1985*
Total, 16 years and over	5.9	10.6	7.0
Men:			
16–24 years	11.6	20.3	14.0
25–54 years	3.6	9.1	5.4
55 years and over	2.8	5.8	4.0
Women:			
16–24 years	12.5	17.0	13.1
25–54 years	5.1	8.5	5.8
55 years and over	3.1	5.0	3.7

The back-to-back recessions in 1980 and 1981–82 hit the goods-producing industries extremely hard. In effect, the sector experienced one deep and prolonged downturn, as employment fell by about 3½ million between the fourth quarters of 1979 and 1982. Despite 3 full years of expansion, goods-related employment had recovered only about 80 percent of the jobs lost by the end of 1985. Weak em-

Chart 1. Employment changes by major industry division, fourth-quarter 1984–1985

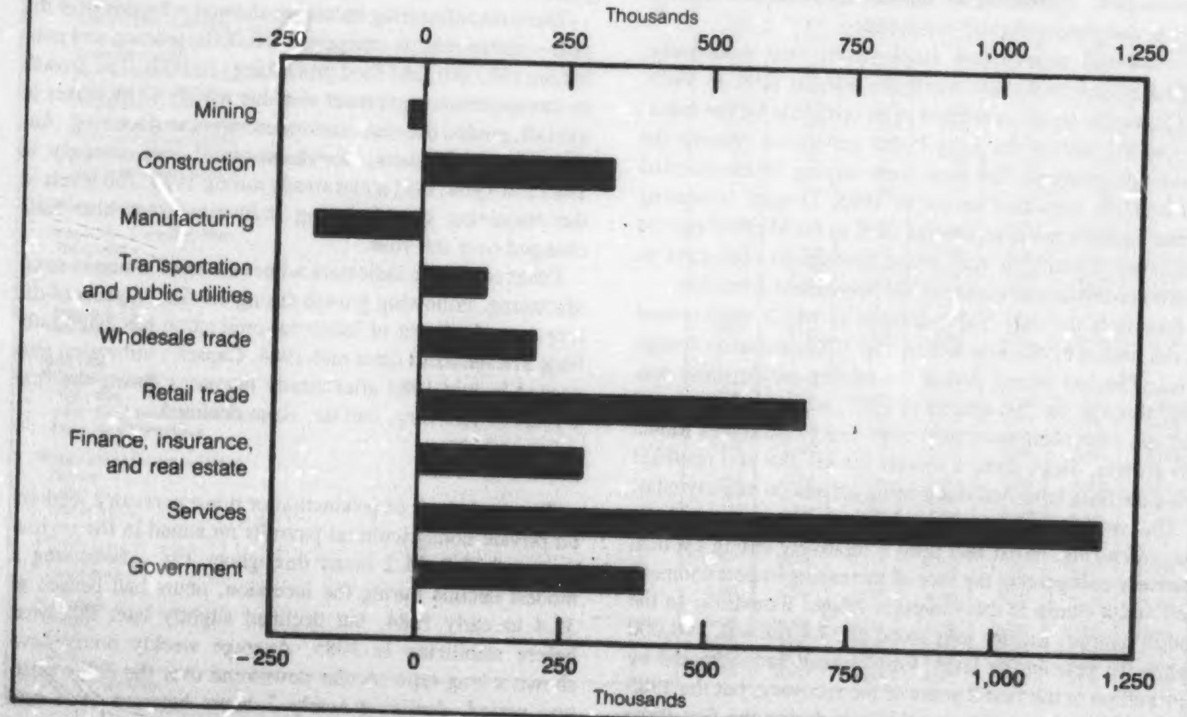
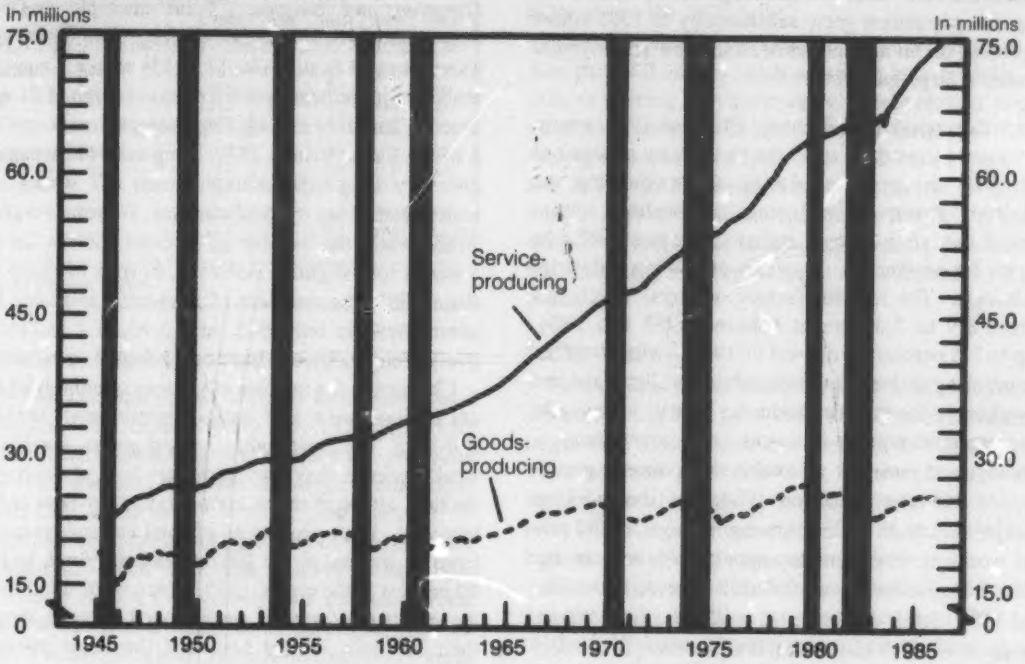


Chart 2. Employment in the service-producing and goods-producing sectors, seasonally adjusted, 1945–85



NOTE: Shaded areas indicate recessions as designated by the National Bureau of Economic Research.

ployment demand in this sector thus far in the 1980's has had its most adverse effect on men of prime working age. As the above tabulation shows, their jobless rate jumped from 3.6 percent in 1979 to 9.1 percent in 1982 before it began to recover. However, with an incomplete recovery in goods-producing employment, their rate was about 1½ times higher in 1985 than in 1979.

At the same time that employment weakened in goods-producing industries, the supply of 25- to 44-year-old workers (both men and women) expanded rapidly. As the baby-boom generation moved into adulthood in the 1980's, the work force aged 25 to 44 jumped by 12 million. In contrast, the labor force of younger workers declined and that of persons aged 45 and over was little changed between 1979 and 1985. The decrease (approximately 2 million over the period) in the number of 16- to 24-year-olds in the labor force helped to moderate unemployment problems for these younger workers.

Women of prime working age were much less affected by the cyclical swings of the 1980's than were men, because women's employment is concentrated in the steadily expanding service-producing sector. The low proportion of females employed in the goods-producing sector (20 percent versus 43 percent for men) is a major reason that jobless rates for 25- to 54-year-old women increased much less than those of their male counterparts in the early 1980's. By 1985, the jobless rate for these women had decreased to a level only moderately above the 1979 level.

Whites, blacks, and Hispanics. The longstanding disparity between white and black labor market success did not change appreciably during the recessions of the early 1980's or the subsequent strong recovery. The black jobless rate was about 15 percent at the end of 1985; the rate for whites was 6 percent. Although both rates in 1985 were substantially below their 1982 highs, neither was back to its 1979 level—about 12 percent for black workers and 5 percent for whites.

Adult men of both races accounted for most of the unemployment rate increases in the early 1980's. Their 1985 rates were still more than one-third higher than in 1979. In contrast, jobless rates for black and white women in 1985 were less than one-fourth above those of 1979. The rate for black teenagers, which had been as high as 50 percent during much of 1982 and 1983, declined to approximately 40 percent in 1985—marginally above that in 1979. For white teenagers, the 1985 rate (16 percent) was also slightly above the 1979 level.

The labor market experience for persons of Hispanic origin essentially followed the business cycle swings during the 1980's. Their unemployment rate rose from about 9 percent in 1979 to more than 15 percent in 1982 and then decreased to the 10.5- to 11-percent range in 1984 and 1985. The Hispanic population grew substantially in 1985 (more than 3 percent on an annual basis), and their employment also showed a large gain.

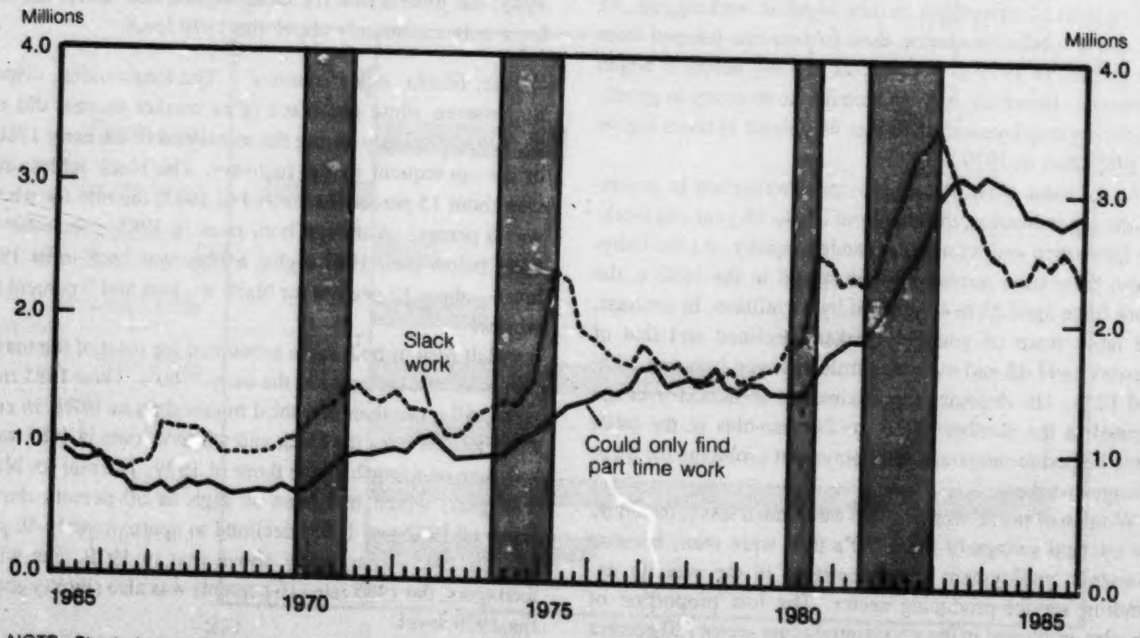
Industry and occupation. Between 1983 and 1984, unemployment rates for workers in all major industry groups had declined, with the goods-producing sector showing the sharpest drop.[5] However, while moderate declines continued in most service-producing industries during 1985, the jobless rate for workers in the goods-producing industries was unchanged. The rate for factory workers, which had fallen from 8.9 to 7.3 percent between 1983 and 1984, edged up to 7.5 percent by the end of 1985—with all of the increase occuring in durable goods industries. For wage and salary workers in the service-producing sector, jobless rate declines were most notable in services and government.

Unemployment rates for all major occupational groups had dropped between 1983 and 1984, but showed little further improvement in 1985.[6] Among managerial and professional workers, where employment growth was strong, the jobless rate declined from 2.4 to 2.2 percent between 1984 and 1985. Small declines also took place for administrative support workers and skilled craft workers in the construction trades. However, the unemployment rate was virtually unchanged for machine operators, assemblers, and inspectors, most of whom work in manufacturing.

Duration and reasons. Total unemployment declined only slightly in 1985, but the average duration of unemployment dropped from about 17 to 15½ weeks. Despite considerable improvement over the recession high of 21 weeks, the average length of an ongoing unemployment spell was still 5 weeks longer than in 1979. Long-term (15 weeks or more) and very long-term unemployment (27 weeks or more), which tend to lag cyclical changes, continued to fall during 1985, while the number of persons jobless for less than 5 weeks rose slightly. However, in spite of sharp decreases since 1983, the numbers of long-term and very long-term unemployed in late 1985, at 2.2 and 1.2 million, respectively, remained very high by historical standards.

Changes in the number of persons unemployed for different reasons were also comparatively small between 1984 and 1985. The most highly cyclical group—persons seeking work because they had lost their last jobs—continued to decline, although much more moderately than earlier in the recovery. Their proportion of total unemployment dropped from 61 percent at the 1982 recession trough to just below 50 percent at the end of 1985. There were small increases in the number of persons unemployed because they had left their last jobs or had reentered the labor market after a period of absence.

Chart 3. Number of persons working part time involuntarily by major reason, seasonally adjusted quarterly averages, 1965–85



NOTE: Shaded areas indicate recessions as designated by the National Bureau of Economic Research.

Table 3. Percent change in nonagricultural payroll employment from trough to 37 months after trough, five postwar recessions

Industry	1949 trough	1954 trough	1961 trough	1975 trough	1982 trough
Total nonagricultural	18.1	8.4	8.1	12.6	11.7
Mining	48.8	5.7	-6.7	17.9	-7.4
Construction	21.3	13.4	9.0	19.8	24.0
Manufacturing	23.3	5.9	6.6	11.8	7.4
Transportation and public utilities	11.5	4.0	0.4	7.2	6.7
Wholesale trade	8.5	6.2	5.7	11.9	12.3
Retail trade	10.3	6.7	7.0	15.1	16.5
Finance, insurance, and real estate	11.9	11.2	8.6	12.8	13.2
Services	8.8	13.1	13.7	17.1	17.4
Government	14.4	13.2	12.0	7.1	4.4

NOTE: Data are seasonally adjusted.

Short workweeks and discouragement

About 5½ million persons worked part time but wanted full-time work in 1985, down slightly from 1984. However, the number of these economic (or involuntary) part-time workers in 1985 was still 1 million above the prerecession low and 2 million above the 1979 level. (See chart 3.)

The two major components of part-time employment for economic reasons—slack work and inability to find full-time work—have behaved differently over the last several years. Slack work, which refers to an employer-initiated curtailment of hours, is highly cyclical and generally leads changes in overall economic activity because employers tend to reduce hours before laying off employees. Similarly, as the economy recovers, employers tend to restore hours before rehiring laid-off workers.[7] As the chart shows, the number on short workweeks because of slack work began to rise before the start of the last three recessions. It also led the recovery from the 1981–82 recession, falling from 3.7 million in September 1982 to 2.3 million by mid-1984. However, since the second quarter of 1984, it has fluctuated between 2.3 and 2.6 million.

Economic part-time employment stemming from an inability to find full-time work is less cyclical than slack work. In addition to the general state of the economy, this "failure to find work" series also reflects the experience, skills, and training of jobseekers and the availability of work schedules desired by workers. The number of persons who could only find part-time employment rose from early 1980 through mid-1983 and declined only slightly over the next 2½ years. At 2.9 million in 1985, the failure-to-find component of involuntary part-time employment was double the 1979 level and four times as high as in the late 1960's.

Despite 3 years of strong economic expansion, the number of discouraged workers—persons who report that they want to work but are not looking for a job because they believe they could not find one—has remained about unchanged since mid-1984. The number of discouraged workers rose from about 800,000 in 1979 to 1.8 million at the recession trough in fourth-quarter 1982. However, after dropping to 1.2 million by the third quarter of 1984, it has shown no further sustained improvement. As was true for economic part-timers, the number of discouraged workers in 1985 exceeded the 1981 prerecession peak and was substantially above the 1979 level.

Most discouraged workers cite job market factors—rather than personal factors, such as age or lack of skills, education, or training—as their reason for not seeking work. The number of persons citing job market factors, which tracks closely with business cycle swings, dropped from 1.4 million in late 1982 and early 1983 to just below 900,000 in the third quarter of 1984, and declined to 800,000 by the fourth quarter of 1985. The smaller group citing personal factors has fluctuated between 325,000 and 425,000 for the past 3 years.

Labor force

The civilian labor force rose by about 2 million, or 1.7 percent, in both 1984 and 1985. These increases, while larger than those which had occurred during the recession years between 1980 and 1983, were well below the 2.7-percent annual average gain during the 1970's. The slower pace of labor force growth thus far in the 1980's reflects both demographic changes and cyclical effects.

The civilian noninstitutional population aged 16 and over had jumped by 3 million per year during the 1970's, as most of the baby-boom generation reached working age. However, during the 1980's, the population increase eased to an average of 2.2 million, a slowdown that reflects the sharp decline in birth rates beginning in the mid-1960's. This falloff in the potential labor supply in the early 1980's, of course, coincided with a period of very weak employment demand. And as indicated earlier, the impact of 3 consecutive bad years was greatest in the cyclically sensitive goods-producing industries, in which men are more likely to be employed.

During the recessions of the early 1980's, male labor force participation rates decreased, after holding steady during the late 1970's. Table 4 shows that annual average participation rates for men and women moved differently in the 1980's, as had been the case throughout the postwar period. The long-term decline in labor force participation

Table 4. Annual average labor force participation rates by sex, selected years, 1950–85

Year	Men	Women
1950	86.4	33.9
1960	83.3	37.7
1970	79.7	43.3
1976	77.5	47.3
1977	77.7	48.4
1978	77.9	50.0
1979	77.8	50.9
1980	77.4	51.5
1981	77.0	52.1
1982	76.6	52.6
1983	76.4	52.9
1984	76.4	53.6
1985	76.3	54.5

for men has been concentrated in the older age groups, reflecting a movement toward early retirement. However, this trend was interrupted in the late 1970's, then resumed during the 1980–82 downturn, and there was no rebound at all during the 1983–85 expansion. The participation rate for women continued its secular uptrend into the 1980's, although the rate of growth moderated somewhat during the recession years. As the economic recovery continued into its second and third years, female participation accelerated, reaching 54.5 percent by 1985.

THE LABOR MARKET EXPERIENCE in the 1980's can be viewed in terms of two sharply distinct periods. The first 3 years of the decade were characterized by severe and protracted labor market problems—especially in the goods-producing industries and for adult men. The 1983–85 recovery and expansion has been strong and widespread: Employment recorded very large gains over these 3 years, and unemployment fell more than in any 3-year recovery period since the mid-1950's. However, despite sustained improvements in overall labor market measures, certain areas, such as manufacturing, remain weak. Factory employment in late 1985 was about 1 million below its 1981 prerecession peak and 2 million below its 1979 high. Moreover, while jobless rates for most worker groups fell substantially over the 1983–85 period, they had not yet returned to the lows that prevailed in the late 1970's. ☐

FOOTNOTES

[1] Business cycle peaks and troughs are designated by the National Bureau of Economic Research. The three most recent recessions extended from the following peak-to-trough dates: November 1973–March 1975, January 1980–July 1980, and July 1981–November 1982.

[2] The Current Population Survey gathers data monthly from a sample of about 60,000 households and provides information on the labor force, employment, and unemployment by demographic and economic characteristics. The Current Employment Statistics program is a monthly survey of approximately 280,000 nonagricultural establishments and provides information on the number of persons on business payrolls, as well as on average hours and earnings.

[3] The Producer Price Index for crude foodstuffs and feedstuffs dropped an average of 2 percent per month in the first 9 months of 1985.

[4] The long-term movements of employment from the Current Population Survey and the Current Employment Statistics survey are very similar. Differences in short-run changes, especially over the course of a business cycle, are not unusual. The Current Employment Statistics survey has shown more employment growth during the current recovery period, particularly between 1984 and 1985. Although the precise reasons for this divergence are unclear, there are several factors which can contribute to different survey results, including differences in definitions and coverage.

[5] Unemployed persons are classified according to the industry and occupation of their last full-time job lasting 2 weeks or more.

[6] Comparisons are based on unadjusted data averaged for the fourth quarters. Beginning in January 1983, occupational data from the Current Population Survey were coded and published according to the 1980 Census system, which evolved from the Standard Occupational Classification system. Seasonal adjustment of data based on the new classification system will not be possible until at least 5 years of data are available. For further information on the change in occupational classification, see "Revisions in the Current Population Survey Beginning in January 1983," *Employment and Earnings*, February 1983, pp. 7–15.

[7] See Robert W. Bednarzik, "Short workweeks during economic downturns," *Monthly Labor Review*, June 1983, pp. 3–11.

Part-time workers: who are they?

A new definition of part-timers, utilizing existing data from the Current Population Survey, gives a more accurate estimate of the number of part-time workers

THOMAS J. NARDONE

Although typically pictured as working 40 hours a week, the American work force includes a substantial number of persons who put in far fewer hours. Young people working while attending school, parents juggling childrearing and career responsibilities, those in retirement wishing to remain partly active in the work force, and workers whose hours have been reduced because of economic conditions are examples of persons who either choose or have to settle for part-time employment.

Because of the variety of situations found in the workplace, labor market analysts who study part-time employment have sometimes found it a difficult concept to define. Although the official government definition of part-time work is clear, estimating the number of part-time workers is more complex. It depends on exactly what is being measured—the total number of persons who worked part-time hours during the survey reference week, the number who choose to work part-time hours, or the number who typically work part time.

Each month the Bureau of Labor Statistics publishes data on the number of hours worked by persons during the survey reference week and considerable detail about persons who work less than 35 hours a week—the official boundary between full- and part-time employment.[1] The data collected include both the reasons people work less than 35 hours as well as their usual full- or part-time status. To reflect the diversity of the workplace, BLS disaggregates the data about people at work less than 35 hours into three subgroups: (1) those voluntarily at work part time, (2) those working part time for economic reasons, and (3) those who usually work full time but worked less than 35 hours during the reference week because of holiday, illness, vacation, or similar reasons. These data are combined with information on several other groupings—persons at work more than 35 hours (full-time workers), employed persons who were not at work during the survey reference week, and unemployed persons—to yield estimates of the full- and part-time labor forces. These categories are useful for a variety of analyses. The number of persons at work part time for economic reasons, for example, is of interest as a measure of underutilization of human resources and also is an important indicator of the cyclical movements in the labor market.[2] Data about the full- and part-time labor forces are used for unemployment rate calculations and to develop several of the alternative measures of unemployment that enhance our understanding of the labor market.[3]

Despite their usefulness, none of these groupings actually provides an estimate of the number of people who usually work part time. For example, the concept of voluntary part-time employment excludes persons who want full-time work but settle for a part-time job. The "at work" concept excludes the people who have part-time jobs but were away from their jobs during the survey reference week because of vacation, illness, or other reasons. The labor force categories classify some people according to the type of job they

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Thomas J. Nardone is an economist in the Division of Employment and Unemployment Analysis, Bureau of Labor Statistics.

want, not necessarily the type they have.

This article discusses available BLS data about part-time workers, describing what information is published, and suggests a new combination of the data—all persons who usually work part time—which would provide a more accurate estimate of part-time employment. The data are based on the Current Population Survey (CPS), a monthly sample survey of about 60,000 households nationwide, which provides information on the employment and unemployment status and related characteristics of the civilian population 16 years of age and over.

Defining full and part time

When defining the full- and part-time status of workers, the first consideration is the number of hours worked during the survey reference week. As mentioned previously, 35 hours is the boundary between full- and part-time employment. Part-time work is defined as less than 35 hours a week. Working less than 35 hours during the survey week, however, is not a sufficient condition for classifying a person as a part-time worker. The worker's usual schedule and reason for working less than 35 hours a week also must be considered.[4] In addition to workers' preference, reasons for part-time hours can be economic—slack work, material shortages, beginning or ending a job, or because only a part-time job could be found—or noneconomic—holiday, vacation, illness, or bad weather. Based on their usual schedule and their reason for working a part-time schedule, persons at work less than 35 hours a week are allocated according to the pattern shown in table 1.

Those who usually work full time but during the survey reference week worked less than 35 hours for noneconomic reasons—5.6 million in 1985—are combined with those who worked more than 35 hours during the survey week under the label "full-time schedules." In terms of "labor force" classification, persons at work on "full-time schedules" are combined with persons who are not at work during the reference week but usually work more than 35 hours, those working "part time for economic reasons," and unemployed workers seeking full-time jobs to form the "full-time labor force." (See box.)

Table 1. Persons at work 1 to 34 hours by reason for working less than 35 hours, and usual status, 1985 annual averages
[In thousands]

Reason for working less than 35 hours	Total	Usually work full time	Usually work part time
Total, 16 years and older	24,682	7,342	17,340
Economic reasons	5,590	1,739	3,851
Slack work	2,430	1,398	1,032
Material shortages or repairs to plant and equipment	62	62	—
New job started during week	190	190	—
Job terminated during week	90	90	—
Could find only part-time work	2,819	—	2,819
Other reasons	19,092	5,603	13,489
Does not want, or unavailable for, full-time work	11,217	—	11,217
Vacation	1,360	1,360	—
Illness	1,539	1,395	144
Bad weather	674	674	—
Industrial dispute	8	8	—
Legal or religious holiday	682	682	—
Full time for this job	1,545	—	1,545
All other reasons	2,086	1,484	582

Components of the full- and part-time labor forces

Full-time labor force:
- Employed persons on full-time schedules
- Employed persons working part time for economic reasons
- Employed persons not at work, who usually work full time
- Unemployed persons seeking full-time work

Part-time labor force:
- Employed persons working part time voluntarily
- Employed persons not at work, who usually work part time
- Unemployed persons seeking part-time work

The workers who usually work part time for noneconomic reasons—13.5 million in 1985—are classified as the "voluntary part-time employed," a group that has been the focus of several studies in recent years.[5] They clearly are part-timers. The vast majority of these workers do not want or are unavailable for jobs which call for 35 hours or more of work per week. The voluntary part-time group plus those employed persons not at work during the reference week who usually work less than 35 hours a week and unemployed workers who are seeking part-time jobs form the "part-time labor force." (See box.)

As stated above, workers who put in less than 35 hours a week because of slack work, the inability to find full-time work, or similar reasons—the 5.6 million workers on part time for economic reasons in 1985—are included in the full-time labor force. However, by treating them as a single group, the usual full-time/part-time work status of such workers is not readily identified. And, the two main components of the group—persons on slack work and persons who could only find part-time jobs—are quite dissimilar in terms of their usual work status.

Most of the workers on "part time for economic reasons" due to "slack work" usually work full time, while all who "could only find part-time work" usually work part time. Persons who worked less than 35 hours during the reference week because of slack work, but who usually work full time, are workers who have full-time jobs but are on a reduced work schedule temporarily because of low demand. This group expects to return to a full-time schedule when economic conditions improve, and thus it seems reasonable to view such persons as full-time workers. Those who worked less than 35 hours because they "could only find part-time work," however, present a somewhat different situation. Despite their desire for full-time work, these persons only have part-time jobs. Their part-time status may or may not change as economic conditions improve, because they would have to find another job in order to become full-time workers. Therefore, to arrive at a more accurate estimate of the number of persons who typically work part time, it is necessary to disaggregate those working part time for economic reasons into two groups according to their usual full- or part-time schedule.

Several characteristics of those working part time for economic reasons illustrate the differences between the usual full-time and usual part-time workers. The data suggest that those who normally work full time resemble workers on "full-time schedules," whereas persons who normally work part time are more like voluntary part-time workers. One example is the number of hours worked. The following tabulation shows the percent of workers on part-time schedules for economic reasons and those on voluntary part time by the number of hours worked, 1985:

	Part time for economic reasons		*Voluntary part time*
	Usually full time	*Usually part time*	
Total	100.0	100.0	100.0
1 to 4 hours	1.3	3.5	4.4
5 to 14 hours	10.9	17.2	22.8
15 to 29 hours	42.9	54.8	54.2
30 to 34 hours	44.9	24.5	18.6

While close to half (45 percent) of the usual full-timers worked 30 to 34 hours a week, only a quarter of the usual part-timers did. More than half of the usual part-timers worked the number of hours—15 to 29 a week—typical for the "voluntary part time."

Another characteristic by which the two groups differ is the distribution by sex. As is true for people on full-time schedules, the majority of persons working part time involuntarily who usually work full time are men. In contrast, the majority of those who usually work part time—voluntarily or involuntarily—are women.

Persons who usually work part time are also like voluntary part-timers in their industrial and occupational distribution. The services and retail trade industries account for the vast majority of workers in both groups. The following tabulation shows the distribution, by industry, of nonagricultural wage and salary workers on part time for economic reasons and those on voluntary part time, 1985:

	Part time for economic reasons		*Voluntary part time*
	Usually full time	*Usually part time*	
Total	100.0	100.0	100.0
Retail trade	19.0	40.3	37.0
Services	22.4	35.4	42.6
Other industries	58.6	24.3	20.4

Among those part time for economic reasons who usually work full time, a sizable proportion are in the manufacturing and construction industries. The occupational distributions reflect these industry differences. "Sales" and "service" occupations accounted for the largest part of both voluntary and involuntary usual part-timers. In contrast, "precision production, craft, and repair" and "operator, fabricator, and laborer" occupations accounted for about half the economic part-timers who usually are full time.

The inclusion of all persons usually working part time for voluntary and economic reasons in the count of persons employed part time also helps reconcile recent trends in part-time employment and industry growth, and highlights the importance of part-time workers in the labor market. Between 1979 and 1985, employment in retail trade and services increased by 7 million. Because firms in those industries make extensive use of part-time workers, a significant rise in part-time employment also should have occurred during that period. Voluntary part-time employment—the traditional measure of part-time employment—increased by only 596,000. If all persons who usually work part time are tallied, however, the increase for the period would have been 2.4 million. This is more in line with the growth in retail trade and service employment. Further, the part-time employed measure shows that during the 1970's and early 1980's, part-time employment grew more rapidly than full-time employment. (See chart 1.) The rapid growth of part-time employment has led to some restructuring of the work force. Between 1968 and 1980, the proportion of employed persons who work part time edged up from 14 to 17 percent. The proportion reached 18 percent in 1982 as the recession forced more workers to settle for part-time employment. However, as the economy recovered during the 1983-85 period, the percentage returned to 17 percent.

Based on the findings presented above, it would seem that the most simple, straightforward answer to the question "How many part-time workers are there?" is a tally of the number of workers who usually work part time, regardless of the reason for their short hours. It would more accurately estimate the number of part-time workers according to the kinds of jobs they typically have.[6] Beginning with data for January 1986, the Bureau is revising table A-9 in its monthly periodical *Employment and Earnings*, to show employment by usual full- and part-time status in line with the concepts discussed in this article. Table 2 presents 1985 annual average data displayed by the format for the revised monthly table. Historical data are presented in table 3. Monthly and quarterly seasonally adjusted data series will be available in April 1986.

Characteristics of part-time workers

Younger (ages 16 to 24) and older (65 and over) workers account for a much higher proportion of the part- than full-time employed. (See table 4.) A part-time schedule allows young people to attend school while working. The connection between part-time work and school attendance is shown in the new BLS series on employment status by school enrollment. In October 1985, 6.3 million people between the ages of 16 and 24 were in school and employed. About four-fifths of these worked part time. By comparison, of the 13.8 million in that age group who worked but were not enrolled in school, fewer than 15 percent were part-timers.[7] Part-time schedules are attractive to older workers, who use them to ease the transition into retirement. These jobs also provide supplementary retirement income.

While age differences between part- and full-time workers occur among both sexes, differences are more pronounced among men. Nearly two-thirds of male part-timers are 16 to 24 years old or 65 years and older, compared with only one-third of their female counterparts.

Women make up the majority of the part-time employed—two-thirds of the total in 1985. (See table 4.) While full-time employment is the norm for both sexes, about 27 percent of the women are employed part time, compared with 10 percent of the men. This difference probably reflects the higher proportion of women who also handle household and childrearing responsibilities and therefore need flexibility in their work schedules.

About 6 of 10 women employed part time are married with their spouse present, about the same proportion as women who are employed full time. About 3 of 10 have never been married, a higher ratio than among women employed full time. This reflects the fact that female teenagers are more likely to be part-timers.

While most women who are employed part time are married, most men are single. Men who work part time are three times as likely as those employed full time to be single. This difference results from the high proportion of very young men working part time.

As shown in the tabulation below, a slightly higher proportion of whites than blacks were employed part time in 1985—18 versus 16 percent. This difference was greater among women than men. Women accounted for about two-thirds of those usually employed part time among each racial group. (Also see table 4.)

	Percent of employed persons usually working:	
	Full time	*Part time*
White	82.4	17.6
Men	90.2	9.8
Women	72.4	27.6
Black	84.0	16.0
Men	88.1	11.9
Women	79.9	20.1

Industry and occupational distribution

Part-time workers are more apt than their full-time counterparts to hold jobs in retail trade and services industries.

Chart 1. Index of full- and part-time employment and part-time employment as a proportion of total employment, 1968–85

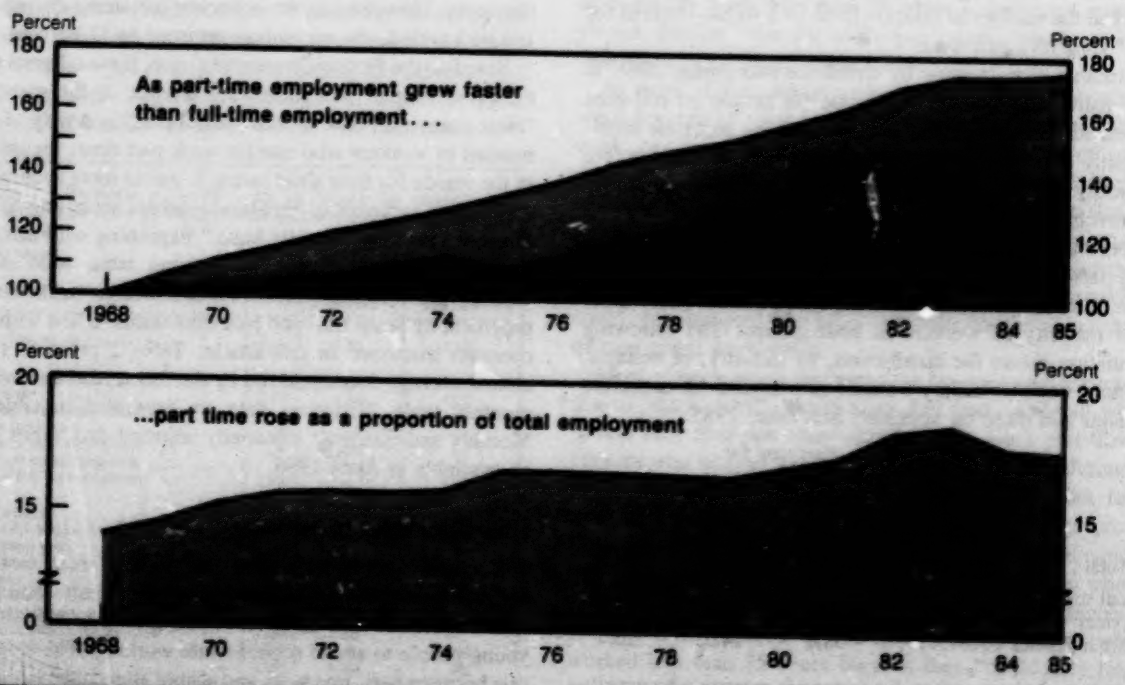

Table 2. Employed and unemployed full- and part-time workers by sex, age, and race, 1985 annual averages

[In thousands]

Sex, age, and race	Employed						Unemployed	
	Full time			Part time				
	Total	Full-time schedules[1]	Part time for economic reasons, usually work full time	Total	Voluntary[1]	Part time for economic reasons, usually work part time	Looking for full-time work	Looking for part-time work
Total								
Total, 16 years and over	88,535	86,795	1,740	18,615	14,740	3,851	6,793	1,519
16 to 19 years	2,507	2,375	132	3,927	3,278	649	777	690
16 to 17 years	440	412	28	2,053	1,830	223	196	463
18 to 19 years	2,066	1,962	104	1,875	1,449	426	579	227
20 years and over	86,029	84,421	1,608	14,688	11,486	3,202	6,015	829
20 to 24 years	10,981	10,683	298	2,999	2,163	836	1,493	245
25 years and over	75,047	73,737	1,310	11,689	9,323	2,366	4,522	584
25 to 54 years	64,044	62,931	1,113	8,405	6,447	1,958	4,056	439
55 years and over	11,003	10,806	197	3,284	2,876	408	466	145
Men, 16 years and over	53,862	52,832	1,030	6,028	4,486	1,542	3,925	596
16 to 19 years	1,437	1,357	80	1,891	1,574	317	446	360
20 years and over	52,425	51,475	950	4,137	2,912	1,225	3,479	236
20 to 24 years	6,078	5,895	183	1,261	872	389	857	87
25 years and over	46,346	45,580	766	2,876	2,040	836	2,622	149
25 to 54 years	39,207	38,557	650	1,568	878	690	2,329	79
55 years and over	7,139	7,032	116	1,308	1,162	146	292	70
Women, 16 years and over	34,672	33,963	709	12,587	10,278	2,309	2,868	923
16 to 19 years	1,069	1,017	52	2,036	1,704	332	331	330
20 years and over	33,604	32,946	658	10,550	8,574	1,976	2,536	593
20 to 24 years	4,903	4,788	115	1,738	1,291	447	636	158
25 years and over	28,701	28,158	543	8,812	7,283	1,529	1,900	434
25 to 54 years	24,838	24,375	463	6,837	5,569	1,268	1,727	359
55 years and over	3,862	3,782	80	1,976	1,715	261	173	75
White								
Men, 16 years and over	47,824	46,953	871	5,222	4,009	1,213	2,961	465
16 to 19 years	1,298	1,229	69	1,686	1,421	265	318	274
20 years and over	46,526	45,724	802	3,536	2,588	948	2,642	192
20 to 24 years	5,371	5,213	158	1,057	759	298	624	70
25 years and over	41,155	40,511	644	2,480	1,829	651	2,019	122
25 to 54 years	34,682	34,137	545	1,283	752	531	1,778	63
55 years and over	6,473	6,374	99	1,197	1,077	120	241	59
Women, 16 years and over	29,441	28,859	582	11,249	9,383	1,866	2,027	738
16 to 19 years	953	907	46	1,831	1,548	283	230	252
20 years and over	28,488	27,952	536	9,418	7,835	1,583	1,797	486
20 to 24 years	4,290	4,198	92	1,517	1,153	364	420	121
25 years and over	24,197	23,753	444	7,901	6,682	1,219	1,377	365
25 to 54 years	20,811	20,438	373	6,182	5,168	1,014	1,235	301
55 years and over	3,386	3,315	71	1,719	1,514	205	142	65
Black								
Men, 16 years and over	4,641	4,506	135	629	341	288	839	112
16 to 19 years	118	108	10	161	115	46	119	74
20 years and over	4,524	4,399	125	468	226	242	719	38
20 to 24 years	567	546	21	159	75	84	209	15
25 years and over	3,957	3,853	104	310	152	158	510	23
25 to 54 years	3,429	3,341	88	221	85	136	465	14
55 years and over	528	512	16	89	67	22	45	9
Women, 16 years and over	4,180	4,073	107	1,051	665	386	757	156
16 to 19 years	92	87	5	161	117	44	95	69
20 years and over	4,086	3,985	101	890	548	342	662	87
20 to 24 years	501	481	20	171	95	76	199	32
25 years and over	3,585	3,504	81	720	453	267	445	55
25 to 54 years	3,200	3,125	75	499	281	218	435	45
55 years and over	385	379	6	221	172	49	10	10

[1] Employed persons with a job but not at work are distributed according to whether they usually work full or part time.

NOTE: Detail may not add to totals because of rounding.

Together, these industries accounted for 79 percent of the part-time nonagricultural wage and salary workers. This concentration is mirrored in the occupational distribution; nearly half of all part-timers are in sales or service jobs.

The high concentration of part-time workers in retail trade and services reflects their importance in these industries. A third of the wage and salary workers in retail trade and a fifth of those in services are employed part time. The extensive use of part-time workers in these industries results from the need of such businesses to offer services to customers during evenings and other times that are not readily staffed by full-timers. In goods-producing industries where operations generally are conducted in one 8-hour shift or more, the usefulness of part-time workers is limited. As a result, these

Table 3. Employed full- and part-time workers by sex and age, 1968–85 annual averages
[In thousands]

Year	Total: Total	Total: Full time	Total: Part time	Men, 20 years and over: Total	Men, 20 years and over: Full time	Men, 20 years and over: Part time	Women, 20 years and over: Total	Women, 20 years and over: Full time	Women, 20 years and over: Part time	Both sexes, 16 to 19 years: Total	Both sexes, 16 to 19 years: Full time	Both sexes, 16 to 19 years: Part time
1968	75,920	65,276	10,643	44,859	42,720	2,139	25,281	19,600	5,681	5,781	2,958	2,823
1969	77,902	66,596	11,306	45,386	43,100	2,286	26,397	20,454	5,944	6,117	3,042	3,074
1970	78,676	66,752	11,924	45,581	43,136	2,444	26,952	20,654	6,297	6,144	2,960	3,183
1971	79,367	66,973	12,394	45,912	43,322	2,591	27,246	20,769	6,477	6,208	2,882	3,326
1972	82,153	69,213	12,938	47,130	44,475	2,654	28,276	21,536	6,741	6,746	3,202	3,543
1973	85,064	71,803	13,262	48,310	45,637	2,673	29,484	22,494	6,990	7,271	3,672	3,599
1974	86,794	73,091	13,702	48,922	46,157	2,764	30,424	23,181	7,243	7,448	3,753	3,695
1975	85,846	71,586	14,260	48,018	45,051	2,966	30,726	23,242	7,484	7,104	3,292	3,810
1976	88,752	73,965	14,788	49,190	46,175	3,016	32,226	24,406	7,819	7,336	3,384	3,953
1977	92,017	76,626	15,393	50,555	47,403	3,152	33,775	25,587	8,187	7,688	3,636	4,054
1978	96,048	80,195	15,855	52,143	49,007	3,136	35,836	27,326	8,511	8,070	3,862	4,208
1979	98,824	82,654	16,171	53,308	50,174	3,134	37,434	28,622	8,812	8,083	3,858	4,225
1980	99,303	82,564	16,742	53,101	49,699	3,403	38,492	29,391	9,102	7,710	3,474	4,237
1981	100,397	83,242	17,154	53,582	50,092	3,490	39,590	30,040	9,549	7,225	3,110	4,115
1982	99,526	81,419	18,106	52,891	48,895	3,996	40,086	30,007	10,079	6,549	2,517	4,031
1983	100,834	82,322	18,511	53,487	49,264	4,223	41,004	30,680	10,324	6,342	2,378	3,964
1984	105,005	86,544	18,461	55,769	51,624	4,145	42,793	32,404	10,388	6,444	2,516	3,928
1985	107,150	88,535	18,615	56,562	52,425	4,137	44,154	33,604	10,550	6,434	2,507	3,927

NOTE: Detail may not add to totals because of rounding.

Table 4. Employed persons by usual status and age, sex, and race, 1985
[In percent]

Characteristic	Employed: Usually full time	Employed: Usually part time
Age		
16 years and over (in thousands)	88,535	18,615
16 to 19	2.8	21.1
16 and 17	0.5	11.0
18 and 19	2.3	10.1
20 and over	97.2	78.9
20 to 24	12.4	16.1
25 to 34	31.1	19.8
35 to 44	24.7	15.5
45 to 54	16.6	9.6
55 to 64	10.9	9.9
55 to 59	6.8	4.9
60 to 64	4.1	5.0
65 and over	1.5	7.8
Sex and race		
Total (in thousands)	88,535	18,615
Men	60.8	32.4
Women	39.2	67.6
White	100.0	100.0
Men	61.9	31.7
Women	38.1	68.3
Black	100.0	100.0
Men	52.6	37.4
Women	47.4	62.6

industries have very low percentages of part-time workers. And, the occupations that are concentrated in those industries such as precision production, craft, and repair and operators, fabricators, and laborers have a very low percentage of part-time workers. As expected, another occupational group that typically has a low percentage of part-timers is executive, administrative, and managerial.[8]

AN ALTERNATIVE WAY of combining existing data to estimate the number of part-time workers has been presented in this article. Counting as "part-time employed" all persons who usually work less than 35 hours a week appears to reflect existing labor market conditions. However, there are limitations to this estimate. To the extent that some workers hold a full-time as well as a part-time job or combine two separate part-time jobs in order to work more than 35 hours a week, the suggested "part-time employed" figure underestimates the number of part-time jobs. This problem occurs because, in the CPS, multiple job-holders are counted only once. Nevertheless, the CPS data are the only source of current information about workers on part-time schedules, and defining the part-time employed as suggested in this article appears to be an accurate way to answer the often-asked question: How many part-time workers are there? □

——*FOOTNOTES*——

[1] This definition has been in effect since 1947. Over the years some labor market analysts have suggested this cutoff be revised, arguing that overall hours of work have declined over the long run, and thus the 40-hour standard workweek, upon which the definition of the full-time workweek is based, may no longer be the norm. The National Commission on Employment and Unemployment Statistics addressed the issue in their report, *Counting the Labor Force*. They found no evidence of a significant change from the 40-hour standard and thus recommended that 35 hours continue to be used as the dividing line between part- and full-time work. See *Counting the Labor Force*, National Commission on Employment and Unemployment Statistics (Washington, Government Printing Office, 1979), pp. 54–55.

[2] For a discussion of the cyclical sensitivity of this measure and its component parts, see Robert W. Bednarzik, "Short workweeks during economic downturns," *Monthly Labor Review*, June 1983, pp. 3–11.

[3] Each month in the news release, "The Employment Situation," BLS publishes a set of alternative measures of unemployment. These measures, labeled U–1 through U–7, are designed to reflect a wide range of assumptions about unemployment. Three of the alternatives involve the full-time/part-time concepts. U–4 is defined as unemployed full-time jobseekers as a percent of the full-time labor force. U–6 is defined as total full-time jobseekers plus half of the part-time jobseekers plus half of the total working part time for economic reasons as a percent of the civilian labor force less

half of the part-time labor force. U-7 is the same as U-6 with the number of discouraged workers added to the count of jobseekers and the civilian labor force.

[4] Employed persons with a job but not at work during the survey reference week are classified as full- or part-time workers according to whether they usually work 35 hours or more. This group averaged 5.8 million in 1985, and ranged from a low of 3.9 million in November to a high of 11.8 million in July.

[5] See Carol Leon and Robert W. Bednarzik, "A profile of women on part-time schedules," *Monthly Labor Review*, October 1978, pp. 3–12; and William V. Deutermann, Jr. and Scott Campbell Brown, "Voluntary part-time workers: a growing part of the labor force," *Monthly Labor Review*, June 1978, pp. 3–10. The latter article dealt only with nonagricultural employment.

[6] In terms of the existing classifications, a count of the part-time employed would include voluntary part-timers, the part-timers for economic reasons who usually work part time, and persons with a job but not at work who usually work less than 35 hours a week.

[7] See Anne McDougall Young, "New monthly data series on school age youth," *Monthly Labor Review*, July 1985, pp. 49–50.

[8] Janice Neipert Hedges, "Job commitment in America: is it waxing or waning?" *Monthly Labor Review*, July 1983, pp. 17–24.

Tenements house some hard numbers

During the winter of 1914–15 the Committee on Unemployment formed by Mayor John P. Mitchell called upon the Bureau of Labor Statistics for a series of field surveys of unemployment in New York City. The committee had collected data from employers on the number employed in a week of December 1914 and for the corresponding week of December 1913. At about the same time, the Metropolitan Life Insurance Company, in cooperation with the Mayor's Committee, had surveyed its industrial policyholders in Greater New York. At the request of the committee, with personnel borrowed from the U.S. Immigration Bureau and the New York City Tenement House Inspection Service, the Bureau covered over 100 city blocks and some 3,700 individual tenement houses in January and February 1915. It found an unemployment rate of 16.2 percent, which approximated the 18-percent rate reported by Metropolitan. The results were published by the Bureau in *Unemployment in New York City, New York.*

[BLS Commissioner] Meeker then contracted with Metropolitan for studies in 16 cities in the East and Middle West and in 12 Rocky Mountain and Pacific Coast cities. In August and September 1915, at the urging of the Mayor's Committee, both the Bureau and Metropolitan conducted surveys in New York City for a second time. The results of this work were presented in 1916 in a Bureau publication, *Unemployment in the United States.*

—Joseph P. Goldberg and William T. Moye
The First Hundred Years of the
Bureau of Labor Statistics
Bulletin 2235 (Bureau of Labor
Statistics, 1985).

Hourly paid workers: who they are and what they earn

More than half of all wage and salary workers were paid by the hour during 1984; median earnings were $5.95 per hour, but a closer look reveals many variations among groups

EARL F. MELLOR AND STEVEN E. HAUGEN

The Bureau of Labor Statistics publishes several different data series on the hourly earnings of workers, each highlighting different worker and job-related characteristics. All but one of these series are based on surveys of payroll and other records of business establishments. Data from these series contain considerable industrial detail. In contrast, the remaining earnings series is based on a nationwide sample survey of households, and provides detailed information on hourly earnings by the demographic and social characteristics of the wage earners.[1] (See the appendix on page 26.) Moreover, the earnings obtained in the Current Population Survey (CPS) of households represent *only* hourly wages paid to the employee—stripped of any effects of tips, premium pay for overtime, bonuses, and commissions. More than half of all wage and salary workers are in this category.

Earl F. Mellor and Steven E. Haugen are economists in the Division of Employment and Unemployment Analysis, Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

Who is paid by the hour

Altogether, 92 million American workers were paid wages or salaries in 1984, and 54 million of them were paid at hourly rates. The method of remuneration received by workers is closely linked to the nature of jobs held. For example, 80 percent of all part-time workers were paid by the hour, compared with 54 percent of the full-time workers. The fact that women were more likely than men to work part time is reflected in the larger proportion of women who were paid by the hour—62 percent versus 56 percent (table 1).

The same explanation applies to younger versus older workers. The proportion paid hourly rates was highest for teenagers—89 percent—and lowest for those in the central prime age groups, comprising the 35 to 49 population. Even for those aged 70 and over, the proportion was far below that for teenagers and young adults. The high proportion of young workers paid by the hour reflects their tendency to work both part time and part year, and in occupations less likely to be salaried even when they are employed all year in full-time jobs.

Table 1. Employed wage and salary workers paid hourly rates by selected characteristics, 1984 annual averages

[Numbers in thousands]

Characteristic	All wage and salary workers			Workers paid hourly rates					
				Number			As a percent of all workers		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
Race and Hispanic origin									
Total, 16 years and over	92,194	50,022	42,172	54,143	28,140	26,003	58.7	56.3	61.7
White	80,071	43,932	36,139	46,098	24,084	22,014	57.6	54.8	60.9
Black	9,699	4,819	4,880	6,623	3,346	3,277	68.3	69.4	67.2
Hispanic origin	5,271	3,067	2,204	3,643	2,165	1,479	69.1	70.6	67.1
Age									
16 to 19 years	6,243	3,171	3,072	5,552	2,787	2,765	88.9	87.9	90.0
20 to 24 years	13,661	7,189	6,472	10,092	5,442	4,650	73.9	75.7	71.8
25 to 29 years	14,559	8,021	6,539	8,667	4,756	3,911	59.5	59.3	59.8
30 to 34 years	12,917	7,164	5,754	6,898	3,744	3,154	53.4	52.3	54.8
35 to 39 years	11,222	6,107	5,115	5,658	2,838	2,820	50.4	46.5	55.1
40 to 44 years	8,917	4,811	4,107	4,535	2,214	2,321	50.9	46.0	56.5
45 to 49 years	7,097	3,887	3,211	3,586	1,766	1,820	50.5	45.4	56.7
50 to 54 years	6,391	3,561	2,832	3,302	1,687	1,615	51.7	47.4	57.0
55 to 59 years	5,694	3,176	2,517	2,954	1,506	1,448	51.9	47.4	57.5
60 to 64 years	3,599	1,947	1,652	1,894	935	959	52.6	48.0	58.1
65 to 69 years	1,148	591	557	606	267	340	52.8	45.2	61.0
70 years and over	743	398	345	398	198	200	53.6	49.7	58.0
Hours usually worked									
Part-time workers	17,282	5,368	11,914	13,880	4,243	9,637	80.3	79.0	80.9
Full-time workers	74,912	44,654	30,258	40,262	23,896	16,366	53.7	53.5	54.1
35 to 39 hours	6,961	2,132	4,829	3,784	1,185	2,599	54.4	55.6	53.8
40 hours	52,307	30,426	21,882	31,238	18,571	12,667	59.7	61.0	57.9
41 to 44 hours	1,517	992	525	829	550	279	54.6	55.4	53.1
45 to 48 hours	5,327	3,972	1,355	2,195	1,721	475	41.2	43.3	35.1
49 to 59 hours	6,076	4,838	1,238	1,678	1,409	270	27.6	29.1	21.8
60 hours or more	2,723	2,294	429	537	461	76	19.7	20.1	17.7
Occupation									
Managerial and professional specialty	20,817	11,412	9,404	4,641	1,636	3,005	22.3	14.3	32.0
Executive, administrative, and managerial	9,314	5,879	3,434	1,670	755	914	17.9	12.8	26.6
Professional specialty	11,504	5,533	5,970	2,972	881	2,091	25.8	15.9	35.0
Technical, sales, and administrative support	29,135	9,689	19,446	16,373	4,157	12,217	56.2	42.9	62.8
Technicians and related support	3,090	1,578	1,510	1,763	766	998	57.1	48.5	66.1
Sales occupations	9,916	4,806	5,111	5,220	1,439	3,781	52.6	29.9	74.0
Administrative support, including clerical	16,130	3,305	12,825	9,390	1,952	7,438	58.2	59.1	58.0
Service occupations	13,066	5,249	7,817	9,899	3,804	6,095	75.8	72.5	78.0
Private household	1,008	39	970	511	25	486	50.7	(1)	50.1
Protective service	1,659	1,436	220	892	756	137	53.8	52.6	62.3
Service, except private household and protective	10,398	3,772	6,626	8,496	3,023	5,473	81.7	80.1	82.6
Precision production, craft, and repair	11,188	10,224	964	8,521	7,742	778	76.2	75.7	80.7
Operators, fabricators, and laborers	16,213	11,908	4,305	13,667	9,921	3,746	84.3	83.3	87.0
Machine operators, assemblers, and inspectors	7,798	4,563	3,235	6,942	4,109	2,833	89.0	90.1	87.6
Transportation and material moving occupations	4,122	3,771	351	2,854	2,597	257	69.2	68.9	73.2
Handlers, equipment cleaners, helpers, and laborers	4,294	3,574	720	3,872	3,215	657	90.2	90.0	91.3
Farming, forestry, and fishing	1,776	1,540	236	1,041	879	162	58.6	57.1	68.6

[1] Data not shown where base is less than 50,000.

NOTE: Detail for the above race and Hispanic origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups.

Among white workers, women were more likely than men to be paid hourly rates, while the reverse was true—albeit to a lesser extent—for blacks and Hispanics. The following tabulation shows, however, that the situation is quite different when numbers are reported for full- and part-time workers.

	Percent paid hourly rates			
	Full time		*Part time*	
	Men	*Women*	*Men*	*Women*
White	52.0	52.5	79.1	81.2
Black	68.3	64.3	77.5	77.3
Hispanic origin	69.4	61.6	80.3	84.7

For full-time employees, the more hours people work, the more likely they are to be in a salaried rather than in an hourly paid position. About three-fifths of the men who usually worked exactly 40 hours a week were paid hourly, compared with just over two-fifths for those working 45 to 48 hours and one-fifth for those working 60 hours or more. This pattern was similar for women working full time.

The occupational distribution of hourly paid workers sheds further light on this relationship. As shown in table 1, fewer than one-fifth of workers in executive, administrative, and managerial occupations and about one-fourth of those in professional specialty occupations were paid hourly rates. A substantial number of employees in these occupations put in long workweeks, with one-quarter of the two groups (combined) working 49 hours or more a week.[2] In contrast, about nine-tenths of workers employed as machine operators, assemblers, and inspectors, and as handlers, equipment cleaners, helpers, and laborers were paid hourly wages, but fewer than one-tenth put in 49 or more hours a week.

Table 2. Median hourly earnings of workers paid hourly rates by selected characteristics, 1984 annual averages

Characteristic	Median hourly earnings		
	Total	Men	Women
Race and Hispanic origin			
Total, 16 years and over	$5.95	$7.27	$5.08
White	6.02	7.39	5.09
Black	5.43	6.26	4.90
Hispanic origin	5.39	6.17	4.73
Age			
16 to 19 years	3.64	3.80	3.50
20 to 24 years	4.94	5.31	4.43
25 to 29 years	6.52	7.50	5.52
30 to 34 years	7.23	8.63	5.81
35 to 39 years	7.37	9.48	5.81
40 to 44 years	7.17	9.75	5.51
45 to 49 years	7.23	9.96	5.46
50 to 54 years	7.20	9.65	5.63
55 to 59 years	6.85	9.15	5.40
60 to 64 years	6.45	8.68	5.30
65 to 69 years	4.95	5.23	4.71
70 years and over	4.38	4.82	4.21
Hours usually worked			
Part-time workers	4.04	3.92	4.10
Full-time workers	6.80	8.03	5.59
35 to 39 hours	5.20	6.04	5.04
40 hours	6.95	8.12	5.74
41 to 44 hours	7.35	8.32	5.94
45 to 48 hours	7.40	8.05	5.91
49 to 59 hours	7.45	7.84	5.91
60 hours or more	7.14	7.38	4.96
Occupation			
Managerial and professional specialty	8.62	9.64	8.25
Executive, administrative, and managerial	7.25	8.48	6.59
Professional specialty	9.42	10.34	9.16
Technical, sales, and administrative support	5.45	6.85	5.26
Technicians and related support	7.79	9.29	7.15
Sales occupations	4.18	4.99	4.01
Administrative support, including clerical	5.95	7.62	5.71
Service occupations	4.08	4.50	3.88
Private household	3.25	(1)	3.23
Protective service	6.20	6.52	4.98
Service, except private household and protective	4.01	4.25	3.91
Precision production, craft, and repair	8.84	9.23	5.75
Operators, fabricators, and laborers	6.38	7.20	5.15
Machine operators, assemblers, and inspectors	6.59	8.04	5.18
Transportation and material moving occupations	7.51	7.77	6.01
Handlers, equipment cleaners, helpers, and laborers	5.28	5.39	4.74
Farming, forestry, and fishing	4.35	4.40	4.07
Years of school completed			
Total, 25 years and over	6.96	8.67	5.51
Less than 4 years of high school	5.79	7.22	4.55
Elementary, 8 years or less	5.43	6.46	4.34
High school, 1 to 3 years	6.04	7.91	4.71
High school, 4 years or more	7.30	9.28	5.91
High school, 4 years	6.97	9.17	5.41
College, 1 to 3 years	7.80	9.52	6.47
College, 4 years or more	8.37	9.44	7.88
College, 4 years	8.18	9.34	7.38
College, 5 years or more	9.14	9.90	8.48

[1] Data not shown where base is less than 50,000.

NOTE: Data refer to persons 16 years and over, except years of school completed, which relate to the population 25 years and over.

The data illustrate the inverse relationship between the number of hours usually worked and the likelihood of being paid at an hourly rate. It is beyond the scope of this article, however, to fully explain the nature of this relationship, because information is not collected in the CPS on several of the factors which may be involved. These include data on the overtime provisions of the Fair Labor Standards Act, the provisions of collective bargaining agreements, the extent of nonpecuniary compensation derived from a job, and productivity.

Median hourly earnings

Median hourly earnings for people who were *actually paid* hourly rates in 1984 were $5.95—$7.27 for men and $5.08 for women. (See table 2.) It is important to understand the significance of what these data represent: Hourly earnings data are commonly calculated for *all* workers (wage and salary) based on information on their weekly or annual earnings. These figures will be typically higher than would be the case for those whose pay rate is hourly. For example, the median weekly earnings of all workers putting in *exactly* 40 hours a week—a majority of all workers—was $312 in 1984; when divided by 40, this turns out to be $7.80 an hour. The median hourly wage among workers actually paid by the hour and reported as usually working 40 hours a week was $6.95. This difference is to be expected, because the weekly earnings data include components of earnings beyond straight-time wages and many higher-paying jobs are salaried.

The overall female-to-male earnings ratio for full-time workers paid hourly rates—70 percent—is 5 percentage points higher than that associated with the medians in the weekly earnings series for all full-time workers (65 percent). This finding may be explained by the more homogeneous universe for the hourly earnings data mentioned above; that is, male-dominated higher-paying occupations are more likely to be salaried.

Between 1979 and 1984, the female-to-male earnings ratio for hourly paid workers rose considerably for whites, blacks, and Hispanics, whereas the black-to-white and the Hispanic-to-white earnings ratios were virtually unchanged. (See table 3.) Regardless of race or ethnicity, the hourly earnings of men rose by about 25 percent over the period and those of women about 40 percent; the Consumer Price Index for All Urban Consumers rose 43 percent.

Among age groups, median hourly earnings ranged from $3.64 for teenagers to highs in the $7.17–$7.37 range for age groups within the 30- to 54-year bracket in 1984. Men's wages peaked at about $10 an hour for those between 40 and 54 years of age, while the peak for women—$5.81—was not only much less, but also occurred at a younger age—among those in their thirties. The female-to-male earnings ratio, at about 90 percent for teenagers, declined with age to the 45-to-49 group, and rose thereafter. The higher ratios at both ends of the age spectrum may stem from the fact that higher proportions of wage earners in these age groups are paid at or near the minimum wage.

Hourly pay is wide-ranging among occupational and industry groups. Median hourly pay ranged from $4.08 for all service jobs to $9.42 among the professional specialty jobs. In the latter group, the median for men was a little more than a dollar higher per hour than that for women, a gap much closer than the overall difference. Among the major industrial groups, median hourly wages of both men and women were highest in mining, construction, durable goods manufacturing, and the transportation and public utilities group. Wages were lowest in retail trade, private households, personal services, entertainment and recreation, social services, and agriculture.

Earnings distribution

Clearly, median earnings do not tell the whole story. The median for two different groups could be similar; yet the distribution of earnings of one group may be tightly clustered around the median, while that for another group may be dispersed. Therefore, it is useful to look at distributions as well. Table 4 shows the percent distribution of hourly wages for major demographic groups. Regardless of the median, each demographic group has some people with earnings of less than $3 an hour and others with as much as $15 or more. (It should be noted that for some population groups, the extremes of the distribution may contain only a small number of sample observations.) The following discussion focuses briefly on the likelihood of wage earners receiving $12 an hour or more, the figure that is roughly twice the overall median of $5.95, and on those earning at or below the prevailing minimum wage of $3.35, which is a little more than half the median. Each of these high-paying and low-paying categories accounts for roughly one-tenth of all hourly paid workers.

Receiving $12 or more per hour. The likelihood of earning at least $12 an hour in 1984 was over 5 times as great for men (about 17 percent) as for women (3 percent). The proportion for white men was about half again as high as that for black men; among women, both whites and blacks were about equally as likely to earn this amount (each about 3 percent). Fewer than 2 percent of the workers under age 25 were in this higher paying category. Among workers 25 and over, the proportion rose from 6 percent for those with only an elementary school education to 23 percent for those completing 4 or more years of college. At each level of schooling completed, men were more likely than women to earn $12 an hour or more. However, the disparity narrowed at successively higher educational levels, as men not completing high school were more than 10 times as likely as women to earn this amount. Among those with 4 years of high school or more, men were 5 times as likely as women to earn $12 per hour or more (26 versus 5 percent). The ratio was 2 to 1 among college graduates (31 versus 16 percent).

Table 3. Median hourly earnings of workers paid hourly rates by sex, race, and Hispanic origin, 1979–84 annual averages

Characteristic	1979	1980	1981	1982	1983	1984
Median hourly earnings						
Total	$4.46	$4.91	$5.27	$5.46	$5.66	$5.95
Men	5.73	6.28	6.72	6.99	7.06	7.27
Women	3.66	4.01	4.35	4.65	4.89	5.08
White	4.55	4.97	5.30	5.51	5.74	6.02
Men	5.89	6.42	6.84	7.14	7.21	7.39
Women	3.66	4.02	4.36	4.66	4.89	5.09
Black	4.20	4.49	5.01	5.17	5.27	5.43
Men	5.03	5.30	5.93	6.11	6.09	6.28
Women	3.60	3.94	4.27	4.52	4.79	4.99
Hispanic origin	4.16	4.48	4.90	5.13	5.23	5.39
Men	4.88	5.14	5.45	5.80	5.92	6.17
Women	3.45	3.84	4.15	4.41	4.46	4.73
Earnings ratios (percent)						
Female-to-male	63.9	63.9	64.7	66.5	69.3	69.9
White	62.1	62.6	63.7	65.3	67.8	68.9
Black	71.6	74.3	72.0	74.0	78.7	79.5
Hispanic origin	70.7	74.7	76.1	76.0	75.3	76.7
Black-to-white	92.3	90.3	94.5	93.8	91.8	90.2
Men	85.4	82.6	86.7	85.6	84.5	85.0
Women	98.4	98.0	97.9	97.0	98.0	98.0
Hispanic origin-to-white	91.4	90.1	92.5	93.1	91.1	89.5
Men	82.9	80.1	79.7	81.2	82.1	83.5
Women	94.3	95.5	95.2	94.6	91.2	92.9

About 13 percent of full-time wage earners made at least $12—19 percent of the men and 4 percent of the women—but fewer than 3 percent of part-time workers earned this amount. Among workers putting in more than 40 hours a week, the proportion was 15 percent—18 percent for men and 6 percent for women.

Among the major occupational groups, 25 percent of both professional specialty workers and those in the precision production, craft, and repair group earned $12 an hour or more in 1984. At the lower extreme, 2 percent or fewer of those in sales; service (except protective service); and farming, forestry, and fishery jobs earned this much.

Minimum and subminimum wage workers. The prevailing minimum wage, which has been $3.35 per hour since January 1981, was established by the 1977 revisions to the Fair Labor Standards Act (FLSA) of 1938. About 4.1 million workers were reported as earning exactly $3.35 an hour in 1984, and 1.8 million were reported as earning less than this amount. Together, these workers constituted about 11 percent of all hourly paid workers.

It is important to note at the outset that the presence of a sizable group of hourly paid workers receiving less than the minimum wage does not necessarily indicate widespread violations of the FLSA, as there are a number of exemptions to its minimum wage provisions. These exemptions are wide-ranging and include employees in outside sales work, low volume retail trade and service firms, and seasonal amusement establishments.[3]

For the most part, those earning $3.35 and hour or less tend to be young. About 60 percent of those with these low earnings were under age 25—one-third were teenagers.

Among teenagers alone, nearly 40 percent earned $3.35 or less. Persons 65 and over—while representing only 3 percent of the total number of minimum wage earners—also had a relatively high probability of earning at or below $3.35, as nearly 1 out of 5 hourly paid persons in this age group earned this amount. (See table 5.)

Nearly 15 percent of all women who were paid hourly rates earned the prevailing minimum wage or below, which was double the proportion for men. These percentages, however, differed greatly according to whether the employee usually worked full or part time, as shown in the following tabulation:

	Percent at or below $3.35		
	Both sexes	*Men*	*Women*
Total	11.0	7.5	14.8
Part-time workers	28.0	30.2	27.0
Full-time workers	5.2	3.5	7.6
35 to 39 hours	12.1	10.5	12.8
40 hours	4.6	3.3	6.5
41 hours or more	3.7	2.4	8.5

The number of part-time workers earning $3.35 or less, at 3.9 million, was nearly twice the number working full time. Given the fact that women made up a disproportionate share of part-time workers paid hourly rates (69 percent), those working part time accounted for almost 45 percent of all low-wage workers in 1984; men working part time accounted for about 21 percent.

An examination of minimum wage workers by race and ethnicity shows that only a slightly higher proportion of blacks than whites and Hispanics earned $3.35 or less. Nearly 14 percent of the black population were in this earnings group, compared with 11 percent of both Hispanics and whites.

Given the direct correlation of educational attainment and earnings, the likelihood that a person had hourly earnings at or below $3.35 per hour diminished with increased schooling. Among hourly paid workers aged 25 years and over with less than 4 years of high school, 10 percent were low wage earners, compared with 6 percent who finished 4 years of high school, and less than 4 percent of those with 4 years or more of college.

Of the four major regions in the United States, the largest proportion of those at or below the minimum wage lived in the South (40 percent). Overall, 13 percent of all hourly paid

Table 4. Percent distribution of hourly earnings of workers paid hourly rates by selected characteristics, 1984 annual averages

Characteristic	Number of workers (in thousands)	Percent distribution											Median hourly earnings
		Total	Under $3.00	$3.00 to $3.99	$4.00 to $4.99	$5.00 to $5.99	$6.00 to $6.99	$7.00 to $7.99	$8.00 to $9.99	$10.00 to $11.99	$12.00 to $14.99	$15.00 or more	
Sex and age													
Total, 16 years and over	54,143	100.0	2.2	18.9	15.3	14.1	10.2	8.2	11.7	9.4	7.0	3.2	$5.95
16 to 24 years	15,644	100.0	4.4	37.2	21.6	14.9	8.1	5.1	4.9	2.3	1.1	.5	4.30
25 years and over	38,499	100.0	1.3	11.4	12.7	13.7	11.1	9.4	14.4	12.2	9.4	4.3	6.96
Men, 16 years and over	28,140	100.0	.8	13.5	11.3	11.8	9.5	8.7	14.4	13.2	11.3	5.3	7.27
16 to 24 years	8,228	100.0	1.8	32.1	21.0	16.3	9.5	6.9	6.6	3.3	1.7	.7	4.66
25 years and over	19,911	100.0	.4	5.8	7.3	10.0	9.5	9.5	17.7	17.3	15.3	7.2	8.67
Women, 16 years and over	26,003	100.0	3.7	24.7	19.6	16.5	10.9	7.5	8.7	5.2	2.4	.9	5.08
16 to 24 years	7,416	100.0	7.2	42.8	22.3	13.3	6.4	3.2	3.0	1.3	.3	.2	3.89
25 years and over	18,587	100.0	2.3	17.4	18.5	17.7	12.7	9.2	10.9	6.8	3.2	1.2	5.51
Race, Hispanic origin, and sex													
White	46,098	100.0	2.4	18.2	15.1	13.9	10.2	8.3	11.8	9.6	7.3	3.3	6.02
Men	24,084	100.0	.8	12.8	11.0	11.5	9.5	8.9	14.6	13.6	11.8	5.6	7.39
Women	22,014	100.0	4.0	24.1	19.6	16.5	10.8	7.6	8.8	5.3	2.3	.8	5.09
Black	6,623	100.0	1.2	23.5	16.2	15.2	10.1	7.6	11.0	8.2	5.2	1.9	5.43
Men	3,346	100.0	.7	18.4	13.0	14.2	9.5	8.3	13.9	11.2	8.0	2.7	6.28
Women	3,277	100.0	1.7	28.8	19.5	16.3	10.7	6.8	8.0	5.0	2.3	.9	4.89
Hispanic origin	3,643	100.0	1.3	21.6	18.5	15.6	11.0	8.0	9.7	6.3	5.7	2.4	5.39
Men	2,165	100.0	.6	16.2	16.1	14.5	11.0	8.9	12.1	8.4	8.6	3.6	6.17
Women	1,479	100.0	2.3	29.7	21.9	17.3	10.9	6.6	6.1	3.2	1.6	.5	4.73
Full- or part-time status and sex													
Full-time workers	40,262	100.0	.9	10.6	13.8	14.7	11.6	9.7	14.3	11.6	8.9	3.9	6.80
Men	23,896	100.0	.3	7.2	10.0	11.9	10.3	9.8	16.4	15.1	13.0	5.9	8.03
Women	16,366	100.0	1.8	15.6	19.4	18.6	13.4	9.6	11.3	6.4	2.9	.9	5.59
Part-time workers	13,880	100.0	6.0	42.8	19.5	12.3	6.2	3.6	3.9	3.0	1.6	1.1	4.04
Men	4,243	100.0	3.6	48.9	18.6	11.3	5.2	2.9	3.4	2.5	1.8	1.7	3.92
Women	9,637	100.0	7.0	40.1	19.9	12.8	6.6	3.9	4.1	3.2	1.5	.9	4.10

NOTE: Detail for the above race and Hispanic origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups.

Table 5. Workers paid hourly rates with earnings at or below the prevailing minimum wage by selected characteristics, 1984 annual averages

Characteristic	Number of workers (in thousands)				Percent distribution				Percent of all workers paid hourly rates		
	Total paid hourly rates	At or below $3.35			Total paid hourly rates	At or below $3.35			At or below $3.35		
		Total	At $3.35	Below $3.35		Total	At $3.35	Below $3.35	Total	At $3.35	Below $3.35
Sex and age											
Total, 16 years and over	54,143	5,963	4,125	1,838	100.0	100.0	100.0	100.0	11.0	7.6	3.4
16 to 24 years	15,644	3,582	2,539	1,043	28.9	60.1	61.6	56.7	22.9	16.2	6.7
25 years and over	38,499	2,381	1,586	795	71.1	39.9	38.4	43.3	6.2	4.1	2.1
Men, 16 years and over	28,140	2,116	1,626	490	52.0	35.5	39.4	26.7	7.5	5.8	1.7
16 to 24 years	8,226	1,492	1,166	326	15.2	25.0	28.3	17.7	18.1	14.2	4.0
25 years and over	19,911	623	460	163	36.8	10.4	11.2	8.9	3.1	2.3	.8
Women, 16 years and over	26,003	3,847	2,499	1,348	48.0	64.5	60.6	73.3	14.8	9.6	5.2
16 to 24 years	7,416	2,089	1,373	716	13.7	35.0	33.3	39.0	28.2	18.5	9.7
25 years and over	18,587	1,758	1,126	632	34.3	29.5	27.3	34.4	9.5	6.1	3.4
Race, Hispanic origin, and sex											
White	46,098	4,923	3,293	1,630	85.1	82.6	79.8	88.7	10.7	7.1	3.5
Men	24,084	1,684	1,273	411	44.5	28.2	30.9	22.4	7.0	5.3	1.7
Women	22,014	3,239	2,020	1,219	40.7	54.3	49.0	66.3	14.7	9.2	5.5
Black	6,623	896	737	159	12.2	15.0	17.9	8.7	13.5	11.1	2.4
Men	3,346	375	315	60	6.2	6.3	7.6	3.3	11.2	9.4	1.8
Women	3,277	521	422	99	6.1	8.7	10.2	5.4	15.9	12.9	3.0
Hispanic origin	3,643	415	314	101	6.7	7.0	7.6	5.5	11.4	8.6	2.8
Men	2,165	179	143	36	4.0	3.0	3.5	2.0	8.3	6.6	1.7
Women	1,478	236	171	65	2.7	4.0	4.1	3.5	16.0	11.6	4.4
Full- or part-time status and sex											
Full-time workers	40,262	2,079	1,497	582	74.4	34.9	36.3	31.7	5.2	3.7	1.4
Men	23,896	835	657	178	44.1	14.0	15.9	9.7	3.5	2.7	.7
Women	16,366	1,244	840	404	30.2	20.9	20.4	22.0	7.6	5.1	2.5
Part-time workers	13,880	3,883	2,627	1,256	25.6	65.1	63.7	68.3	28.0	18.9	9.0
Men	4,243	1,280	969	311	7.8	21.5	23.5	16.9	30.2	22.8	7.3
Women	9,637	2,602	1,658	944	17.8	43.6	40.2	51.4	27.0	17.2	9.8

NOTE: Detail for the above race and Hispanic origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups.

workers in the South earned the minimum or less, compared with 12 percent in the North Central region, 9 percent in the Northeast, and 8 percent in the West.

Nearly half of all minimum wage workers held service-type jobs in 1984. Service occupations with the highest concentrations of low-paying jobs included private household work, food services, and cleaning and building services. It is notable that persons employed as food service workers accounted for 31 percent of all workers at or below the minimum wage; of that number, roughly half worked at the minimum of $3.35 and half worked below this level. Another area in which there was a large proportion of persons working at or below $3.35 was in sales occupations, particularly in retail sales, in which nearly 1 out of every 4 employees earned the minimum or less. It should be remembered, however, that for many working in sales and food service occupations, tips and commissions supplement (to varying degrees) the hourly wages received.

THIS ARTICLE has focused on earnings as a pure wage paid to the employee—stripped of any effects of tips, premium pay for overtime, bonuses, and commissions. As the findings have suggested, the wealth of information available from the Current Population Survey helps provide a foundation for further studies which can shed more light on the conditions of workers paid hourly rates. □

——— FOOTNOTES ———

[1] See *BLS Measures of Compensation*, Bulletin 2239 (Bureau of Labor Statistics, 1986), for a complete description of all BLS earnings series. Among these are the Current Employment Statistics Survey, Area Wage Surveys, and Industry Wage Surveys.

[2] Data on workweeks by occupation refer to hours actually worked during each month's survey reference week rather than to the number of hours usually worked. In the case of workers with two or more jobs, the data are tabulated according to the occupation at which the employee works the most hours.

[3] See *Report of the Minimum Wage Study Commission*, Volume 1, p. 107, for a more complete list of full and partial exemptions.

APPENDIX: Hourly earnings data from the CPS

The Current Population Survey (CPS) is a monthly sample survey conducted by the U.S. Bureau of the Census for the Bureau of Labor Statistics, totaling about 59,500 households, in 50 States and the District of Columbia. Data on hourly earnings are collected from one-quarter of each month's CPS sample through questions 25B and 25C, which read:

> 25B. Is . . . paid by the hour on this job?
>
> 25C. How much does . . . earn per hour?

Although data are collected monthly, the numbers are aggregated into quarterly and annual averages to increase their statistical reliability. On a quarterly basis, the data are tabulated by sex, race, Hispanic origin, age, marital status, major occupation and industry groups, and usual full- or part-time status. Annual average data are also tabulated by region of residence, number of hours usually worked, years of school completed, and more occupational and industrial detail. While both the quarterly and annual average tabulations provide distributional data (for example, the number of workers earning between $5 and $5.99 per hour), the latter show more wage categories, as well as data for minimum wage workers.

Between 1973 and 1978, hourly earnings data were collected only once a year as part of a supplement to each May's CPS. Comparability between these and more recent data is affected by changes in questionnaire design, the coverage of the wage and salary worker universe, and the handling of survey nonresponses. As a result, whereas estimates of the proportion of all workers paid hourly rates between 1973 and 1978 ranged between 49 and 51 percent, changes introduced in 1979 caused the proportion to jump to 59 percent, where it has remained. In 1983, there were changes to the entire occupational classification system which preclude occupational comparisons with previous years. In addition, a change in the method of estimating medians introduced the same year affects the comparability of any medians under $3.00 or over $5.99 per hour.

As is the case with estimates from any sample survey, the results can vary by chance because a sample, rather than the entire population, is surveyed. A measure of this variation is called the standard error. If samples are repeatedly drawn and estimates are computed from each sample, in approximately 68 out of 100 samples the actual population value will differ from the sample estimate by less than one standard error. In approximately 90 out of 100 samples, the population value will differ from the sample estimate by less than 1.6 times the standard error. All statements of comparison appearing in this article are significant at the 90-percent level or higher. Users are cautioned against drawing conclusions from small differences among numbers for small population groups because of the relatively large sampling errors associated with estimates based on small sample sizes. In addition, results are subject to errors of response and nonreporting—errors possible even in a complete census. These can result from differences in the interpretation of questions, the inability or unwillingness of respondents to provide correct answers, the rounding of figures, errors of processing, and errors made in estimating values for missing data. For more information regarding the collection, processing, merits, and limitations of CPS data on earnings, see Earl F. Mellor, *Technical Description of the Quarterly Data on Weekly Earnings from the Current Population Survey*, Bulletin 2113 (Bureau of Labor Statistics, 1982).

Employment lessons from the electronics industry

Semiskilled and 'unskilled' workers in semiconductors, computer manufacturing, and consumer electronics industries are more likely than other workers to lose jobs because of technology, imports, and offshore production; advances in technology create jobs for skilled workers

John A. Alic and Martha Caldwell Harris

In the U.S. electronics industry, competition—domestic as well as international—has led to increases in labor productivity through changes in product design and automation and to transfers of manufacturing operations to low-wage developing countries. For example, in the consumer electronics industry, annual output of color television sets per production worker in the United States increased from 150 in 1971 to 560 in 1981. Total output nearly doubled, from 5.4 million sets to 10.5 million. At the same time, domestic employment in color television manufacture dropped by half—a result of greater foreign value-added, redesigned televisions with fewer parts and less need for assembly labor, and automation. The example is not atypical, the implications are clear: new technology can cut into job opportunities even though output rises substantially.

In two other sectors of the electronics industry—microelectronics (which includes semiconductors) and computers—employment has grown rapidly. (The 1985 layoffs will, as in earlier business slumps, prove temporary.) Microelectronics technology made redesigned color television sets possible, and far more Americans now work for semiconductor manufacturers than were ever employed in consumer electronics. Skilled and professional jobs predominate in microelectronics, accounting for nearly 60 percent of employment, compared with about 30 percent in consumer electronics. Similar patterns exist elsewhere in high technology electronics: continuing advances in both products and processes leave relatively fewer openings for unskilled and semiskilled workers. Indeed, jobs for production workers in U.S. computer firms declined slightly during 1984, although overall employment in the computer sector rose.

American consumer electronics firms have faced stiff foreign competition since the latter part of the 1960's. But only in the last few years have U.S.-based microelectronics and computer manufacturers found competitors from Japan able to match their product offerings. Given declining advantages in product technology, and Japan's proven capabilities in process technology, American manufacturing companies have been forced to change their priorities. Within any manufacturing organization, quality and productivity, hence costs and competitiveness, depend on the integration of workers and machines into an efficient and effective production system. Highly automated plants will demand new ways of using skills, resolving conflicts, and making decisions. The emphasis on shared responsibility and decision-making in Japanese organizations appears to give them a head start in integrated production systems. Japan's manufacturers are more adept at utilizing the skills and capabilities of their work force, and are further along at integrating workers and machines—an important source of competitive advantage.

In a given industry, job opportunities change with demand for the industry's products, with shifting patterns of international competition, and with increases in labor

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John A. Alic and Martha Caldwell Harris are staff members of the Office of Technology Assessment, U.S. Congress.

productivity. The latter stem not only from automation and work reorganization, but from products redesigned for easier, cheaper manufacture. Rising worldwide demand for the output of a given industry will create new jobs only if demand rises more rapidly than productivity. From the perspective of a national economy, net job creation also depends on trends in imports and exports and on foreign and domestic investments. Imports may displace domestic production; overseas investment by domestic companies may do the same.

In any economy, new jobs are continually being created, old jobs eliminated. At the level of the firms, jobs are created as companies are established or expand, and jobs disappear as companies atrophy and die or move production overseas. Over time, automation, work redesign, and organizational change help fewer workers produce more. If a firm cannot sell enough of the additional output, it may have to reduce its labor force. Even if it can increase sales, improvements in efficiency necessarily cut into future job opportunities. Aggregate economic growth provides the gross context for job creation and job destruction; the organization of work within the enterprise creates the fine structure.

This article discusses factors which affect employment in two components of the U.S. electronics industry[1]—consumer electronics (SIC 3651) and microelectronics (SIC 3674), touching briefly on computer manufacturing (SIC 3573).[2]

Employment trends in electronics

Employment in U.S. manufacturing has been essentially static since the late 1960's, but declined relatively over the 1974–84 period from 26 to 21 percent of the nonagricultural work force. However, in electronics, employment expanded rapidly over the period—although not in all parts of the industry. Employment has nearly doubled in microelectronics and has increased even faster in computers, while the consumer electronics category (which includes many types of products other than television sets) has shrunk. The following tabulation shows the number of employees and the percent of production workers in consumer electronics, microelectronics, and computer and peripherals industries, 1974, 1984, and the first 6 months of 1985:

Industry	*1974*	*1984*	*1985, first half*
	Number of employees		
Consumer electronics	113,600	71,800	68,400
Microelectronics	148,300	273,000	283,300
Computers and peripherals	217,000	460,900	456,900
	Percent production workers		
	1974	*1984*	*1985, first half*
Consumer electronics	74	68	66
Microelectronics	51	43	41
Computers and peripherals	39	37	35

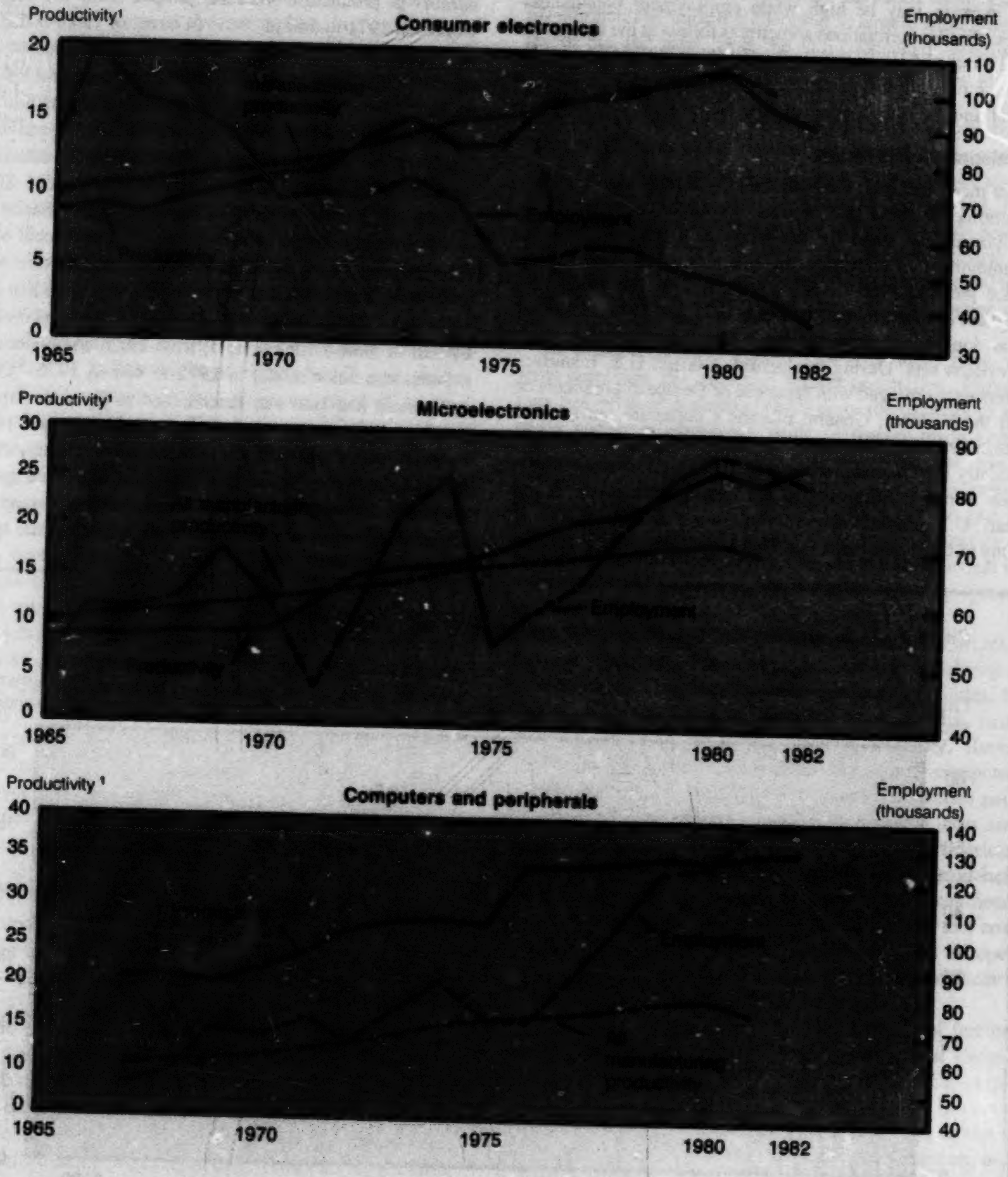
By mid-1985, the 808,600 workers in consumer electronics, microelectronics, and computer firms accounted for more than 4 percent of the U.S. manufacturing labor force. Although these firms make up only a portion of the electronics industry, they employ more than twice as many workers as the steel industry.[3]

Chart 1 compares trends in labor productivity and production employment over the past decade for each of the three categories discussed in this article. (Productivity is plotted as value-added per production worker hour in inflation-adjusted terms.) Value-added productivity growth in consumer electronics—where employment declined—has roughly paralleled the all-manufacturing average. In contrast, computer manufacture shows a rapid rise in employment, with productivity rising almost as fast until the mid-1970's. Many jobs have also been created in microelectronics, where productivity gains were again substantially above the all-manufacturing average. With both computers and microelectronics suffering from business slowdowns during 1985, layoffs have been common and total employment has dropped.[4] No doubt these declines will prove temporary, with employment levels rebounding once the slump has passed, as occurred twice during the 1970's for both the microelectronics and computer sectors. Over the long term, however, employment prospects in the U.S. computer industry appear far better than those in microelectronics.

Productivity trends are seldom unambiguous. Their significance can be questioned when technological change is as rapid as it has been in computers and peripherals and in microelectronics. In these sectors, product performance has advanced rapidly; today's dollar buys far more capability than it did a few years ago.[5] In color television manufacture, technical change has been much slower, with intense price competition depressing value-added productivity measures compared with other U.S. industries over the 1965–82 period; the retail price index for color television sets increased by less than 5 percent, while that for all consumer durables more than doubled. Productivity on a unit output basis for color television manufacture has, however, risen far more rapidly than on a value-added basis.

As chart 1 demonstrates, the portions of the electronics industry with the highest rates of value-added productivity growth (microelectronics and computers) also experienced the highest rates of employment growth. Rapid increases in productivity were associated with the creation of jobs, not their elimination. The reasons are straightforward: spurred by technological changes opening vast new markets, export as well as domestic, output in microelectronics and computers has for many years grown at rates in the vicinity of 15 percent annually, far higher than the rate for all manufacturing. In contrast, the domestic market for consumer electronics grew less than half as fast, exports were small, and import penetration was severe; the value-added productivity measures for consumer electronics reflect the plight of an

Chart 1. Trends in productivity and production worker employment in consumer electronics, microelectronics, and computers, 1965–82



[1] Value-added productivity per production worker hour (in 1972 dollars).

SOURCE: 1977 and 1982 Census of Manufactures.

industry hard pressed by foreign competition and striving to make relatively standard products more cheaply.

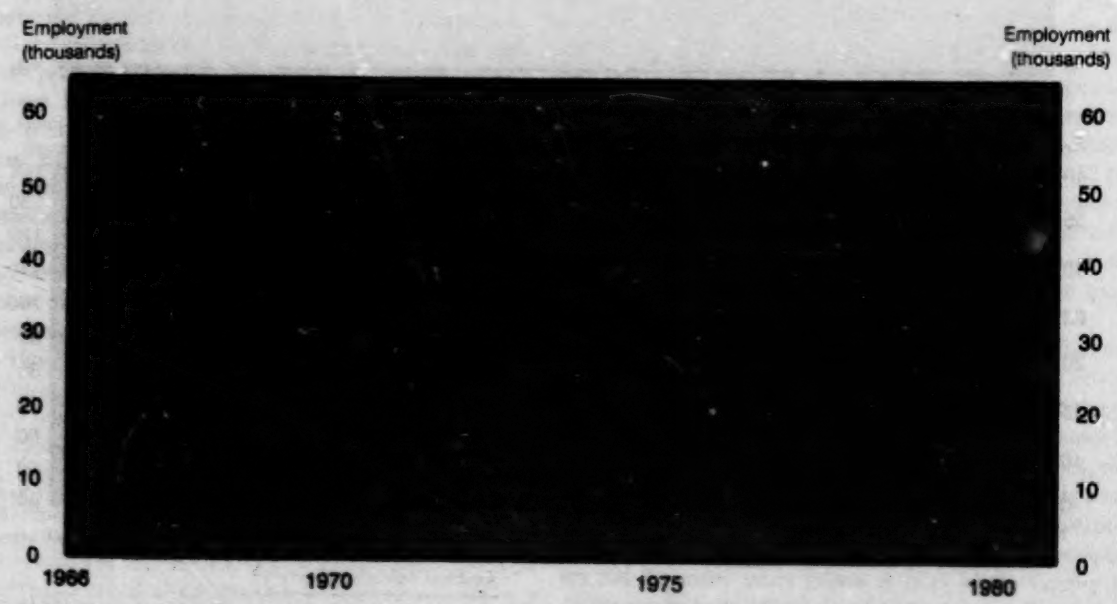
The examples of microelectronics and computers show that when technological change is rapid, rates of productivity increase may be high while employment nonetheless rises. Similar correlations sometimes follow at the aggregate level; rates of unemployment may drop nationwide while productivity climbs, particularly if coupled with high investment and the introduction of new technology.

Consumer electronics

In many respects, the manufacture of television sets, accounting for about half of U.S. consumer electronics employment, can stand for the sector as a whole. Domestic employment in television manufacturing has been falling since the mid-1960's. (See chart 2.) Jobs for production workers dropped by half between 1971 and 1981, despite a near doubling of output, from 5.4 million to 10.5 million television sets. During this period, a dozen U.S. manufacturers either merged with Japanese or European producers or left the business; General Electric's departure, announced late in 1985, will leave only two major U.S. firms. The U.S. industry now includes more than 10 foreign-owned companies. While contributing to the employment totals in the chart, U.S. production by foreign-owned companies such as Sony or Gold Star tends to reflect higher fractions of foreign value-added than the output of American-owned firms such as Zenith or RCA.

As television sales grew, apparent productivity on a unit output basis (measured as annual output divided by the number of production workers) jumped from 150 sets per worker in 1971 to 560 in 1981. In terms of value-added per production worker, productivity was up by about 40 percent—a trend similar to that for consumer electronics as a whole.[6] The productivity improvements came from multiple sources. As color television sets replaced black-and-white receivers, manufacturers introduced more highly automated production processes. Somewhat later, reductions in the number of parts—resulting from solid-state chassis designs—meant reduced labor content. Only 6 percent of the color television sets made in the United States were solid-state models in 1970, but by 1976 essentially all had been redesigned around transistors. The number of parts dropped by half or more—for example, from 1,023 components for a Panasonic color model in 1972 to 488 in 1976.[7] Often, component insertion was mechanized at the same time. A good deal of the productivity growth during the 1970's resulted from these interrelated changes in chassis design and manufacturing methods. Clearly, the causes of the employment declines in television manufacturing extend well beyond import penetration or offshore assembly; the spread

Chart 2. U.S. employment in television manufacturing, 1966–81



NOTE: Data for the 1966–75 period are for all television employment; data for 1976–81 are for color television only.

SOURCE: *International Competitiveness in Electronics* (Washington, DC, Office of Technology Assessment, November 1983), p. 354.

of solid-state chassis designs and automated manufacturing dramatically reduced labor requirements in this sector of the electronics industry. Import competition did have the effect of speeding the changes.

Over the same period, American consumer electronics firms relocated many of their manufacturing operations to low-wage developing countries. While there are no precise numbers on foreign workers employed in these plants, the U.S. Department of Labor believes there may be more than 30,000—a greater number than now employed in domestic television manufacture. As a result, the proportion of domestic value-added dropped during the 1970's; more parts and subassemblies were produced overseas for final assembly in the United States, whether by American- or foreign-owned companies. Given these trends, simply dividing the total output of television sets by the number of employees overstates productivity gains (although value-added productivity adjusts for this). By 1980, the United States imported more than $1 billion worth of circuit boards and picture tubes for color television sets, about one-third of the total value of domestic output. Two basic causes, then, account for the employment decline in television manufacture: greater labor productivity, achieved through product redesigns as well as automation; and transfers of labor-intensive operations overseas. Intense competitive pressures, centered on manufacturing costs, drove both trends.

Improvements in productivity and manufacturing efficiency may eliminate jobs in the short term, but help to slow down job losses over the longer term. In 1974, for example, Matsushita, a Japanese company, bought Motorola's money-losing Quasar television operations. Matsushita invested heavily in automated manufacturing (some of it in Mexico); redesigned Quasar's product line; and reorganized shopfloor operations, with particular emphasis on quality control and employee participation programs. Greater labor productivity and higher quality—stemming from new capital equipment and redesigned products as well as work reorganization—helped save the jobs of several thousand American workers. At the same time, the production process was more automated, cutting into job opportunities. Quasar's investments in Mexico also came at the expense of job opportunities for Americans. But without these steps, Quasar's U.S. plants might have closed—at the cost of many more jobs.

In the Quasar example, impacts on manufacturing efficiency had many sources; it is impossible to isolate and account with any precision for each. As chart 2 and the Quasar example illustrate, rationalization of production may improve manufacturing efficiency and keep some people at work while making others redundant. Prospects for avoiding displacement are far better in U.S. industries that are more technologically dynamic and are expanding more rapidly than consumer electronics. But nowhere can the tradeoffs between productivity and job opportunities be avoided. In general, productivity must rise to improve competitiveness. Unless output expands at least as fast, some jobs will vanish.

Import and offshore production: How important? The U.S. consumer electronics industry has faced strong external competition since the late 1960's, largely from producers in the Far East. Half the U.S. consumer electronics market has been taken by imports; most products still assembled in the United States contain many imported components. Penetration of consumer electronics markets coincided with employment decline. For example, imports of black-and-white television sets rose from one-quarter to three-quarters of U.S. sales over the 1967–77 period. Imports of color television sets peaked in 1976 at a level nearly 10 times greater than in 1967, then dropped because of quotas termed Orderly Marketing Agreements negotiated with Japan, South Korea, and Taiwan.[8] The quotas cut imports roughly in half.

To what extent have imports cost U.S. jobs? First, we must determine the causes of import penetration. Imports may rise because demand exceeds domestic capacity or because consumer preference shifts to foreign-made goods (perhaps they are judged better values). In the first case—exemplified by video cassette recorders, where U.S. capacity is zero—jobs may not be lost directly but the rate of increase in job opportunities may slow. In the second case, typified by imports of Japanese cars and to a lesser extent by sales of television sets, immediate decreases in employment are likely.

Nor are the consequences of offshore production straightforward. Today, the remaining American-owned television manufacturers all operate overseas production facilities. In addition to the attraction of low-wage labor, the U.S. tariff schedules serve to encourage offshore assembly. (Items 806.30 and 807 permit re-imports with duties computed only on foreign value-added.) All wages and salaries paid overseas could be viewed as a loss to American labor and the U.S. gross domestic product. But what if American firms can only lower their costs and maintain or expand their markets by moving abroad? In some cases, American firms may seek offshore production to take advantage of low-cost labor. In other cases (computer plants in Western Europe, for example), U.S. manufacturers may wish to manufacture near their overseas customers.

It is oversimple to argue that the total number of foreign workers engaged in production for shipment to the United States—whether employed by U.S. or foreign firms—represents domestic employment loss. In most cases, U.S. consumer electronics firms had little choice concerning offshore production. Movement abroad was a defensive reaction, not a strategy aimed at expanding markets and improving profitability. To assume that jobs overseas substitute directly for U.S. employment is tantamount to assuming a stable competitive environment—not at all the case. Rather, employment declines followed losses in competitiveness. American firms had higher costs than their rivals. They pursued the obvious route: increases in automation to raise productivity at home, combined with transfers of labor-intensive operations offshore. Only some companies survived; the others left the industry or were purchased by more successful manufacturers. In this complex chain of events, then, import competition must be counted as the primary cause of job losses in the U.S. consumer electronics industry.

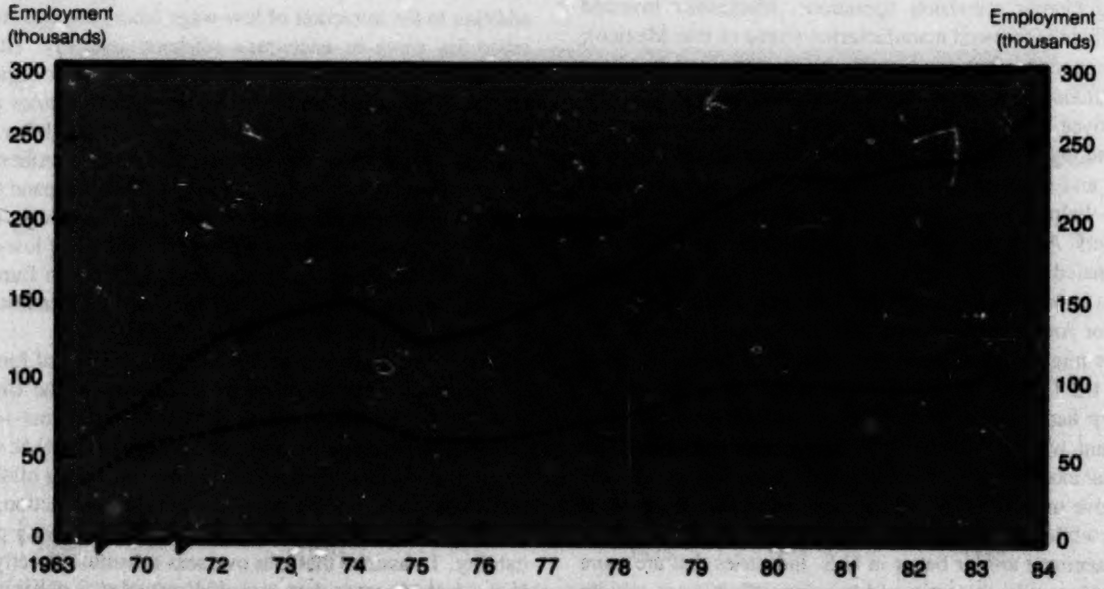
Microelectronics

Since the mid-1950's, U.S. employment in semiconductor manufacture has increased rapidly, from a few thousand when production of transistors was just beginning, to more than 280,000 by the first half of 1985. (See chart 3.) In addition to merchant firms selling on the open market, the totals in the chart include captive production by vertically integrated manufacturers such as IBM and AT&T. During two periods, 1969–71 and 1974–75, employment dropped sharply as a result of recession. Since late 1984, total employment in semiconductors has again been dropping, with the number of production workers falling more sharply. These recent declines come when the economy is not in recession; given the new strength of Japanese competition, it appears that the microelectronics sector has entered a new phase in its evolution.

The proportion of production workers in the U.S. microelectronics industry dropped from 66 percent of the total work force in 1963 to slightly more than 40 percent in 1985. American semiconductor manufacturers, particularly the merchant firms, have been moving labor-intensive assembly operations offshore for years; technological advance has contributed to the shift toward skilled and professional jobs in the United States. Demand for technicians and other nonproduction workers has risen with each succeeding generation of more sophisticated (and expensive) fabrication equipment. With movement through large-scale and now very large-scale integration, design and development of new circuits has become far more complex and time consuming; the ranks of engineering and R&D personnel have grown much faster than those of unskilled and semiskilled production employees.

Imports and offshore manufacturing. In comparing current layoffs, particularly for production workers, with those in previous downturns, one major difference is this: Japanese competition was not a factor during the 1970's. Today, Japanese firms account for substantial fractions of world market share for some types of devices, holding 85–90 percent of the burgeoning worldwide merchant market for 256K RAM memory chips. (Note, however, that this percentage excludes devices produced by such companies as AT&T for internal use.) Furthermore, huge investments by Japanese semiconductor manufacturers over the last few years have created a great deal of overcapacity. This excess

Chart 3. U.S. employment in semiconductors and related devices, 1963–84



SOURCES: *International Competitiveness in Electronics* (Washington, DC. Office of Technology Assessment, November 1983), p. 356; Bureau of Labor Statistics.

capacity, as much as 30 or 40 percent for some types of chips, aggravated the price cutting that has been endemic in the industry. After informal complaints against the Japanese going back a number of years, U.S. semiconductor manufacturers filed three major trade-related complaints with the Federal Government over a 4-month period in 1985. Partly in consequence, Japanese firms have been cutting back on shipments to the United States, while also accelerating their investments here—paralleling their earlier investments in consumer electronics.

Imports are not new to this sector. In 1971, the United States exported twice as many semiconductors as it imported, but by 1982 imports exceeded exports. Do the trends now visible portend job losses? Will employment suffer here as in consumer electronics? The answer is no, at least not over the next decade. There are two reasons. First, despite the current sales slump, worldwide demand for microelectronic devices will continue to grow over the longer term. Although the Japanese have made substantial inroads, American firms retain more than half of worldwide sales, and are still in a position of technical leadership in some if not all varieties of integrated circuits. Second, U.S. semiconductor firms have exported much more agressively than consumer electronics manufacturers. Moreover, about three-quarters of all U.S. imports of microelectronic devices consist of intra-corporate transfers by American-owned firms—that is, re-imports after offshore processing. Offshore employment may continue to rise, and perhaps continue to increase faster than domestic employment, but U.S. jobs in microelectronics should rise as well. Nonetheless, total employment in the sector could continue to grow while the number of production jobs declines.

American semiconductor firms transferred labor-intensive "back-end" operations overseas—primarily assembly steps such as wire bonding and encapsulation—at a rapid pace beginning in the 1960's. During that decade alone, U.S. companies established more than 50 foreign manufacturing plants.[9] Wafers, fabricated domestically, were shipped to low-wage sites, mostly in Asia, for the final stages in processing, then returned to the United States or sent on to other markets. In recent years, U.S. merchant manufacturers have carried out perhaps 90 percent of all assembly work overseas.[10]

The reason is simple. Typical estimates for the 1970's indicated that production costs could be cut in half through offshore assembly.[11] Given these potential savings, cost/price competition became the primary motive for such investments; American semiconductor firms moved offshore to reduce costs and expand markets. Once the first U.S. manufacturer invested in low-wage countries, others followed. With questionable prospects for automation during the 1960's and early 1970's, and a rate of technological advance that threatened to render investments in automated equipment obsolete, the choice was plain: move offshore or be undersold. In contrast to consumer electronics, the competitors in microelectronics were American firms almost exclusively; large-scale foreign investments by U.S. manufacturers predated Japanese thrusts in microelectronics by more than a decade. If in the case of consumer electronics, offshore manufacturing was a reaction to import competition, in microelectronics the motives were offensive.

Because most offshore jobs are filled by assembly workers, overseas manufacturing has contributed to the declining fraction of production employees in the United States. U.S. firms employ perhaps three-quarters as many people in their foreign operations as they do here; but, while only 40 percent of the domestic jobs are in production, the figure is more than 80 percent for offshore plants.[12] As a result, American companies employ many more production workers overseas than at home—roughly 150,000, compared with about 115,000. Although domestic jobs more than doubled during the 1970's, offshore employment grew even faster.

To what extent do foreign workers employed in the overseas operations of U.S. firms, or the employees of foreign-owned companies which export to the United States, stand for job opportunities lost to Americans? In contrast to offshore facilities, most of which are in Asia, point-of-sale plants in industrialized countries have been established largely for strategic reasons: market access, customer liaison, and, sometimes, the avoidance of import barriers. While these point-of-sale plants have arguably small consequences for U.S. employment, offshore investments driven by lower wages directly displace American workers, just as in consumer electronics. Periodically, speculation arises that advances in automated production equipment will mean that American firms can return back-end processing to the United States. With more automation, the labor cost advantages of offshore sites diminish, although they may not vanish. But even when costs remain lower overseas, strategic advantages—similar to those for point-of-sale plants in other industrialized countries—may mean that American companies will bring some of their production back home.[13] If they do (keeping in mind that it is automation that would make this possible), the result is not likely to be an increase in jobs for production workers. Employment is far more likely to increase for engineers, technicians, and supervisors.

The production system. The picture outlined above is not quite so simple as it might seem. Generalizations about the microelectronics industry conceal a good deal of diversity within. Low production costs are far more important for some firms than for others. Companies that depend on product leadership must develop manufacturing systems geared to device technologies pushing the state of the art. Those with broad product lines will place greater stress on costs and quality. Needless to say, no microelectronics manufacturer can neglect costs or quality; the question is one of priorities. Still, unique product designs—for example, a microprocessor with capabilities outstripping those of the rest of the industry—will generate competitive advantages almost irrespective of manufacturing costs.

Nonetheless, in microelectronics as in any industry, unique products remain the exception; generally, manufacturing capabilities are critical for competitive success. Microelectronics, first of all, is an industry where product and process knowhow interact more closely than in perhaps any other. As an example, in mid-1984, Trilogy Systems abandoned its attempts to achieve wafer-scale integration, which would have increased scale and complexity by factors of 100 or more—companies must be able not only to design but to build new types of devices. More than this, quality has become, since the end of the 1970's, central to competitive dynamics. As in many other industries, Japanese manufacturers made quality and reliability a major element in their export strategies. This helped Japanese semiconductor firms penetrate U.S. markets. They concentrated on standard devices such as memory chips, meeting or undercutting the prices of American manufacturers while offering better quality, hence better value.

What does it take to achieve high quality in the production of integrated circuits? Certainly it takes good manufacturing equipment. Japanese semiconductor firms purchased most of their equipment from the same vendors that supplied the U.S. industry; hence they had no advantage on the factory floor as far as equipment was concerned. Integrated circuits from different manufacturers do differ in design, even when functionally identical. Design details influence costs and quality; Japanese firms made design choices aimed at quality and reliability, sometimes at the expense of cost or performance. But more than this, Japan's factory system as a whole—plant layout, integration of people into the production process, task allocations, management style, and internal training and retraining programs—leads to high quality as well as low costs. From a systems perspective, their production processes helped Japan's semiconductor manufacturers to penetrate world markets, competing successfully with American firms that had the lead—and still do—in many functional aspects of circuit design.

Do imports, technology cost U.S. jobs?

Import competition, automation, and offshore investment take place in a context of global shifts in market structure, with long-term consequences for jobs and job opportunities in a national economy, as well as immediate impacts on workers, firms, and industries. In expanding markets, a firm that can respond quickly to new opportunities anywhere in the world may be able to increase exports and consolidate its position. During the 1970's, for example, American semiconductor manufacturers capitalized on the shift toward metal-oxide-semiconductor integrated circuits ahead of their foreign rivals. In doing so, they created many new job opportunities for Americans, unskilled as well as skilled.

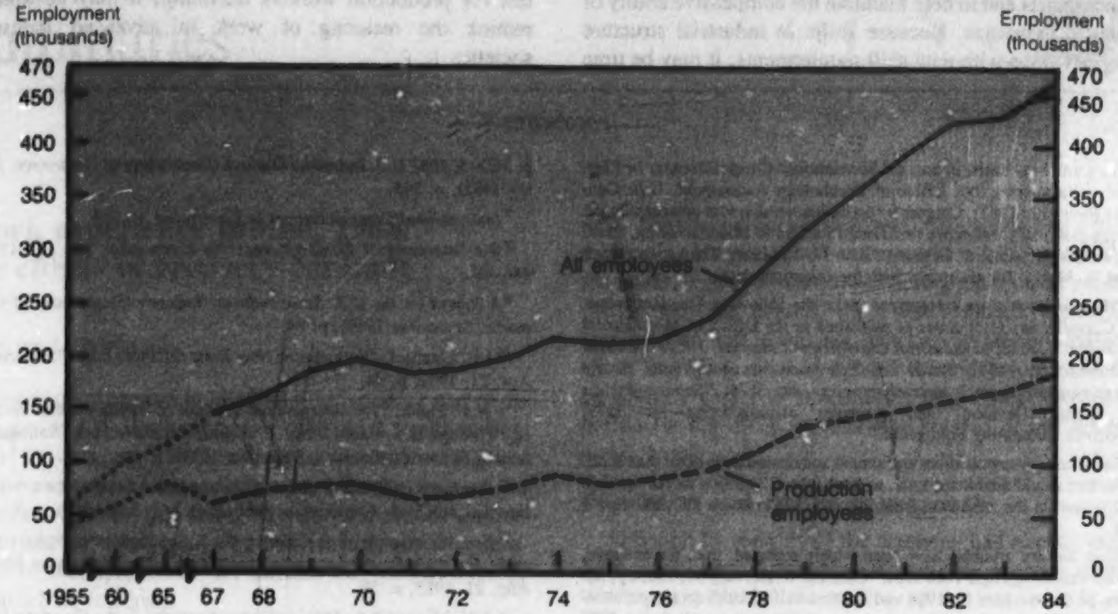
In consumer electronics, particularly television manufacture, the dynamic has been far different. Much of the technology is conventional, accessible to firms in many parts of the world. Markets grow more slowly. In the United States, competition at the retail level has been fierce, with prices declining relative to other consumer durables. As productivity increased, employment declined. Overall, then, while employment in the U.S. electronics industry has grown, the increases have been far from uniform. Few of the workers who once made vacuum tubes found work in microelectronics.

Of course, growth and technological change in electronics also exert influences far beyond this industry. Computer manufacturing, where U.S. competitiveness remains high, has seen rapid employment increase with simultaneous productivity improvements. At the same time, advances in computer systems have created and destroyed vast numbers of jobs in other industries.

Chart 4 illustrates employment growth in computer manufacture, including peripherals. Even more than in microelectronics, the trend has been away from production employees and toward more skilled workers and professionals. Unlike either semiconductors or consumer electronics, neither imports nor offshore production has as yet affected employment greatly. American computer firms have invested heavily overseas, but foreign plants generally serve foreign markets. As in microelectronics, some foreign production may substitute for exports from the United States. But in industrialized (and some developing) countries, American firms often must invest in manufacturing facilities if they expect to sell in volume, limiting the extent to which point-of-sale plants can be viewed as displacing domestic workers. Imports of peripherals and components have been more important; many disc drives and terminals now come from overseas.

In computers, competitive threats lie well in the future.[14] But in consumer electronics, U.S. competitiveness began to slip 20 years ago. Employment typically falls when industries lose ground in either domestic or international markets. Even if aggregate economic growth brings greater demand, only the more efficient companies can take full advantage; firms seldom have any choice but to adopt new technologies, process as well as product, if they wish to remain competitive. Those that move quickly (but not too quickly) may be able to gain an edge over their rivals through efficiency improvements or differentiated product designs. Companies may be forced to automate or pursue alternative routes to lower costs and greater productivity simply to survive. Such strategies have enabled Zenith and RCA, the two largest American color television manufacturers, to maintain their approximate market shares, but to do so, they had to cut their payrolls. If modernizing production facilities and moving offshore costs U.S. jobs in the short term, such strategies may help maintain the total market for American-made products over the longer term.

Chart 4. U.S. employment in computer and peripheral equipment manufacturing, 1955–84



SOURCES: *International Competitiveness in Electronics* (Washington, DC. Office of Technology Assessment, November 1983), p. 359; Bureau of Labor Statistics.

Like all technical change, then, advances in electronics will continue to bring a mix of positive and negative outcomes. Firms manufacturing electronics products will, for some years, continue to create substantial numbers of new jobs. In U.S. manufacturing as a whole, however, jobs—at least for production workers—may go down in absolute terms. A major source of decline in employment opportunities will be redesigned production systems utilizing computers and computer networks along with other tools for improving organizational efficiency.

For firms determined to maintain their competitiveness in world markets while retaining a production base in high-wage economies, computer-assisted automation will be necessary but not, by itself, sufficient. To be successful, these companies will have to redesign their product lines with greater manufacturing efficiency as a primary goal. Product engineers will have to work more closely with manufacturing engineers. Technical staffs will have to work effectively with shopfloor employees—learning from them during the design stage and, at later stages, helping production employees operate the system in something approximating optimal fashion. In the recent past, Japanese companies have done a better job at this than American (or European) firms. Some Japanese firms have nearly erased the interface between design and manufacturing, while building corporate organizations that effectively utilize available human resources, including the capabilities of "unskilled" workers. This has been a major source of Japanese competitiveness in consumer electronics and microelectronics.[15] While we prefer to stress similarities rather than differences between Japanese and Western management styles, it seems clear that the Japanese are well ahead in introducing more highly integrated production systems. A major reason is decision-making processes that lend themselves to conflict resolution and the development of shared values, necessary attributes of integrated systems. Designing products for manufacturing efficiency will be one of the keys to competitive success for American firms over the next few decades. So will integration of workers—at all levels, but particularly on the shop floor—into the production process.

Only by using labor effectively and efficiently—which often means changes both in product design and in the production system—can firms in high-wage economies maintain their international competitiveness. Not all firms will be successful. Some workers, companies, industries, and regions will lose out. Unskilled and semiskilled manufacturing workers are in the greatest jeopardy.

How can the negative impacts be minimized, while capitalizing on the potentials of new technology? The relationships between technical change, employment, and international competition may be complex, but from the standpoint of public policy, many of the negative effects are quite predictable. Adjustment problems cannot be avoided, but governments can prepare for them, both to ease the inevitable shifts and to help maintain the competitive ability of domestic industries. Because shifts in industrial structure bring new jobs with new skill requirements, it may be time to rethink both public and private programs of training, retraining, and education. With jobs and job opportunities for production workers declining, it may be time to rethink the meaning of work in advanced industrial societies. □

FOOTNOTES

[1] This article is based in part on *International Competitiveness in Electronics* (Washington, DC, Office of Technology Assessment, U.S. Congress, November 1983), Chapter 9. An earlier version was presented at the 2nd International Conference on Human Factors in Manufacturing, Stuttgart, Federal Republic of Germany, June 11–13, 1985. The authors thank Philip A. Mundo for assistance with the statistical data.

[2] These industries are categorized under the following Standard Industrial Classification (SIC) codes as published in the Office of Management and Budget's *Standard Industrial Classification Manual, 1972:* consumer electronics—SIC 3651, "Radio and Television Receiving Sets, Except Communication Types;" microelectronics—SIC 3674, "Semiconductors and Related Devices;" and computer manufacturing—SIC 3573, "Electronic Computing Equipment."

[3] Including communications equipment and components other than semiconductors would double the total, to more than 1.7 million workers, while employment in the American steel industry fell to about 330,000 during 1984.

[4] Both sectors' troubles have been widely reported. See, for example, "Those Vanishing High-Tech Jobs," *Business Week*, July 15, 1985, p. 30. Although the averages for 1984 and the first half of 1985 do not yet show the decline in microelectronics, employment fell each month during 1985 through June in both microelectronics and computers.

[5] See *International Competitiveness in Electronics*, p. 89.

[6] *1977 Census of Manufactures: Communication Equipment, Including Radio and TV, MC77–I–36D* (Department of Commerce, June 1980), p. 36D–5; *1982 U.S. Industrial Outlook* (Department of Commerce, January 1982), p. 343.

[7] *International Competitiveness in Electronics*, p. 223.

[8] See *International Competitiveness in Electronics*, pp. 112–13 and 446–49.

[9] *A Report on the U.S. Semiconductor Industry* (Department of Commerce, September 1979), p. 84.

[10] J.R. Lineback, "Automation May Erase Offshore Edge," *Electronics*, Apr. 21, 1982, p. 94.

[11] W.F. Finan, "The International Transfer of Semiconductor Technology Through U.S.-Based Firms," Working Paper No. 118 (National Bureau of Economic Research, December 1975), p. 60.

[12] *Summary of Trade and Tariff Information: Semiconductors* (U.S. International Trade Commission Publication 841, July 1982), p. 8.

[13] See, for example, S.P. Galante, "U.S. Semiconductor Makers Automate, Cut Chip Production in Southeast Asia," *The Wall Street Journal*, Aug. 21, 1985, p. 28.

[14] J.A. Alic and R.R. Miller, "Export Strategies in the Computer Industry: Japan and the United States," in P. Edwards and R. Gordon, eds., *Strategic Computing: Defense Research and Computer Technology* (forthcoming).

[15] *International Competitiveness in Electronics*, Chapter 8.

Research Summaries

Work experience profile, 1984: the effects of recovery continue

SHIRLEY J. SMITH

The number of persons holding jobs during all or part of the year rose to 121.1 million during 1984, up 3.6 million from 1983. This was the largest single-year increase in 35 years. As the economy continued to improve in the wake of the recession of 1981–82, there were also indications that the work year of those employed had lengthened, the prevalence of unemployment had diminished, and its average duration had lessened.

These findings were derived from the work experience survey, conducted each March as a supplement to the Current Population Survey, the monthly nationwide household survey which measures the changes in the size of the labor force, employment, and unemployment. While the monthly measurements permit officials to closely monitor the pulse of the American economy, the March supplement provides a different perspective. Its retrospective questions covering the entire previous calendar year provide unique information on the labor force behavior of the population, on the extent to which each member, age 16 and over, worked or sought work during the year, and on income derived from employment and other sources.

The work experience profile is particularly informative in describing the labor force activity of groups whose work patterns are discontinuous or habitually irregular. Given the large movements in and out of the labor force each month, the March supplement normally identifies a much larger "economically active population" than does the monthly count. For example, 121.1 million adults were identified in the March 1985 survey as having worked for some period during 1984, while the average of the 12 monthly measurements was just 105.0 million. The total number of persons shown by the March supplement to have been unemployed for some portion of 1984 was 2.5 times as large as was the number encountering unemployment in the average month (that is, 21.5 million versus 8.5 million).

During 1984, the economic recovery took an irregular path. The first half of the year was characterized by a strong surge of employment and corresponding declines in unemployment, both of which slowed during the summer months. During the final quarter, there was a modest upswing in employment, but it was not matched by proportionate declines in joblessness.[1] In light of these developments, it is particularly useful to examine the year's work experience profile for the many persons who entered or left the economic arena.

Population and employment growth

Although by early 1984 the economy had already undergone a full year of recovery, it continued to grow rapidly. Workers appeared to be making up for lost time, both in terms of net entries into the job market and also through shifts to longer work hours. The continuing influx of women into the economic arena, and pressures of population growth, combined with the strong economic recovery to accelerate labor force growth.

The adult population (aged 16 and over) grew by about 1 percent during the year, the pace being roughly four times as great for Hispanics and about twice as fast for blacks as for whites. The following tabulation shows the 1983–84 percent increases in the population aged 16 and over, persons employed at all during the year, and those employed year round, full time, by selected characteristics:

	Civilian noninstitutional population	*Employment*	
		Total	*Full time, full year only*
Total	1.0	3.0	5.5
Men	1.1	2.2	5.7
Women	0.9	4.0	5.2
White	0.8	2.5	5.1
Black	1.7	6.1	7.4
Hispanic	3.3	5.5	6.9

The character of population growth within each group differed, affecting its potential contribution to the work force. The growth of the white population was concentrated in the age range 25 and above, and was offset to a large degree by a contraction of the group 16–24 years of age. The number of black teenagers also declined, but of blacks aged 20 and above, the population increased. The population of Hispanic origin, whose expansion results as much from immigration of adults as from natural increase, registered gains at all ages 16 and over. Hence, the pool from which potential entrants were likely to be drawn was somewhat older for whites than

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Shirley J. Smith is a demographic statistician in the Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

for the other two groups. Each demographic group expanded most rapidly within the age range 25–44, where baby-boom cohorts and recent immigrants are concentrated. It is in this age range that life cycle pressures to obtain and hold employment are normally most acute.

As the health of the economy continued to improve, the share of the working-age population holding jobs during the year rose from less than 67 to more than 68 percent, with the pace of growth for women nearly twice that for men. (See table 1.) Nonetheless, because the labor force activity of men has been decreasing in the recent past, even the small increase shown in 1984 is noteworthy.

The number of black and Hispanic workers with full- or part-year jobs was sharply higher in 1984 than in the previous year, reflecting both the very rapid growth of their population and a greater potential for recovery from the recent recession.[2] Whereas the number of whites who were in the labor force at some time during the year grew by 2.5 percent, that of blacks increased by 6.1 percent and Hispanics, by 5.5 percent.

Looked at another way, the growth of the economically "active" population (persons working or looking for work during the year) exceeded that of the total working-age population aged 16 and over, for all groups except men. (See table 2.) The size of the expansion of the year's female work force was more than twice the increase of their entire working-age population. The number of persons who held no job at all during the year declined across the board. Only one group of "inactives," men not looking for work (more than half of whom were retired), showed even minor growth.

Work schedules

A record number of men (43.8 million) and women (26.6 million) held year-round, full-time jobs (50 weeks or more per year, usually at 35 hours or more per week) during 1984. The growth rate of such employment was slightly more rapid for men than for women, and was considerably greater for blacks and Hispanics—with low initial representation in this category—than it was for whites.

Men accounted for about 54 percent of the growth in employment between the last quarter of 1983 and the last quarter of 1984. However, because the work patterns of women are less regular, and their role in the labor force has

Table 1. Work experience of the population during the year by extent of employment for men and women, 1983–84
[Numbers in thousands]

Extent of employment	Total		Men		Women	
	1983	1984	1983	1984	1983	1984
Civilian noninstitutional population	175,881	177,661	83,295	84,206	92,586	93,455
Total who worked or looked for work	121,503	124,117	66,350	67,234	55,153	56,883
Percent of the population	69.1	69.9	79.7	79.8	59.6	60.9
Total who worked during the year[1]	117,575	121,148	64,512	65,960	53,063	55,188
Percent of the population	66.8	68.2	77.5	78.3	57.3	59.1
Full time[2]	90,606	94,312	55,132	56,926	35,474	37,384
50 to 52 weeks	66,744	70,419	41,469	43,833	25,275	26,585
48 to 49 weeks	2,278	2,451	1,361	1,408	916	1,043
40 to 47 weeks	5,133	5,502	2,999	3,046	2,134	2,456
27 to 39 weeks	5,633	5,617	3,285	3,095	2,348	2,522
14 to 26 weeks	5,901	5,635	3,290	3,081	2,611	2,554
1 to 13 weeks	4,918	4,689	2,728	2,464	2,190	2,224
Part time[3]	26,969	26,836	9,380	9,032	17,589	17,804
50 to 52 weeks	10,297	9,832	3,210	3,089	7,087	6,734
48 to 49 weeks	762	861	231	272	531	589
40 to 47 weeks	2,339	2,380	738	793	1,602	1,587
27 to 39 weeks	3,103	3,129	1,049	1,000	2,055	2,129
14 to 26 weeks	4,513	4,733	1,759	1,704	2,754	3,029
1 to 13 weeks	5,953	5,900	2,394	2,164	3,559	3,736
Total who worked during the year[1] (percent)	100.0	100.0	100.0	100.0	100.0	100.0
Full time[2]	77.1	77.8	85.5	86.3	66.9	67.7
50 to 52 weeks	56.8	58.1	64.3	66.5	47.6	48.2
48 to 49 weeks	1.9	2.0	2.1	2.1	1.7	1.9
40 to 47 weeks	4.4	4.5	4.6	4.6	4.0	4.5
27 to 39 weeks	4.8	4.6	5.1	4.7	4.4	4.6
14 to 26 weeks	5.0	4.7	5.1	4.7	4.9	4.6
1 to 13 weeks	4.2	3.9	4.2	3.7	4.1	4.0
Part time[3]	22.9	22.2	14.5	13.7	33.1	32.3
50 to 52 weeks	8.8	8.1	5.0	4.7	13.4	12.2
48 to 49 weeks	0.6	0.7	0.4	0.4	1.0	1.1
40 to 47 weeks	2.0	2.0	1.1	1.2	3.0	2.9
27 to 39 weeks	2.6	2.6	1.6	1.5	3.9	3.9
14 to 26 weeks	3.8	3.9	2.7	2.6	5.2	5.5
1 to 13 weeks	5.1	4.9	3.7	3.3	6.7	6.8

[1] Time worked includes paid vacation and sick leave.
[2] Usually worked 35 hours or more per week.
[3] Usually worked 1 to 34 hours per week.

NOTE: These data reflect revised estimation procedures and are not comparable to data for prior years. Data for 1983 have been retabulated and differ from data previously published in the December 1984 issue.

Table 2. Net changes between 1983 and 1984 by work pattern, sex, race, and Hispanic origin
[Numbers in thousands]

Work pattern	Net change, 1983–84					
	Total	Men	Women	White	Black	Hispanic[1]
Population aged 16 years and over	1,780	921	859	1,242	259	368
Persons who worked or looked for work	2,614	884	1,730	1,879	434	386
Total who worked during the year	3,573	1,448	2,125	2,575	690	390
Full year (50 to 52 weeks)	3,210	2,253	957	2,523	444	282
Full time	3,675	2,364	1,310	2,996	466	269
Part time	−465	−111	−353	−473	−22	13
Part year (1 to 49 weeks)	364	−805	1,169	53	246	108
Full time	31	−569	600	−141	137	65
Part time	333	−236	569	194	109	43
Total full-time workers	3,706	1,795	1,910	2,855	603	334
Total part-time workers	−132	−348	216	−279	87	56
Total nonworkers	−1,793	−527	−1,267	−1,334	−431	−22
Looked for work	−959	−564	−395	−697	−255	−4
Did not look for work	−834	37	−871	−637	−176	−18

[1] Persons of Hispanic origin include whites, blacks, and others (not shown). This ethnic classification is not mutually exclusive from the racial breakdown shown.

been changing more rapidly than that of men, the record of work experience during the year gives quite a different picture of their relative contributions to growth. Nearly 60 percent of the additional 3.6 million persons holding jobs at some time during the year were women. (See table 2.) The proportion of all women reporting jobs rose from 57 percent in 1983 to 59 percent in 1984. The reviving economy also drew an additional 1.4 million men into the work force, raising the proportion of men with jobs to 78 percent.

Most of the year's entrants are, by definition, classed as part-year workers, as few of them manage to work 50 weeks or more. Thus, in a year with large employment increases, one would expect a large increase in the number of part-year workers. The fact that this classification declined by 800,000 for men and grew by less than 1.2 million for women suggests that several million workers with part-year jobs in 1983 had moved on to full-year positions during 1984. Indeed, 2.4 million additional men and 1.3 million additional women reported full-year, full-time work in 1984.

Other evidence of the lengthening work year included a net decline in the representation of men in all less-intense work schedules, and a marked decline in the extent of year-round, part-time employment, especially for women. The modest increase in total part-time employment for women was more than offset by the withdrawal of men from this schedule, resulting in a contraction of the part-time work force. At the same time, full-time employment rose sharply, by more than 3.7 million persons, during the year. More than half (1.9 million) of this net increase was attributable to women.

During 1984, 6 of 10 net entrants to the work force and more than half of the net additions to the full-time work force were women. Yet women contributed only about a third to the increase in year-round employment.

Components of change in employment

The work experience survey adds additional perspective to our understanding of the components of change. It illustrates, for instance, which groups experience disproportionate gains within each work schedule category. For example, whites comprised 70 percent of the growth in the working age population between 1983 and 1984.[3] They supplied 72 percent of the total net growth in employment and were responsible for 77 percent of the growth in full-time employment, 79 percent of the growth in year-round jobs, and 82 percent of the increase in year-round, full-time work. By contrast, blacks made up about 15 percent of the growth in the working age population but accounted for more than two-thirds of the growth in part-year work: a reflection of their continued high unemployment and labor force entry and exit rates, as well as their relatively youthful population. Hispanics (an ethnic group including blacks, whites, and others) accounted for 21 percent of the growth in population. They contributed just 11 percent to overall growth in employment during the year but 30 percent to the part-year work force.

The proportion of men holding jobs during part or all of 1984 was roughly 8 of 10 for both whites and Hispanics, but just 7 of 10 for blacks. Proportionately more white than black women held jobs during the year (59 versus 57 percent). However, black women were more likely than white women to hold year-round, full-time jobs if they did work (54 versus 47 percent). (See table 3.)

Given the secular trend toward early retirement, it was not clear how responsive the elderly workers would be to improvements in overall labor demand. As table 4 indicates, women aged 60 and over showed no greater inclination to hold jobs in 1984 than they had in 1983. There was a modest increase in employment among men aged 60 to 61, but job holding at older ages continued to drop. Yet among those older persons who continued to work, there appeared to be some lengthening of the average work year, with a rise in the proportion of "active" men 55 to 64 and of "active" women 60 to 64 holding year-round, full-time jobs.

Not surprisingly, younger workers—who had experienced the sharpest job cutbacks in the early 1980's—registered significant gains in work experience in 1984, as well as in full-year, full-time employment. Persons 35 to 59, the groups registering the least expansion in these areas in 1984, had experienced the least job loss during the recession.

The unemployment picture

About 21.5 million persons, or 17 percent of all who worked or looked for work during 1984, experienced some unemployment. (See table 5.) This was a marked decline from the peak figure (22 percent) registered in 1982, but still higher than that registered in the 1978–79 period (less than 16 percent). The proportions encountering some unemployment during the year were 18.1 percent for men and 16.5 percent for women. When the added effect of racial disparities is considered, the figures range from about 15 percent for white women to 29 percent for black men. (See table 6.) Values for the Hispanic community, which includes whites, blacks, and others, fell within this range.

Overall, about 16 percent of all whites, nearly 27 percent of all blacks, and about 23 percent of all Hispanics experienced one or more spells of joblessness during 1984. For each group, this was the lowest level recorded since 1979.

The incidence of unemployment during 1984 varied considerably by industry, as the figures below for wage and salary workers show:

Industry	*Percent with unemployment*
Total	15.9
Agriculture	28.8
Mining	23.6
Construction	35.1
Manufacturing	17.2
Durable goods	16.6
Nondurable goods	18.2
Transportation and public utilities	11.4
Wholesale and retail trade	17.9
Finance, insurance, and real estate	9.2
Services	12.6
Public administration	7.5

More than a third of all construction workers and nearly 3 of 10 persons in agriculture reported spells of joblessness, once again establishing these as the industries in which workers are most prone to encounter some unemployment. The decline in unemployment since the recession has been most notable in durable goods manufacturing, where 16.6 percent of the workers encountered some unemployment during 1984, down from 27.6 percent in 1982. The corresponding 2-year decline for construction workers was less than 6 percentage points, and for agriculture, less than 2. Agriculture was the only industry to register an absolute decline in employment between 1983 and 1984.

The extent of unemployment obviously affects the share of the total labor force able to work year round, and this is most apparent when one looks at the data by occupation. As table 7 illustrates, a low unemployment figure (such as was reported by executive, administrative, and managerial occupations, or by farm operators and managers) is likely to be associated with high proportions of year-round, full-time workers. However, the high unemployment occupations (such as the construction trades, operators, fabricators, and laborers) show a greater concentration of workers in part-year schedules.

At most, 4 of 5 workers in any occupational group shown held year-round, full-time jobs. In several occupations, including services (except for the protective services), construction trades, handlers, equipment cleaners and helpers, farmworkers and related occupations, and forestry and fishing occupations, fewer than half worked full time for the entire year. Most of these occupations were characterized by unusually high turnover and high unemployment.

Duration of unemployment. Of those experiencing some unemployment during the year, about 14 percent held no job whatsoever during that period. However, the figure for blacks was nearly 27 percent, reflecting the difficulties which blacks—especially the younger ones—face in finding jobs. (See table 6.)

For the most part, spells of unemployment during 1984 were somewhat shorter than those reported in 1983. The median length of time spent in search of a job (including multiple spells) dropped by 1.4 weeks, to 12.8 weeks. Whites and Hispanics each experienced a 1.6-week reduc-

Table 3. Work experience of the population during the year by race, Hispanic origin, and sex, 1983–84

[Numbers in thousands]

Extent of employment, race, and Hispanic origin	Total		Men		Women	
	1983	1984	1983	1984	1983	1984
White						
Civilian noninstitutional population	152,047	153,289	72,546	73,180	79,501	80,109
Total who worked or looked for work	105,870	107,749	58,520	59,144	47,351	48,605
Percent of the population	69.6	70.3	80.7	80.8	59.6	60.7
Total who worked during the year[1]	103,243	105,818	57,274	58,334	45,969	47,484
Percent of the population	67.9	69.0	78.9	79.7	57.8	59.3
Total who worked during the year[1]	100.0	100.0	100.0	100.0	100.0	100.0
Full time[2]	77.0	77.8	85.8	86.8	66.0	66.8
50 to 52 weeks	56.9	58.3	64.9	67.3	46.8	47.3
27 to 49 weeks	11.2	11.2	12.0	11.4	10.2	10.9
1 to 26 weeks	8.9	8.3	8.9	8.1	9.0	8.6
Part time[3]	23.0	22.2	14.2	13.2	34.0	33.2
50 to 52 weeks	8.9	8.2	5.0	4.6	13.7	12.6
27 to 49 weeks	5.4	5.4	3.1	3.1	8.3	8.1
1 to 26 weeks	8.8	8.6	6.1	5.5	12.0	12.5
Black						
Civilian noninstitutional population	19,290	19,549	8,612	8,727	10,678	10,822
Total who worked or looked for work	12,560	12,984	6,234	6,297	6,326	6,687
Percent of the population	65.1	66.5	72.4	72.2	59.2	61.8
Total who worked during the year[1]	11,383	12,073	5,705	5,893	5,678	6,179
Percent of the population	59.0	61.8	66.2	67.5	53.2	57.1
Total who worked during the year[1]	100.0	100.0	100.0	100.0	100.0	100.0
Full time[2]	77.5	78.1	82.2	82.4	72.8	73.9
50 to 52 weeks	55.4	56.1	57.6	58.6	53.2	53.7
27 to 49 weeks	10.8	11.8	11.5	12.5	10.2	11.1
1 to 26 weeks	11.3	10.2	13.1	11.4	9.5	9.2
Part time[3]	22.5	21.9	17.8	17.6	27.2	26.1
50 to 52 weeks	7.8	7.3	5.0	5.3	10.9	9.2
27 to 49 weeks	4.6	4.3	3.7	2.9	5.4	5.6
1 to 26 weeks	10.0	10.3	9.2	9.4	10.8	11.3
Hispanic origin						
Civilian noninstitutional population	11,060	11,428	5,403	5,605	5,657	5,823
Total who worked or looked for work	7,408	7,796	4,378	4,567	3,030	3,228
Percent of the population	67.0	68.2	81.0	81.5	53.6	55.4
Total who worked during the year[1]	7,153	7,543	4,246	4,436	2,907	3,106
Percent of the population	64.7	66.0	78.6	79.1	51.4	53.3
Total who worked during the year[1]	100.0	100.0	100.0	100.0	100.0	100.0
Full time[2]	80.5	80.8	85.7	87.5	72.8	71.1
50 to 52 weeks	54.8	55.4	59.4	61.1	47.6	47.2
27 to 49 weeks	13.5	13.8	15.0	14.0	11.3	13.2
1 to 26 weeks	12.3	11.7	11.3	12.5	13.9	10.7
Part time[3]	19.5	19.2	14.3	12.5	27.2	28.9
50 to 52 weeks	7.2	7.0	5.2	4.5	10.1	10.5
27 to 49 weeks	4.3	4.4	2.9	2.8	6.2	6.6
1 to 26 weeks	8.1	7.9	6.1	5.2	10.9	11.8

[1] Time worked includes paid vacation and sick leave.

[2] Usually worked 35 hours or more per week.

[3] Usually worked 1 to 34 hours per week.

NOTE: These data reflect revised estimation procedures and are not comparable to data for prior years. Data for 1983 have been reestimated and differ from data previously published in the December 1984 issue. Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups.

Table 4. Extent of employment by sex and age, 1983 and 1984

Age (in years)	Percent of population 16 and over who worked during the year				Percent of year's work force with year-round, full-time jobs			
	Men		Women		Men		Women	
	1983	1984	1983	1984	1983	1984	1983	1984
Total	77.5	78.3	57.3	58.1	64.3	65.5	47.6	48.2
16 to 17	48.2	48.7	40.4	45.6	1.6	2.2	0.5	1.0
18 to 19	73.8	77.3	66.4	70.9	13.1	14.4	12.0	11.6
20 to 24	88.6	89.1	76.0	78.1	41.0	43.1	37.3	37.6
25 to 34	92.4	94.2	73.6	75.5	69.5	73.0	53.6	54.4
35 to 44	94.0	94.1	73.2	74.3	79.2	81.7	55.1	55.3
45 to 54	90.5	90.7	68.4	69.0	81.5	81.3	58.4	59.5
55 to 59	81.9	81.8	53.6	55.6	77.0	78.3	55.9	55.9
60 to 61	72.1	73.4	47.4	47.2	70.4	74.2	51.4	54.7
62 to 64	60.1	58.1	34.6	34.6	61.4	62.4	48.4	48.7
65 to 69	33.1	32.9	18.6	18.3	38.5	38.6	27.0	24.8
70 and over	15.6	15.1	6.4	6.7	28.9	28.6	18.9	14.6

tion in the median duration of unemployment. Blacks continued to report the longest spells, and the decline in their median length of unemployment amounted to just one-half week. This apparent stagnation masked the contradictory experiences among men and women. While the median spell for black women diminished by 3.4 weeks, and was the most impressive improvement registered, that for black men actually rose by 1.7 weeks, the only duration figure to rise during 1984.

Unemployment and family income. The following text tabulation shows the median income (exclusive of noncash transfers) for various types of families, by presence or absence of unemployment during the year:

Family structure	*No member unemployed*		*At least one member with some unemployment*	
	Median family income	*Percent in poverty*	*Median family income*	*Percent in poverty*
Married-couple families	$33,960	4.1	$25,713	12.0
Families maintained by:				
Women	17,225	17.8	10,427	41.6
Men	27,083	6.0	17,173	21.9
Persons not living in families	16,320	9.3	8,157	32.7

It should be noted that these groups are far from homogeneous: each has its own age and racial makeup. A disproportionate share of married-couple families are white, whereas families maintained by women are disproportionately black. In general, persons living alone are relatively young or old. And of course, unearned income (such as unemployment compensation, disability, military and Social Security benefits, and earnings on investments) affect each group's median differently.

Still, certain patterns are unmistakable. Within any given group, households are at least twice as likely to be classed as having income below the poverty line if some member experiences unemployment during the year. For example, in the absence of unemployment, less than 18 percent of the households maintained by women were classified as being in poverty. Where some unemployment had occurred during the year more than half qualified as being "in poverty." Even among married-couple households, where the general incidence of poverty is relatively low, the families with some unemployment during the year were much more likely to be in poverty than those reporting no unemployment.

Nonworkers

To round out the picture of economic activity during 1984, it is interesting to consider the segment of the adult population which held no job at all during the year. There were 56.5 million such persons, of which slightly more than two-thirds (68 percent) were women. Only 5 percent of the nonworkers were reported as having made any attempt to find employment during the year. Overall, 3 of 10 nonworkers reported that they were retired, a figure which is proba-

Table 5. Extent of unemployment during the year by sex, 1983–84

Extent of unemployment	Total		Men		Women	
	1983	1984	1983	1984	1983	1984
	Numbers (in thousands)					
Total who worked or looked for work	121,503	124,117	66,350	67,234	55,153	56,833
Percent with unemployment	19.6	17.4	21.0	18.1	17.8	16.5
Total with unemployment	23,762	21,535	13,919	12,174	9,842	9,361
Did not work but looked for work	3,928	2,969	1,836	1,274	2,091	1,696
1 to 14 weeks	1,643	1,355	506	375	1,135	979
15 weeks or more	2,285	1,615	1,330	898	956	716
Worked during the year	19,833	18,565	12,083	10,900	7,752	7,665
Median weeks of unemployment for all workers	14.2	12.8	15.2	14.1	12.6	10.7
Year-round workers[1] with 1 or 2 weeks of unemployment	917	898	611	539	307	359
Part-year workers[2] with unemployment	18,916	17,668	11,471	10,362	7,445	7,306
1 to 4 weeks	3,356	3,702	1,709	1,750	1,647	1,952
5 to 10 weeks	3,594	3,628	2,063	2,033	1,530	1,594
11 to 14 weeks	2,544	2,351	1,581	1,443	963	907
15 to 26 weeks	4,965	4,377	3,232	2,759	1,733	1,618
27 weeks or more	4,457	3,610	2,885	2,376	1,572	1,234
With 2 spells or more of unemployment	6,428	6,147	4,255	4,027	2,173	2,120
2 spells	3,305	3,000	2,073	1,831	1,232	1,169
3 spells or more	3,123	3,147	2,182	2,196	941	952
	Percent distribution					
Did not work but looked for work	100.0	100.0	100.0	100.0	100.0	100.0
1 to 14 weeks	41.8	45.6	27.6	29.5	54.3	57.8
15 weeks or more	58.2	54.4	72.4	70.5	45.7	42.2
Worked during the year	100.0	100.0	100.0	100.0	100.0	100.0
Year-round workers[1] with 1 or 2 weeks of unemployment	4.6	4.8	5.1	4.9	4.0	4.7
Part-year workers[2] with unemployment	95.4	95.2	94.9	95.1	96.0	95.3
1 to 4 weeks	16.9	19.9	14.1	16.1	21.2	25.5
5 to 10 weeks	18.1	19.5	17.1	18.7	19.7	20.8
11 to 14 weeks	12.8	12.7	13.1	13.2	12.4	11.8
15 to 26 weeks	25.0	23.6	26.7	25.3	22.4	21.1
27 weeks or more	22.5	19.4	23.9	21.8	20.3	16.1
With 2 spells or more of unemployment	32.4	33.1	35.2	36.9	28.0	27.7
2 spells	16.7	16.2	17.2	16.8	15.9	15.2
3 spells or more	15.7	17.0	18.1	20.1	12.1	12.4

[1] Worked 50 or 51 weeks.

[2] Worked less than 50 weeks.

NOTE: These data reflect revised estimation procedures and are not comparable to data for prior years. Data for 1983 have been retabulated and differ from data previously published in the December 1984 issue.

bly understated because retired women often report themselves as homemakers. Retirees made up at least a third of the nonworking white population, but were much less prevalent in the black and Hispanic groups.

Table 6. Extent of unemployment during the year by race, Hispanic origin, and sex, 1983–84

[Numbers in thousands]

Extent of unemployment, race, and Hispanic origin	Total		Men		Women	
	1983	1984	1983	1984	1983	1984
White						
Total who worked or looked for work	105,870	107,749	58,520	59,144	47,351	48,605
Percent with unemployment	18.5	16.2	19.8	16.9	16.8	15.3
Total with unemployment	19,549	17,461	11,614	10,008	7,935	7,454
Did not work but looked for work	2,627	1,930	1,246	819	1,381	1,111
Worked during the year	16,922	15,531	10,369	9,188	6,553	6,343
Median weeks of unemployment for all workers	13.6	12.2	14.8	13.4	12.0	10.2
Total who worked during the year (percent)	100.0	100.0	100.0	100.0	100.0	100.0
Year-round workers[1] with 1 or 2 weeks of unemployment	4.9	5.1	5.3	5.3	4.3	4.8
Part-year workers[2] with unemployment	95.1	94.9	94.7	94.7	95.7	95.2
1 to 4 weeks	17.5	20.9	14.6	16.6	22.2	27.0
5 to 14 weeks	31.6	33.3	30.8	33.7	32.8	32.6
15 weeks or more	45.9	40.8	49.3	44.4	40.6	35.6
With 2 spells or more of unemployment	31.9	32.7	34.8	36.7	27.3	27.0
Black						
Total who worked or looked for work	12,560	12,994	6,234	6,297	6,326	6,697
Percent with unemployment	29.0	26.7	32.0	29.3	26.0	24.3
Total with unemployment	3,640	3,473	1,992	1,847	1,646	1,626
Did not work but looked for work	1,177	922	529	404	648	518
Worked during the year	2,462	2,551	1,463	1,443	1,000	1,108
Median weeks of unemployment for all workers	18.0	17.4	18.5	20.2	17.3	13.9
Total who worked during the year (percent)	100.0	100.0	100.0	100.0	100.0	100.0
Year-round workers[1] with 1 or 2 weeks of unemployment	2.6	3.6	3.0	2.8	2.0	4.6
Part-year workers[2] with unemployment	97.4	96.4	97.0	97.6	98.0	95.4
1 to 4 weeks	12.9	14.5	11.2	12.5	15.2	17.2
5 to 14 weeks	27.5	26.6	27.4	22.5	27.6	31.8
15 weeks or more	57.1	37.3	58.4	37.3	55.1	37.3
With 2 spells or more of unemployment	36.3	35.2	37.9	39.1	33.9	30.3
Hispanic origin						
Total who worked or looked for work	7,409	7,795	4,378	4,567	3,030	3,228
Percent with unemployment	24.7	22.8	26.3	25.0	22.4	19.7
Total with unemployment	1,830	1,778	1,151	1,144	680	634
Did not work but looked for work	256	252	132	131	124	121
Worked during the year	1,575	1,526	1,019	1,013	556	513
Median weeks of unemployment for all workers	16.1	14.5	16.7	14.9	14.9	14.7
Total who worked during the year (percent)	100.0	100.0	100.0	100.0	100.0	100.0
Year-round workers[1] with 1 or 2 weeks of unemployment	3.7	3.1	3.5	3.0	4.1	3.2
Part-year workers[2] with unemployment	96.3	96.9	96.5	97.0	95.9	96.8
1 to 4 weeks	15.7	16.1	14.2	14.6	18.4	19.3
5 to 14 weeks	28.1	32.6	28.3	32.8	27.8	32.0
15 weeks or more	52.5	48.2	54.0	49.5	49.7	45.4
With 2 spells or more of unemployment	34.9	35.4	37.6	38.6	30.0	29.2

[1] Worked 50 weeks or more.

[2] Worked less than 50 weeks.

NOTE: These data reflect revised estimation procedures and are not comparable to data for prior years. Data for 1983 have been retabulated and differ from data previously published in the December 1984 issue. Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups.

The single most frequently cited reason for refraining from work was home responsibilities. These were cited by nearly 2 of 3 of the Hispanic women, slightly more than half of the white women, and slightly more than a third of the black women who did not hold jobs. Roughly a quarter of all inactive black and Hispanic men explained their nonparticipation in terms of illness or disability; fewer than 20 percent of white men cited these reasons. Because of their relative youth, blacks and Hispanics were more likely than whites to cite school attendance or inability to find work as the primary cause of their inactivity.

During 1984, there was record growth in the work force, as women, blacks, and Hispanics established stronger footing within the economic arena. However, white men made the most significant gains, especially with regard to year-round, full-time employment.

There was ample evidence of a lengthened work year, both with respect to numbers of weeks worked and a decline

Table 7. Incidence of unemployment, and proportion of workers on various work schedules, by occupation of longest job in 1984

Occupation longest held	Experienced some unemployment	Full year[1]		Part year[2]	
		Full time	Part time	Full time	Part time
Total	15.3	58.1	8.1	19.7	14.0
Managerial, professional specialty occupations	6.8	73.7	5.2	13.2	7.8
Executive, administrators, managerial	6.5	80.7	4.0	11.7	3.6
Professional specialty occupations	7.0	67.6	6.3	14.7	11.4
Technical, sales, and administrative support	11.8	58.0	10.7	15.9	15.3
Technicians and related support	10.0	70.0	8.0	14.2	7.8
Sales occupations	13.2	52.9	12.1	14.5	20.6
Administrative support, including clerical	11.1	59.5	10.2	17.4	12.9
Service occupations	18.1	36.5	15.2	18.7	29.7
Private household	13.1	13.0	23.9	13.6	49.5
Protective services	11.1	67.3	4.3	16.8	11.6
Service, except private household	19.4	34.8	15.7	19.4	30.2
Precision production, craft, and repair	21.2	65.7	2.8	25.3	6.2
Mechanics and repairers	12.9	75.7	3.2	17.3	3.7
Construction trades	34.5	49.2	2.7	37.6	10.5
Other precision production, craft, and repair	14.4	74.6	2.6	19.2	3.7
Operators, fabricators, and laborers	26.0	53.8	4.8	30.9	10.5
Machine operators, assemblers, inspectors	24.9	60.9	2.8	31.0	5.4
Transportation and material moving	23.2	58.5	4.3	27.9	9.3
Handlers, equipment cleaners, and helpers	30.3	37.7	8.7	33.4	20.2
Farming, forestry, and fishing	19.1	44.7	8.2	26.6	20.5
Farm operators and managers	2.5	78.0	11.0	6.7	4.4
Farmworkers and related occupations	26.2	29.6	7.3	34.3	28.8
Forestry and fishing occupations	29.4	34.6	1.4	51.4	12.6
Armed forces occupations[3]	36.4	43.5	0.5	52.2	3.8

[1] 50 to 52 weeks.

[2] Less than 50 weeks.

[3] Because these data exclude persons living on military bases and include those recently discharged from the military, they are not fully representative of the armed forces population.

in usual part-time schedules. Most demographic groups shared in the year's gains, but black men continued to report very serious unemployment problems. ☐

FOOTNOTES

[1] See Richard M. Devens, Jr., Carol Boyd Leon, and Debbie L. Sprinkle, "Employment and unemployment in 1984: a second year of strong growth in jobs," *Monthly Labor Review*, February 1985, pp. 3–15.

[2] During 1984, the proportion of whites with some employment during the year rose to within half a percentage point of the level registered in 1979. The proportion of blacks with jobs during all or part of the year was a full percentage point below, and for Hispanics, 2.3 percentage points below the figure reported in 1979.

[3] In reality, the population weights and estimates, and age references from the March survey correspond with survivors to that month, rather than all persons alive during the previous year. Thus, year-to-year population growth is measured from March 1984 to March 1985.

Rise in mothers' labor force activity includes those with infants

HOWARD HAYGHE

The notion that mothers of preschool-aged children, especially infants, usually stay out of the labor force at least until their youngest child has entered elementary school has changed rapidly during the 1980's. At mid-decade, nearly half of the mothers are either entering or reentering the work force soon after giving birth. By the time their youngest child is 4 years of age, 60 percent are in the work force. This report introduces a newly expanded series of statistics that traces some of the profound changes that have occurred in the labor force participation rates of the mothers of young children.[1]

Married mothers

In March 1985, nearly half of all wives (husband present) with infant children 1 year old or under were in the labor force, compared with only 31 percent in 1975. The proportion rises significantly until the youngest child reaches school age. Fifty-four percent of the mothers of 2-year-olds were working or looking for work in March, as were 62 percent of those with 5-year-olds. For mothers of school-age children the proportion ranged between 64 and 71 percent.[2] (See table 1.)

Altogether, about 25 million children—over half in married-couple families—are in families where the mother is absent from the home for part of the workday on a regular basis; almost all of these children have a working father (91 percent).[3] This latter fact, when linked to information on the full- or part-time employment status of wives, helps provide some insight into the extent and nature of the demand for child care. In 1985, 65 percent of the employed mothers with children under age 3 worked full time, as did 67 percent of those with children 3 to 5 years old (none younger) and 70 percent of those whose youngest child was 6 to 17.[4]

Race. The labor force participation rates of black married mothers were considerably higher than those of white married mothers, especially when the youngest child was a preschooler. At 64 percent, the participation rate for black mothers with infant children (1 year or under) was 15 percentage points higher than the rate for whites. For the most part, this difference showed few signs of narrowing until the youngest child was 7 years or older. Even among mothers of older children, blacks maintained higher labor force participation rates.

Reasons underlying the higher participation rates of black mothers with very young children are both historical and economic. Black wives have a long history of participating in the labor market to a much greater extent than their white counterparts, impelled in part by the relatively greater labor force difficulties of black than white husbands. In March 1985, for instance, the unemployment rate for black fathers with preschool children was 10.2 percent, compared with 5 percent for the white fathers; for those whose youngest child was of school age, the unemployment rates were 6.3 percent for black fathers and 4.2 percent for white fathers. In addition, median usual weekly earnings of black husbands who were full-time wage and salary earners in the third quarter of 1985 were $353, or 77 percent of the $459 for white husbands.[5]

Along with their generally higher labor force participation rates, employed black mothers usually work more weeks each year than white mothers, and a substantially larger proportion work all year at full-time jobs. This is true for mothers of preschoolers as well as school-age children; among those with children under age 3, 47 percent of the blacks worked year round, full time in 1984, compared with 31 percent of the whites. The proportions were 65 percent (for blacks) and 35 percent (for whites) for those with 3- to 5-year-olds. As a consequence of these marked differences, median earnings of black wives with preschoolers were $10,480 overall in 1984, compared with $7,020 for whites; for wives with school-age children, the earnings were $12,010 (for blacks) and $8,800 (for whites).[6]

However, the higher earnings of black mothers do not translate into higher total *family* income because of the significant difference between the earnings of black husbands and white husbands. The 1984 median income of black married-couple families with preschool children was $22,480, compared with $27,800 for whites.[7]

Single-parent mothers

Because single-parent mothers are often the sole support of themselves and their children, they are far more likely to

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Howard Hayghe is an economist in the Division of Employment and Unemployment Analysis, Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

be in the labor force than married mothers. But, when labor force participation rates are disaggregated by year of age of youngest child, there is not much difference between the participation rates of the single parents and married mothers when their youngest child is 4 years of age or under, except among those with infants. (See table 2.) However, the dif-

Table 1. Labor force status of wives, husband present, by presence and single year of age of youngest child and race, March 1985

Presence and age of child	Civilian noninstitutional population (in thousands)			Civilian labor force (in thousands)			Labor force participation rate		
	Total	White	Black	Total	White	Black	Total	White	Black
Wives, total	50,386	46,688	3,487	27,366	24,462	2,239	54.3	52.4	64.2
No children under 18	26,170	24,097	1,656	12,620	11,452	929	48.2	47.5	56.1
With children under 18	24,225	21,571	1,831	14,768	12,950	1,310	61.0	60.0	71.5
Under 6 years, total	11,728	10,408	892	6,298	5,445	618	53.7	52.3	69.3
Under 3 years, total	7,306	6,549	492	3,707	3,259	323	50.7	49.8	65.7
1 year or under	5,185	4,652	339	2,562	2,260	216	49.4	48.6	63.7
2 years	2,121	1,897	153	1,145	999	107	54.0	52.7	69.9
3 to 5 years, total	4,422	3,859	400	2,591	2,186	295	58.6	56.6	73.8
3 years	1,728	1,496	159	952	788	115	55.1	52.7	72.3
4 years	1,433	1,260	126	856	736	89	59.7	58.4	70.6
5 years	1,261	1,103	115	783	661	91	62.1	59.9	79.1
6 to 17 years, total	12,498	11,164	939	8,469	7,505	692	67.8	67.2	73.7
6 to 13 years, total	8,387	7,439	649	5,713	5,034	477	68.1	67.7	73.5
6 years	1,165	1,024	97	751	648	77	64.5	63.3	79.4
7 years	1,147	997	105	772	653	78	67.3	65.5	74.3
8 years	995	891	73	689	609	60	69.2	68.4	(1)
9 years	1,000	912	63	684	601	47	68.2	65.9	(1)
10 years	1,008	886	79	697	605	56	69.2	68.3	70.9
11 years	959	872	62	664	608	39	69.2	69.7	(1)
12 years	1,031	906	86	736	636	69	71.4	70.2	80.2
13 years	1,079	951	84	750	664	51	69.5	69.8	60.7
14 to 17 years, total	4,111	3,725	290	2,756	2,471	215	67.0	66.3	74.1
14 years	1,137	1,025	79	799	709	63	70.3	69.2	79.7
15 years	1,115	1,014	77	757	691	49	67.9	68.1	63.6
16 years	949	865	65	609	541	52	64.2	62.5	(1)
17 years	910	821	69	591	530	51	64.9	64.6	(1)

[1] Rate not shown where base is less than 75,000.

NOTE: Due to rounding, sums of individual items may not equal totals. Children are defined as "own" children of householder and include never-married sons, daughters, stepchildren, and adopted children. Excluded are other related children such as nieces, nephews, or grandchildren, and unrelated children.

Table 2. Labor force status of women maintaining families, by presence and single year of age of youngest child and race, March 1985

Presence and age of child	Civilian noninstitutional population (in thousands)			Civilian labor force (in thousands)			Labor force participation rate		
	Total	White	Black	Total	White	Black	Total	White	Black
Women maintaining families, total	10,524	7,257	3,029	6,419	4,574	1,705	61.0	63.0	56.3
No children under 18	4,179	3,067	1,027	2,117	1,592	479	50.7	51.9	46.6
With children under 18	6,345	4,190	2,002	4,302	2,982	1,226	67.8	71.2	61.2
Under 6 years, total	2,390	1,457	887	1,271	809	444	53.2	55.5	50.1
Under 3 years, total	1,146	698	423	510	319	184	44.5	45.7	43.5
1 year or under	728	426	284	277	167	109	38.0	39.2	38.4
2 years	418	272	139	233	152	75	55.7	55.9	54.0
3 to 5 years, total	1,244	759	464	761	490	260	61.2	64.6	56.0
3 years	423	247	171	232	136	94	54.8	55.1	55.0
4 years	380	236	138	235	156	74	61.8	66.1	53.6
5 years	441	276	155	294	198	92	66.7	71.7	59.4
6 to 17 years, total	3,955	2,733	1,116	3,031	2,173	783	76.6	79.5	70.2
6 to 13 years, total	2,609	1,756	784	1,975	1,371	556	75.7	78.1	70.9
6 years	358	232	123	272	178	90	76.0	76.7	73.2
7 years	339	226	103	256	167	81	75.5	73.9	78.6
8 years	296	201	89	206	148	57	69.6	73.6	64.0
9 years	312	215	86	246	177	61	78.8	82.3	70.9
10 years	329	223	102	261	184	75	79.6	82.5	73.5
11 years	303	204	82	221	157	52	72.9	77.0	63.4
12 years	351	232	108	265	184	71	75.5	79.3	65.7
13 years	323	223	91	248	176	69	76.8	78.9	75.8
14 to 17 years, total	1,346	977	332	1,056	802	227	78.5	82.1	68.4
14 years	374	264	100	294	221	68	78.6	83.7	68.0
15 years	328	231	84	241	174	55	73.5	75.3	65.5
16 years	302	228	72	245	198	48	81.1	86.7	(1)
17 years	342	256	76	276	211	56	80.7	82.4	73.7

[1] Rate not shown where base is less than 75,000.

NOTE: Due to rounding, sums of individual items may not equal totals. Children are defined as "own" children of householder and include never-married sons, daughters, stepchildren, and adopted children. Excluded are other related children such as nieces, nephews, or grandchildren, and unrelated children.

ferences begin to widen when the youngest child is 5 years old, and for the most part, remain large among mothers of older children.

In addition to having higher labor force participation rates than married mothers, single-parent mothers are also more likely to be full-time workers. About 82 percent of employed single-parent mothers worked 35 hours or more a week in March 1985, compared with 68 percent of married mothers. Proportions of single-parent mothers working full time ranged from 79 percent of those with children under 3 years, to 84 percent of those whose youngest child was age 6 to 17.

The relationship between the participation rates of whites and blacks among single-parent mothers is the reverse of that among married mothers. That is, white single parents are somewhat more likely than their black counterparts to be working or looking for work. However, until the youngest child enters his or her teens, the difference between participation rates for white single parents and black single parents is not nearly as great as among married mothers.

Trends since 1970

As table 3 shows, labor force participation rates of all wives by single year of age of youngest child increased between 1970 and 1985 whatever the child's age, though to differing degrees. Overall, labor force participation rates of married mothers grew faster during 1975 to 1980 than in either the 1970–75 or 1980–85 periods.

The most rapid increase from 1970 to 1985 was among mothers of very young children. Participation rates of mothers of infants age 1 year or under about doubled, followed by a 77-percent jump for those with 2-year-olds and a 60-percent rise for mothers of 3-year-olds. In contrast, the already high participation rates of mothers of older children grew less rapidly. For instance, the rates for mothers of 6- to 13-year-olds rose by 45 percent with the more rapid growth (increases in the 50-percent-plus range) occurring among mothers of 6-, 7-, and 8-year-olds. Mothers of 14- to 17-year-olds showed the least gain in participation rates—about one-fifth.

Table 3. Labor force participation rates of wives, husband present, by age of youngest child, March of selected years, 1970–85

Presence and age of child	1970	1975	1980	1985
Wives, total	40.8	44.5	50.2	54.3
No children under 18	42.2	44.0	46.0	48.2
With children under 18	39.8	44.9	54.3	61.0
Under 6 years, total	30.3	36.8	45.3	53.7
Under 3 years, total	25.8	32.6	41.5	50.7
1 year or under	24.0	30.8	39.0	49.4
2 years	30.5	37.1	48.1	54.0
3 to 5 years, total	36.9	42.2	51.7	58.6
3 years	34.5	41.2	51.5	55.1
4 years	38.4	41.2	51.4	59.7
5 years	38.9	44.4	52.4	62.1
6 to 17 years, total	49.2	52.4	62.0	67.8
6 to 13, years, total	47.0	51.8	62.6	68.1
6 years	44.0	48.7	58.5	64.5
7 years	44.7	51.1	61.7	67.3
8 years	44.6	51.5	62.3	69.2
9 years	48.5	52.4	60.8	69.2
10 years	48.7	50.6	65.1	69.2
11 years	47.6	52.8	66.1	69.2
12 years	51.8	50.0	65.7	71.4
13 years	51.8	54.0	64.6	69.5
14 to 17 years, total	54.8	53.8	60.5	67.0
14 years	56.9	52.4	62.5	70.3
15 years	52.8	54.7	60.8	67.9
16 years	54.3	55.0	62.3	64.2
17 years	55.1	52.7	55.6	64.9

NOTE: Children are defined as "own" children of householder and include never-married sons, daughters, stepchildren, and adopted children. Excluded are other related children such as nieces, nephews, or grandchildren, and unrelated children.

The result of these differing rates of change has been a convergence of participation rates and a blurring of the correlation between mothers' labor force activity and age of youngest child. For instance, in 1970, the highest participation rate (57 percent for mothers of 14-year-olds) was more than twice the lowest rate (24 percent for those with infants). By 1985, the highest rate (71 percent for mothers of 12-year-olds) was less than half again larger than the lowest rate (49 percent for mothers of infants).

THESE STATISTICS point to some of the striking changes in the economic role of mothers over the last decade and a half. Families have increasingly become solely or partly dependent on a mother's earnings. Using this newly expanded data series by single year of age of children, researchers will be better able to monitor changing labor force trends and thus provide important insights regarding family economic structure and the demand for family services such as child care. □

FOOTNOTES

[1] Labor force participation rates were previously disaggregated by the age *group* of the youngest child of the working mother; however, now they are also disaggregated by the *single* year of age of the youngest child.

The data in this research summary are derived from information collected each March in the Current Population Survey (CPS). The CPS is a monthly household survey (presently including 59,500 households) conducted for the Bureau of Labor Statistics by the Bureau of the Census. Information obtained from this survey relates to the employment status of the noninstitutional population 16 years old and over.

Because it is a sample survey, estimates derived from the CPS may differ from the actual counts that could be obtained from a complete census. Therefore, small estimates or small differences between estimates should be interpreted with caution. For a more detailed explanation, see the Explanatory Note in *Families at Work: The Jobs and the Pay*, Bulletin 2209 (Bureau of Labor Statistics, 1984), pp. 30–34.

[2] Labor force statistics on mothers of school-age children may partly reflect the fact that they are collected in March when school is in session. However, participation rates based on March data are not substantially higher than those based on information collected in the summer. For example, the June to August 1985 average participation rate for married mothers with school-age children was 65 percent; in March 1985, the rate was 68 percent. Thus, the opening of school does not appear to provide a major incentive for mothers to participate in the labor force.

[3] See News Release, U.S. Department of Labor, Bureau of Labor Statistics, USDL 85–38, "Labor force activity of mothers of young children continues at record pace," table 3.

[4] *Ibid.*, table 1.

[5] For further discussion of black-white male differences in labor force participation see Howard Hayghe, "Married couples: work and income patterns," *Monthly Labor Review*, December 1983, pp. 11 and 12.

[6] Unpublished data, Bureau of Labor Statistics.

[7] *Ibid.*

Foreign Labor Developments

West German labor unrest: are unions losing ground to worker councils?

CHARLES J. HOBSON AND JAMES B. DWORKIN

In the years following World War II, West Germany has emerged as one of the world's strongest industrial powers. Traditionally, the German economy has enjoyed a strong rate of economic growth and high levels of productivity, coupled with low inflation and unemployment.

A great deal of the credit for this "economic miracle" has often been attributed to the cooperative labor relations system in West Germany. Rejecting the adversarial industrial relations framework which has evolved in the United States, the Germans have relied on a cooperative partnership between government, labor unions, and employers to foster a strong shared commitment to economic growth. Labor conflicts have been minimized and days lost to strike activity are among the lowest in the world.

Components of the system

By law, industrial relations in West Germany is practiced within the framework of two separate sub-systems. On the one hand, national legislation has provided for a comprehensive and participatory structure for representing worker interests at the company or plant level, which is specifically referred to as codetermination and uniquely characterizes the German approach. At the industry level, on the other hand, a system of collective bargaining exists which is similar yet reduced in scope to that found in the United States.[1]

The legislated codetermination structure provides for representation of worker interest at three distinct levels: worker councils, labor directors, and worker-elected members on the board of directors. In practice, the German system functions as follows. Worker councils are required in all plants having five employees or more, with the size of the council based upon the number of employees. These councils have rather broad, far-reaching powers, which include an equal say with management in (1) job evaluation, (2) overtime, breaks, and holiday schedules, (3) recruitment, selection, and dismissal, and (4) training and safety. Strikes over these matters are prohibited by law, and disputes are usually resolved through binding arbitration.

The second level of the codetermination structure involves the labor director who, as a member of the company's management team, is in charge of day-to-day operations. As a representative of the interests of the workers, the labor director is responsible for the personnel and social policies and practices of the company.

Finally, the third level of representation in the codetermination structure consists of worker-elected members of the company's board of directors. In many instances, boards are made up of an equal number of worker and stockholder representatives. Boards are charged with electing a chairperson who, in the event of a tie, votes twice. If the board is deadlocked on the choice of a chairperson, a simple majority of the stockholders' representatives is sufficient for election. Thus, while parity board representation is often championed as an important feature of the German system, the provisions for electing a chairperson and breaking ties effectively ensure that stockholders' interests will prevail even when the board as a whole is deadlocked.

The second major component of the German industrial relations framework is the collective bargaining system, which takes place primarily at the state and national or industry-wide level. Labor-management negotiations are concerned exclusively with two issues, wage levels and a rather nebulous area called "general conditions of employment." Only for disputes relating directly to these two negotiable issues can strikes legally be called. While relatively influential at the national level, German unions are by comparison very weak at the plant level. In fact, unions have no legal right to represent workers locally and thus defer power and control over plant issues to worker councils.

In summary, in terms of formal structure, industrial relations in West Germany is conducted in two seemingly separate spheres, with unions playing a far less influential role than they do in the United States. However, in practice, there is substantial overlap and coordination between the codetermination components and the collective bargaining system. For instance, more than 80 percent of all worker council representatives are union members. Therefore, unions tend to play a more important role in the industrial relations framework than is evident on the basis of the formal structure of the system.

Recent developments. The strong economy and relative labor peace experienced in West Germany have been

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Charles J. Hobson is an assistant professor of management at the Division of Business and Economics, Indiana University Northwest, and James B. Dworkin is an associate professor of industrial relations at the Krannert Graduate School of Management, Purdue University.

seriously threatened by the recent worldwide recession. The economy has been confronted with a dramatic decrease in the growth of gross national product, higher inflation, and an unsettling increase in unemployment.

Labor unions were forced to accept minimal wage increases and modest programs to guarantee job security to senior workers. The general conciliatory stance of German labor changed dramatically in the summer of 1984, when I G Metall, the country's largest union with more than 2.5 million members, staged a bitter and protracted 8-week strike in an effort to win a 35-hour workweek with no decrease in pay. The stated union objective was to reduce national unemployment by 1 percentage point to 8 percent of the labor force.

The strike was resolved with a reduction of 1.5 hours in the workweek and no corresponding reduction in pay. However, the long strike had a devastating impact on the German economy. Involving more than 350,000 workers, the strike cost German auto companies more than $75 million per day in lost production and reduced gross national product by an estimated 2 percent. A number of firms laid off other workers in an effort to cut costs and make up for sagging productivity rates. Finally, the union's action generated a great deal of adverse public opinion.

Why had I G Metall broken with past tradition and bargained in an uncharacteristically antagonistic and unyielding manner? Surely, the projected economic costs of the impending strike were known to union leaders prior to their action. Why then did they risk upsetting the fledgling German economic recovery from the recent recession?

A glimpse into the possible dynamics of this scenario can be obtained by addressing the perceptions of German workers as to the relative usefulness and necessity of the union and codetermination components in representing labor interests. A comparison of the perceptions of these institutions could shed light on the secondary position occupied by German unions as they begin to lose their influence among German workers.

Scope of the study

The present study is part of a larger research effort which involved three major components: (1) questionnaire development, (2) questionnaire administration, and (3) questionnaire analysis.[2] The development of the questionnaire was a collaborative, cross-cultural effort involving both the German and American members of the research team. It was designed to collect the following information from German workers: (1) basic biographical data, (2) job satisfaction indices, and (3) attitudinal/perceptual measures concerning the various components or participants in the codetermination system—unions, management, worker councils, labor directors, and worker representatives on corporate boards.

Questionnaire administration was a coordinated effort involving the German labor unions, company managements, worker council representatives, and the German member of the research team. Questionnaires were distributed to five large firms in the automobile and metal industries in the Munich area of West Germany. Responses were entirely voluntary and a total of 135 completed questionnaires were collected, for a response rate of 40 percent.

The questionnaire responses were analyzed from the perspective of implications for German unions in particular and the national labor relations system in general. Specifically, mean responses to the items comprising the union scale were computed and compared with similar items on the three scales representing the codetermination structure—worker councils, labor directors, and worker representatives on corporate boards. In this manner, the psychological perceptions of employees as to the relative usefulness and merits of the various components representing worker interests in the German industrial relations system can be examined.

The findings

The results of this study are summarized in tables 1 and 2. In table 1, the individual items on the four scales measuring worker attitudes towards the union, worker council, supervisory board members, and the labor director are presented. All items were measured on a 1 to 5 scale, from "strongly disagree" to "strongly agree." Item means and standard deviations are also provided in table 1.

The data in table 1 indicate that German workers place relatively little value on the labor director component of

Table 1. Attitudinal measures of German workers toward unions and three codetermination components

Item	Response rating[1]	Standard deviation
Union:		
The union is essential in representing worker interests ...	4.25	1.13
The union is concerned with the worker's welfare	3.91	1.12
The union has done a lot to help workers in this company .	3.91	1.22
I participated often in union activities	2.59	1.49
To better promote worker interests, it would be a good idea to increase the power of the union	3.72	1.39
Worker council:		
Worker councils are essential in representing worker interests	4.47	0.93
Worker councils have done a lot to help workers in this company	4.13	1.08
To better promote worker interests, it would be a good idea to increase the power of worker councils	4.18	1.13
Supervisory board members:		
The worker members on the supervisory board are essential in representing worker interests	4.11	1.09
The worker members on the supervisory board have done a lot to help workers in this company	3.16	1.20
To better promote worker interests, it would be a good idea to increase the power of the worker members on the supervisory board	4.00	1.21
Labor director:		
The labor director is essential in representing worker interests	3.40	1.43
The labor director has done a lot to help workers in this company	2.40	1.95
To better promote worker interests, it would be a good idea to increase the power of the labor director	2.70	1.49

[1] The response format for all items was: "1" = Strongly disagree
"2" = Disagree somewhat
"3" = Neither agree nor disagree
"4" = Agree somewhat
"5" = Strongly agree

Table 2. Means differences and *t*-tests of worker perceptions by issue

Issue[1]	Union mean	Worker councils mean	Degrees of freedom	*t* value	Probability
This institution is essential in representing worker interests	4.25	4.47	133	2.93	p. < 01
This institution has done a lot to help workers in my company	3.91	4.13	129	2.12	p. < 05
To better promote worker interests, it would be a good idea to increase the power of this institution	3.72	4.18	133	4.95	p. < 01

[1] For the exact wording of these issues on the union and worker councils subscales, see table 1. The issues were measured using a 1–5 scale in which:
"1" = Strongly disagree
"2" = Disagree somewhat
"3" = Neither agree nor disagree
"4" = Agree somewhat
"5" = Strongly agree

their industrial relations system. In contrast, a higher positive value is associated with unions, worker councils, and supervisory board members. Interestingly, however, in terms of best representing and promoting worker interests, worker councils are perceived as more valuable and effective than unions.

Table 2 provides a direct comparison of means on three similar issues from the union and worker council scales. Correlated *t*-tests of the differences between these means are also provided, along with the associated degrees of freedom and probability levels. The data indicate that in each of the three cases, the worker council is viewed as significantly more essential and useful than the union.

The results of this study are suggestive of a hypothesis which warrants further investigation—namely, the assertion that German labor unions are responding to an erosion of support among rank and file members by bargaining more aggressively and antagonistically in an effort to justify their existence. From the perspective of German workers surveyed in this study, the worker council emerges as the most important institution representing worker interests, with unions occupying a secondary position.

Ironically, the situation which has developed in Germany is not unlike that which has evolved in the United States over the last few years. During the 1980–82 recessionary period, the trend towards union "givebacks" and concessionary contracts led to increasing disillusionment among union members. This in turn has significantly contributed to an increase in the number of decertification elections and the percentage won by management.

In West Germany, no formal legal procedures exist to certify or decertify a union. However, the right to organize is guaranteed in the constitution, and it is assumed that company management will negotiate with an existing employees' union over the mandatory bargaining issues.

Individual workers are free to join or not join a company union and thus an "open shop" is required throughout the country. In addition, all company workers, including both union and nonunion employees, are covered by the terms of an existing labor contract. Given these conditions and the standard union dues rates of 2 percent of total wages, it is not surprising to find that total union membership in West Germany is declining.

It should be noted that this study is cross-sectional in nature and is further limited by the relatively small sample size of 135. Thus, generalizations based upon the obtained results should be made cautiously. Furthermore, in the notable absence of comparable, scientifically collected historical data,[3] it is not possible to delineate a trend towards growing disillusionment with labor unions in West Germany. Future research should focus on the collection of longitudinal data which would allow for the identification and charting of general trends in worker perceptions and attitudes. ☐

——FOOTNOTES——

[1] For an overview of the German system, see J. Schregle, "Codetermination in the Federal Republic of Germany: A Comparative View," *International Labor Review*, Vol. 117, 1978, pp. 81–98.

[2] For a more complete description of the methodology, see J.B. Dworkin and others, "How German Workers View Their Jobs," *The Columbia Journal of World Business*, Vol. XVIII(2), 1983, pp. 48–54.

[3] B. Wilpert, "Research on Industrial Democracy: The German Case," *Industrial Relations Journal*, June 1975, pp. 53–64.

Major Agreements Expiring Next Month

This list of selected collective bargaining agreements expiring in March is based on information from the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more. Private industry is arranged in order of Standard Industrial Classification.

Employer and location	Private industry	Labor organization[1]	Number of workers
Associated General Contractors, South Florida Chapter (Miami, FL)	Construction	Operating Engineers	1,500
Associated General Contractors, Houston Chapter and Construction Employers' Association of Texas (Texas)	Construction	Iron Workers	2,700
Builders Association of Missouri (Kansas City, MO)	Construction	Laborers	1,300
Associated Building Contractors of Northwestern Ohio (Ohio)	Construction	Carpenters	1,200
Associated General Contractors and others (Houston, TX)	Construction	Bricklayers	1,200
Builders Association of Missouri (Central and Eastern Missouri)	Construction	Laborers	1,200
Associated Contractors of Westchester, Inc. (New York)	Construction	Operating Engineers	1,300
Heavy Constructors Association of the Greater Kansas City Area (Missouri)	Construction	Laborers	3,100
Heavy Constructors Association of the Greater Kansas City Area (Missouri)	Construction	Operating Engineers	1,750
Heavy Contractors Association, Inc. (Omaha, NE)	Construction	Laborers	1,500
Michigan Distribution Contractors Association (Michigan)	Construction	Laborers	2,500
Gulf Coast Contractors and others (Beaumont, TX)	Construction	Plumbers	4,000
Houston Mechanical Contractors Association (Texas)	Construction	Sheet Metal Workers	1,500
Mechanical Contractors Association (Albuquerque, NM)	Construction	Plumbers	1,100
H.J. Heinz Co. (Interstate)	Food products	Food and Commercial Workers	2,800
Dairy Industry Industrial Relations Association (Southern California)	Food products	Teamsters (Ind.)	3,500
Loew's Theatres, Inc., Lorillard division (North Carolina)	Tobacco	Bakery, Confectionery and Tobacco Workers	2,050
Printing Industry of Metropolitan New York, Printers League section (New York)	Printing and publishing	Graphic Communications	3,000
Printing Industry of Metropolitan New York (New York)	Printing and publishing	Graphic Communications	2,000
North American Rayon Corp. (Tennessee)	Chemicals	Textile Workers	1,000
Rockwell International Corp. (Richland, WA)	Chemicals	Hanford Atomic Metal Trades Council	1,650
Exxon Co., USA division Exxon Corp. (Baton Rouge, LA)	Petroleum	Baton Rouge Oil and Chemical Workers (Ind.)	2,000
Owens-Illinois Inc. (Interstate)	Stone, clay, and glass products	Glass, Pottery and Plastics	8,600
Anchor Hocking Corp. (Interstate)	Stone, clay, and glass products	Glass, Pottery and Plastics	3,800
Thatcher Glass Co. (Interstate)	Stone, clay, and glass products	Glass, Pottery and Plastics	4,000
Brockway Glass Co. (Interstate)	Stone, clay, and glass products	Glass, Pottery and Plastics	7,000
Chattanooga Glass Manufacturing Co. (Interstate)	Stone, clay, and glass products	Glass, Pottery and Plastics	1,700
Indian Head Glass Co. (Interstate)	Stone, clay, and glass products	Glass, Pottery and Plastics	3,000
Glass Containers Corp. (Interstate)	Stone, clay, and glass products	Glass, Pottery and Plastics	3,600
American Can Co. (Interstate)	Fabricated metal products	Machinists	1,800
Continental Can Corp. (Interstate)	Fabricated metal products	Machinists	1,800
Wyman-Gordon Co. Inc. (Worcester, MA)	Fabricated metal products	Steelworkers	1,000
Rockwell International Corp., Collins Radio Group (Richardson, TX)	Electrical products	Electrical Workers (IUE)	2,100
Rockwell International Corp., Collins Radio Group (Cedar Rapids, IA)	Electrical products	Electrical Workers (IBEW)	3,600
Rockwell International Corp., Collins Radio Group (Newport Beach, CA)	Electrical products	Electrical Workers (IBEW)	1,400
Magic Chef Inc., Admiral division (Galesburg, IL)	Electrical products	Machinists	1,700
Volkswagen of America, Inc. (Pennsylvania)	Transportation equipment	Auto Workers	3,500
Xerox Corp. (Rochester, NY)	Instruments	Clothing and Textile Workers	3,250
Moving and storage industry of New York (New York, NY)	Trucking	Teamsters (Ind.)	1,100
General Telephone Co. of California (California)	Communications	Communications Workers	21,000
Virginia Electric and Power Co. (Virginia, West Virginia, North Carolina)	Utilities	Electrical Workers (IBEW)	4,600

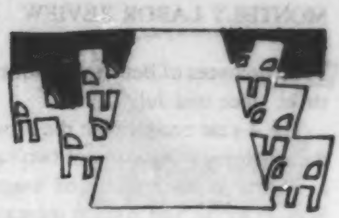
See footnote at end of table.

Continued—Major Agreements Expiring Next Month

Employer and location	Private industry	Labor organization[1]	Number of workers
Cincinnati Gas and Electric Co. (Ohio)	Utilities	Independent Utilities Union (Ind.)	1,200
Southern California Gas Co. (California)	Utilities	Utility Workers	7,100
Retail Joint Council, Philadelphia area (Interstate)	Retail trade	Food and Commercial Workers	1,800
Chain and independent food stores (Minneapolis, MN)	Retail trade	Food and Commercial Workers	7,500
Chain and independent food stores (St. Paul, MN)	Retail trade	Food and Commercial Workers	2,600
Hyatt Hotels (California)	Restaurants	Hotel Employees and Restaurant Employees	1,000
Bronx Realty Advisory Board (New York, NY)	Real estate	Service Employees	3,300
Yosemite Park and Curry Co. (Yosemite, CA)	Hotels	Service Employees	1,200
Greater New York Health Care Facilities Association, Inc. (New York, NY)	Hospitals	Service Employees	15,000
Health Employers Inc., service and maintenance	Hospitals	Service Employees	4,400
Appalachian Regional Hospitals, Inc. (Interstate)	Hospitals	Steelworkers	2,000
	Government activity	**Labor organization[1]**	**Number of workers**
Massachusetts: Commonwealth units 2, 4, 8, 10	Multidepartments	State, County and Municipal Employees, Service Employees	28,000
Wrentham State Mental and Physical Handicap School, professionals	Education	State, County and Municipal Employees	1,950
Michigan: Michigan State University, graduate student teachers	Education	Teachers	1,600
Pennsylvania: Southeastern Pennsylvania Transportation Authority	Transportation	Transport Workers	5,000
Wisconsin: Milwaukee City School District	Education	State, County and Municipal Employees	1,950

[1] Affiliated with AFL–CIO except where noted as independent (Ind.).

Developments in Industrial Relations



General Dynamics workers end 2-month strike

Production of armored vehicles resumed at General Dynamics Corp. plants in three States after members of the United Auto Workers union narrowly approved a 31-month agreement, ending a 2-month strike. The low margin of approval (53.4 to 46.6 percent) was attributed to employee dissatisfaction because the accord did not bring them to wage parity with employees of Chrysler Corp., which had owned the plants until 1982. Reportedly, they will remain about $1.50 an hour behind the Chrysler workers and could fall farther behind because their cost-of-living pay adjustment formula is less liberal than that at Chrysler. According to a union official, the General Dynamics workers averaged about $11.92 an hour under the old contract.

Wage terms included a $2,000 lump-sum payment; a 2.25-percent wage increase effective immediately; a lump-sum payment in June 1986 equal to 2.25 percent of earnings during the previous 12 months; and a 3-percent wage increase in June 1987. Quarterly cost-of-living adjustments will continue, calculated at 1 cent an hour for each 0.3-point movement in the CPI-W (1967=100), compared with 1 cent for each 0.26-point at Chrysler. In another difference, newly hired workers at General Dynamics will receive only the adjustments in the cost-of-living allowance that occur after they start work.

The new hires will continue to start at 60 percent of the standard rate for their job, and then receive 8-percent progression increases every 6 months until they attain the standard rate after 2½ years of service. Previously, new employees received 6.5-percent step increases each 6 months, attaining the standard rate after 3 years.

The agreement, scheduled to expire on June 15, 1988, also provided for a $2.25 increase, to $19.75, in the monthly pension rate for each year of credited service; and for continuation of the health insurance plan without any increases in co-insurance and deductible payments by employees.

Carrier contract features cost-reduction changes

Carrier Corp. of Syracuse, NY, and the Sheet Metal Workers negotiated a number of cuts in labor costs because of the "very competitive market" in the heating, air conditioning, and ventilating industry, according to company vice president Joseph P. Matturro. Although Carrier was operating at a profit prior to the cuts, Local 27 president Richard Burke said the employees accepted the reductions "to save our jobs." At the time, 2,000 members of the local were employed and 800 were on layoff.

Pay, which reportedly averaged about $13 an hour, was cut by $1.88 to $2.88, varying by job classification. The 3-year contract did not provide for any specified wage increases, but the employees will receive a $3,500 lump-sum payment in January 1986. Carrier guaranteed that if any plant shutdowns occur, affected employees will receive a payment equal to the earnings they gave up, less the $3,500.

The cost-of-living provision was revised to provide that quarterly adjustments will be paid only if the CPI rises more than 3 percent, and each adjustment will be limited to 8 cents an hour.

The other cost reduction changes included 6 percent (maximum 85 cents an hour) shift differential pay, instead of the previous 10 percent with no hourly limit; about 125 job classifications, instead of more than 400; 22 company-paid union representatives, instead of 75; a shortened grievance procedure, involving fewer people; authority for the company to operate on a 7-day-a-week schedule, with no premium pay for weekend work and to require employees to work up to 18 Saturdays a year; and a health care cost containment plan including increased deductible payments by employees.

Other terms included a $2 increase (to $19) in the monthly pension rate for each year of credited service; a plan that will give employees 50 percent of cost savings resulting from productivity improvements; an employee savings plan with Carrier matching half of employee contributions of $2 to $10 a week; an $1,800 tutition allowance for retraining laid-off workers with at least 5 years of service; and a $1,100 relocation allowance for laid-off workers with 2 years of service.

Pennsylvania mine workers settle

After 3½ months of difficult negotiations and selective strikes, members of District 25 of the United Mine Workers settled with the Anthracite Coal Operators Association for mines located in Northeastern Pennsylvania. About 1,000 workers were involved. Separate bargaining continued for

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"Developments in Industrial Relations" is prepared by George Ruben of the Division of Developments in Labor-Management Relations, Bureau of Labor Statistics, and is largely based on information from secondary sources.

350 employees of Bethlehem Mines Corp., who had been on strike since mid-July.

The 4-year accord with the Association, which followed the employees' rejection of two earlier offers, provided for a 30-cent-an-hour specified wage increase retroactive to September 20, and 20-cent increases in September of 1986, 1987, 1988, and for a cost-of-living adjustment of up to 5 cents in September 1988. Prior to the settlement, pay rates ranged from $10.10 to $12 an hour. One of the major issues in the talks was resolved when the parties agreed to continue a 7-hour workday (excluding lunch time). The operators had been seeking to add an hour at straight-time pay.

Benefit changes included adoption of a dental plan, with no deductibles; $180 a week sickness and accident pay (formerly, $150); $75,000 major medical coverage (formerly, $50,000); $10,000 life insurance (formerly, $7,500); and $750 pay for the miner's annual 2-week vacation (formerly, $685).

Boston hotel and restaurant workers settle

A scheduled strike by 4,000 employees was averted when the Greater Boston Hotel Association and the Hotel Employees and Restaurant Employees settled on a 3-year contract. Pay, which reportedly averaged $3.10 an hour for tipped employees and $5.10 for nontipped employees, was raised by 6 percent at the beginning of each contract year. Other changes included a 25-percent increase in the hotels' contribution to the health and welfare trust fund to permit continuation of current benefits without an increase in the employee contribution; adoption of legal services and eye care plans; an additional paid holiday; a fourth day of sick leave per year; a $20 a week increase, to $120, in long-term disability benefits; a 2-cent-an-hour increase, to 18 cents, in the employees' contribution to the pension plan; and a revision of the paid vacation schedule to provide 3 weeks after 7 years of service (was 10), 4 weeks after 17 years (was 20), and a fifth week after 25 years.

The agreement also provides for a stronger antidiscrimination policy, changes to assure more promotions from within the bargaining unit, and for employers to hold annual seminars for supervisors and employees on sexual harassment.

The settlement covered the nine hotels comprising the Association but, based on past practice, five other hotels were expected to agree on similar terms.

Textile workers give company 2-year 'loan'

The expected closing of the Nation's largest rayon mill was averted when Local 371T of the Clothing and Textile Workers and Avtex Fibers agreed on a 2-year contract calling for a cut in labor costs. Avtex contended that the cut was necessary to enable it to compete more effectively against lower cost foreign producers. A company official said the concessions by the 1,500 employees make the Front Royal, VA, plant, "very, very competitive in cost."

The 2-year agreement provided for an immediate wage reduction of $1 an hour and reductions in cost-of-living payments and paid vacations. According to the union, the average worker, who earned $8.14 an hour prior to the settlement, will give up about $4,000 over the contract's term. In a departure from the usual practice when pay is cut, the concession is in the form of a loan. Avtex guarantees to repay the money, plus 8 percent interest, within 2 years after the contract expires, even if the plant is sold or closed.

At the time of the settlement, the plant was operating at about 70 percent of capacity. At its peak, in the 1940's and early 1950's, the plant employed more than 4,500 people.

Earlier in 1985, Avtex had closed a rayon plant in Meadville, PA, that had 600 employees. The company maintained that the plant was modern and efficient but that "imports absolutely chewed us up."

Philadelphia newspaper strike ends

In Philadelphia, a 6½-week strike by 4,500 workers against the *Daily News* and *Inquirer* newspapers ended when the last of nine unions ratified their 4-year agreements. The major issues in the dispute were the size of the economic package and management's desire to introduce automated machines for inserting extra sections into the paper, replacing the hand insertion process performed by mailers.

The accord provides for economic improvements averaging $150 a week over the term, with the allocation between wages and benefits varying by union. Prior to the settlement, weekly pay rates for experienced employees were $671 for reporters, $510 for press operators, $494 for mailers, $470 for delivery drivers, and $283 for messengers.

On the automation issue, management and the Mailers union agreed to study the staffing needs of the new equipment for 17 months while it is being installed. Management will then submit a staffing plan. If the union is not satisfied with the plan, it can force the issue into binding arbitration.

Employees accept pay cut for company stock

Financial difficulties continued at some trucking companies, as 85 percent of the 11,000 employees of Ryder/PIE Nationwide Inc. agreed to a 15-percent pay cut to last for 5 years. In exchange for the cut, which is expected to save the company about $255 million, the workers will receive shares of company stock that could rise to 49 percent of the total shares if all employees decide to participate. Before making the offer to the individual workers the company discussed it with the Teamsters and other unions that represent the employees. □

Book Reviews

Bringing East and West together

Partners in Prosperity. By Julian Gresser. New York, McGraw-Hill Book Co., 1984. 379 pp. $15.95.

In this book, Julian Gresser, an attorney with experience in Japan and the United States, attempts to do several things. He argues that the United States needs an industrial policy, because future economic growth will depend extensively on the development of strategic industries. He suggests that industrial policy played an instrumental role in Japanese growth during the period of rapid expansion, and that it provides a model for U.S. policy. He proposes a "trigger" method, based on his own consulting work, for the identification of strategic industries and their cooperative encouragement by public and private authorities. Although he sees the Japanese and U.S. relationship caught up in a zero-sum mentality, he believes it should be converted to one of cooperation—hence the book's title.

The key to understanding the book is found in the author's views on national industrial policy. Gresser believes that the key to economic growth is not found in mundane areas of increased capital and labor resources. Rather, he believes that it lies in technological innovations which give rise to leading or strategic industries, which in turn become the engines of future growth. In his opinion, this is the essential explanation for Japan's rapid growth in the postwar years. Yet, he argues, industrial policies designed to do for the United States what the Ministry of International Trade and Industry did for Japan cannot be expected to work because of bureaucracy and a failure to develop the cooperation of the essential parties. What is needed is an approach derived from the trigger method.

The trigger method identifies strategic industries in terms of their boundaries in time and space. They are industries with high rates of growth in exports, employment, and product gains. They have substantial commitments to research, capital investment, and innovation, and can be expected to have sharply increasing economies of scale. They significantly affect in a positive way the output levels of other industries, for example, English coal in the early days of the Industrial Revolution. The trigger method also forms the basis for planning without planning, essentially a process of negotiating with the various interested parties an investment strategy for new strategic sectors.

Two chapters deal with issues of Japanese-American conflict and the possibility for cooperation. The United States is described as having a policy of cooperation and equality at high national levels and a much less generous approach when it comes to specific issues. The author reasons that Japanese policy is based on a refusal to view the needs of others as genuine, and on a mercantilist approach to gaining power. The attitudes of the two countries, he believes, lead to a zero-sum game whose results can only be unfortunate for both countries. Because the author believes that cooperation will result in greater growth and wealth for both countries, he suggests ways that this result might be achieved.

How should the book be evaluated? There are three central questions. Are strategic industries the key to growth? Can one identify and nurture the new ones along? Would joint nurturing by Japan and the United States be a wise policy?

My difficulty with the emphasis on strategic industries and the trigger method is that these concepts seem to be more effective in looking backward than forward. The automobile industry is listed as a strategic industry. But when did it become one? Was it in the mid-19th century or not until the 20th century? Clearly later, but when? At that time, would there have been agreement that automobiles had achieved the status of a strategic industry? Even the Japanese Ministry of International Trade and Industry did not recognize automobiles as a strategic industry. Although the Ministry of International Trade and Industry played an important role in Japanese growth, the author, along with others, gives too much credit to the Ministry. In addition, he does not adequately count the costs of errors by the Ministry. (See Kozo Yamamura, ed., *Policy and Trade of the Japanese Economy: American and Japanese Perspectives.)*

Chapter 9 on "planning without planning," in which the emphasis is on trying to bring competing industries with potential for conflict together to find a basis for cooperation, contains an interesting discussion and can be recommended independently of the book as a whole. Similarly, the chapter in which cooperation rather than conflict is proposed for future Japanese and American relations can be commended both for its spirit and for some of its ideas.

On balance, the book contains many interesting facts on specific industries and practices. The interpretation of events seems too much patterned by the idea of a lawyer's brief which tries to make a case, while too little attention is given to alternative and competing explanations. The range of facts is interesting, though at times there is a jumbled quality about them. For example, two pages contain major paragraphs discussing microprocessor designs, the ratio of debt to equity in the financing of Japanese corporations, and the role of city banks in the Japanese banking system.

This book is recommended to those interested in the economic relationship between Japan and the United States. Undue reliance, however, should not be placed on its explanations and interpretations of events. Lastly, there are some useful suggestions for the development of U.S. economic policy, though the central message in favor of a form of planning based on strategic industries leaves me unconvinced.

—ROBERT EVANS, JR.
Atran Professor of Economics
Brandeis University

A mix of encyclopedia and commentary

The Population of the United States: Historical Trends and Future Projections. By Donald J. Bogue. New York, The Free Press, 1985. 728 pp. $70.

This is a well written but expensive reference book on the population of the United States. Donald J. Bogue provides historical perspective, covering the U.S. population over the past two centuries, but he concentrates his analyses on the past two decades, with particular emphasis on the early 1980's. He also discusses future populations trends.

The book is divided into five sections: (1) an overview of the U.S. population; (2) dynamics of population change, such as marital status and migration; (3) social characteristics, for example, ethnicity and educational attainment; (4) economic characteristics, for example, labor force participation, income, occupation, and industry; and (5) special topics, specifically, chapters on poverty, housing, religion, politics, and the population of Puerto Rico. Each chapter of the volume includes a bibliography, and, where appropriate, definitions of terms and technical appendices.

Bogue notes in his preface that work of this type "should select the most cogent information from all available sources, summarize it in easy-to-use statistical tables, and provide a comprehensive exposition of the fundamental details." Overall, Bogue's volume does that. However, there are some inaccuracies in the book. Following are a few examples:

In the chapter on internal and international migration, Bogue states, "World War II caused many millions of people to be 'transferred' from one nation to another. For example, millions of Jews fled from Germany before the war . . ." (p. 356). In fact, there were 550,000 Jews in Germany in the years prior to World War II. (About one-third were later killed by the Nazis.)

There are some discrepancies between the text and the tabulations. For example, the figures do *not* show that the proportion of families in Puerto Rico headed by a female householder with no husband present is nearly identical to that of the U.S. white population (p. 699); that the labor force participation rates of Cuban men and women in the United States are about average for all men and women (p. 493); or that married women with no children have slightly higher labor force participation rates than mothers with children under age 6 (p. 499). (Actually, some of these statements reflect the situation in earlier years.)

It is disappointing that this beautifully produced volume is marred by such inaccuracies.

—ELLEN SEHGAL
Office of Employment and
Unemployment Statistics
Bureau of Labor Statistics

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A note on communications

The *Monthly Labor Review* welcomes communications that supplement, challenge, or expand on research published in its pages. To be considered for publication, communications should be factual and analytical, not polemical in tone. Communications should be addressed to the Editor-in-Chief, *Monthly Labor Review*, Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C. 20212.

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Schedule of release dates for BLS statistical series

Series	Release date	Period covered	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	February 7	January	March 7	February	April 4	March	1; 4-21
Producer Price Index	February 14	January	March 14	February	April 11	March	2; 33-35
Consumer Price Index	February 25	January	March 25	February	April 22	March	2; 30-32
Real earnings	February 25	January	March 25	February	April 22	March	14-17
Productivity and costs:							
Nonfinancial corporations	February 27	4th qtr.	....	....	....	....	2; 42-44
Nonfarm business and manufacturing	....	....	....	....	April 24	1st qtr.	2; 42-44
Major collective bargaining settlements	....	......	....	....	April 25	1st qtr.	3; 25-28
Employment Cost Index	....	......	....	....	April 29	1st qtr.	1-3; 22-24

NOTES ON CURRENT LABOR STATISTICS

This section of the Review presents the principal statistical series collected and calculated by the Bureau of Labor Statistics: series on labor force, employment, unemployment, collective bargaining settlements, consumer, producer, and international prices, productivity, international comparisons, and injury and illness statistics. In the notes that follow, the data in each group of tables is briefly described, key definitions are given, notes on the data are set forth, and sources of additional information are cited.

General notes

The following notes apply to several tables in this section:

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect on the data of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might prevent short-term evaluation of the statistical series. Tables containing data that have been adjusted are identified as "seasonally adjusted." (All other data are not seasonally adjusted.) Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. (Seasonally adjusted data appear in tables 1–3, 4–10, 13, 14, and 18.) Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are being seasonally adjusted with a new procedure called X–11/ARIMA, which was developed at Statistics Canada as an extension of the standard X–11 method previously used by BLS. A detailed description of the procedure appears in *The X–11 ARIMA Seasonal Adjustment Method* by Estla Bee Dagum (Statistics Canada, Catalogue No. 12–564E, January 1983). The second change is that seasonal factors are now being calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year for the July-December period. However, revisions of historical data continue to be made only at the end of each calendar year.

Seasonally adjusted labor force data in tables 1 and 4–10 were revised in the February 1986 issue of the *Review* to reflect experience through 1985.

Annual revisions of the seasonally adjusted payroll data shown in tables 13, 14, and 18 were made in July 1985 using the X–11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in table 42 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the Hourly Earnings Index in table 17—are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is $2 ($3/150 × 100 = $2). The $2 (or any other resulting values) are described as "real," "constant," or "1967" dollars.

Additional information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule preceding these general notes. More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in *Employment and Earnings*, a monthly publication of the Bureau. More data from the household survey is published in the two-volume data book—*Labor Force Statistics Derived From the Current Population Survey*, Bulletin 2096. More data from the establishment survey appear in two data books—*Employment, Hours, and Earnings, United States*, and *Employment, Hours, and Earnings, States and Areas*, and the annual supplements to these data books. More detailed information on employee compensation and collective bargaining settlements is published in the monthly periodical, *Current Wage Developments*. More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report*, and *Producer Prices and Price Indexes*. Detailed data on all of the series in this section are provided in the *Handbook of Labor Statistics*, which is published biennally by the Bureau. BLS bulletins are issued covering productivity, injury and illness, and other data in this section. Finally, the *Monthly Labor Review* carries analytical articles on annual and longer term developments in labor force, employment and unemployment; employee compensation and collective bargaining; prices; productivity; international comparisons; and injury and illness data.

Symbols

p = preliminary. To increase the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally, this revision reflects the availability of later data but may also reflect other adjustments.
n.e.c. = not elsewhere classified.
n.e.s. = not elsewhere specified.

COMPARATIVE INDICATORS

(Tables 1–3)

Comparative indicators tables provide an overview and comparison of major BLS statistical series. Consequently, although many of the included series are available monthly, all measures in these comparative tables are presented quarterly and annually.

Labor market indicators include employment measures from two major surveys and information on rates of change in compensation provided by the Employment Cost Index (ECI) program. The labor force participation rate, the employment-to-population ratio, and unemployment rates for major demographic groups based on the Current Population ("household") Survey are presented, while measures of employment and average weekly hours by major industry sector are given using nonagricultural payroll data. The Employment Cost Index (compensation), by major sector and by bargaining status, is chosen from a variety of BLS compensation and wage measures because it provides a comprehensive measure of employer costs for hiring labor, not just outlays for wages, and it is not affected by employment shifts among occupations and industries.

Data on **changes in compensation, prices, and productivity** are presented in table 2. Measures of rates of change of compensation and wages

from the Employment Cost Index program are provided for all civilian nonfarm workers (excluding Federal and household workers) and for all private nonfarm workers. Measures of changes in consumer prices for all urban consumers; producer prices by stage of processing; and the overall export and import price indexes are given. Measures of productivity (output per hour of all persons) are provided for major sectors.

Alternative measures of wage and compensation rates of change, which reflect the overall trend in labor costs, are summarized in table 3. Differences in concepts and scope, related to the specific purposes of the series, contribute to the variation in changes among the individual measures.

Notes on the data

Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data. For detailed descriptions of each data series, see BLS *Handbook of Methods*, Volumes I and II, Bulletins 2134-1 and 2134-2 (Bureau of Labor Statistics, 1982 and 1984, respectively), as well as the additional bulletins, articles, and other publications noted in the separate sections of the *Review*'s "Current Labor Statistics Notes." Historical data for many series are provided in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). Users may also wish to consult *Major Programs, Bureau of Labor Statistics*, Report 718 (Bureau of Labor Statistics, 1985).

EMPLOYMENT DATA

(Tables 1; 4–21)

Household Survey Data

Description of the series

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 59,500 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons include (1) all civilians who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. Members of the Armed Forces stationed in the United States are also included in the employed total. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **overall unemployment rate** represents the number unemployed as a percent of the labor force, including the resident Armed Forces. The **civilian unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **labor force** consists of all employed or unemployed civilians plus members of the Armed Forces stationed in the United States. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons who are retired, those engaged in their own housework, those not working while attending school, those unable to work because of long-term illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy, and members of the Armed Forces stationed in the United States. The **labor force participation rate** is the proportion of the noninstitutional populaton that is in the labor force. The **employment-population ratio** is total employment (including the resident Armed Forces) as a percent of the noninstitutional population.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 4–10 are seasonally adjusted, based on the seasonal experience through December 1985.

Additional sources of information

For detailed explanations of the data, see BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982) and for additional data, *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). A detailed description of the Current Population Survey as well as additional data are available in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*. Historical data from 1948 to 1982 are available in *Labor Force Statistics Derived from the Current Population Survey: A Databook*, Vols. I and II, Bulletin 2096 (Bureau of Labor Statistics, 1982).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

Establishment Survey Data

Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by more than 200,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

An **establishment** is an economic unit which produces goods or services (such as a factory or store) at a single location and is engaged in one type of economic activity.

Employed persons are all persons who received pay (including holiday

and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 12-16 include production workers in manufacturing and mining; construction workers in construction; and for nonsupervisory workers in the following industries: transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for about four-fifths of the total employment on private nonagricutural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earner and Clerical Workers (CPI-W). The **Hourly Earning Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

The Diffusion Index, introduced in table 17 of the May 1983 issue, represents the percent of 185 nonagricultural industries in which employment was rising over the indicated period. One-half of the industries with unchanged employment are counted as rising. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. The diffusion index is useful for measuring the dispersion of economic gains or losses and is also an economic indicator.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of May 1985 data, published in the July 1985 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Unadjusted data have been revised back to April 1983; seasonally adjusted data have been revised back to January 1980. These revisions were published in the *Supplement to Employment and Earnings* (Bureau of Labor Statistics, 1985). Unadjusted data from April 1984 forward, and seasonally adjusted data from January 1981 forward are subject to revision in future benchmarks.

Additional sources of information

Detailed data from the establishment survey are published monthly in the BLS periodical, *Employment and Earnings*. Earlier comparable unadjusted and seasonally adjusted data are published in *Employment, Hours, and Earnings, United States, 1909–84*, Bulletin 1312–12 and its annual supplement (Bureau of Labor Statistics, 1985). For a detailed discussion of the methodology of the survey, see *BLS Handbook of Methods*, Bulletin 2143–1 (Bureau of Labor Statistics, 1982). For additional data, see *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

Unemployment Data By State

Description of the series

Data presented in this section are obtained from two major sources—the Current Population Survey (CPS) and the Local Area Unemployment Statistics (LAUS) program, which is conducted in cooperation with State employment security agencies.

Monthly estimates of the labor force, employment, and unemployment for States and sub-State areas are a key indicator of local economic conditions and form the basis for determining the eligibility of an area for benefits under Federal economic assistance programs such as the Job Training Partnership Act and the Public Works and Economic Development Act. Insofar as possible, the concepts and definitions underlying these data are those used in the national estimates obtained from the CPS.

Notes on the data

Data refer to State of residence. Monthly data for 11 States—California, Florida, Illinois, Massachusetts, Michigan, New York, New Jersey, North Carolina, Ohio, Pennsylvania, and Texas—are obtained directly from the CPS because the size of the sample is large enough to meet BLS standards of reliability. Data for the remaining 39 States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates for the 11 States are revised to new population controls. For the remaining States and the District of Columbia, data are benchmarked to annual average CPS levels.

Additional sources of information

Information on the concepts, definitions, and technical procedures used to develop labor force data for States and sub-State areas as well as additional data on sub-States are provided in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*, and the annual report, *Geographic Profile of Employment and Unemployment* (Bureau of Labor Statistics). See also *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982).

COMPENSATION AND WAGE DATA

(Tables 22–29)

COMPENSATION AND WAGE DATA are gathered by the Bureau from business establishments, State and local governments, labor unions, collective bargaining agreements on file with the Bureau, and secondary sources.

Employment Cost Index

Description of the series

The **Employment Cost Index** (ECI) is a quarterly measure of the rate of change in compensation per hour worked and includes wages, salaries, and employer costs of employee benefits. It uses a fixed market basket of labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over time in employer costs of employing labor. The index is not seasonally adjusted.

Statistical series on total compensation costs and on wages and salaries are available for private nonfarm workers excluding proprietors, the self-employed, and household workers. Both series are also available for State and local government workers and for the civilian nonfarm economy, which consists of private industry and State and local government workers combined. Federal workers are excluded.

The Employment Cost Index probability sample consists of about 2,200 private nonfarm establishments providing about 12,000 occupational observations and 700 State and local government establishments providing

3,500 occupational observations selected to represent total employment in each sector. On average, each reporting unit provides wage and compensation information on five well-specified occupations. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Fixed employment weights from the 1970 Census of Population are used each quarter to calculate the indexes for civilian, private, and State and local governments. These fixed weights, also used to derive all of the industry and occupation series indexes, ensure that changes in these indexes reflect only changes in compensation, not employment shifts among industries or occupations with different levels of wages and compensation. For the bargaining status, region, and metropolitan/nonmetropolitan area series, however, employment data by industry and occupation are not available from the census. Instead, the 1970 employment weights are reallocated within these series each quarter based on the current sample. Therefore, these indexes are not strictly comparable to those for the aggregate, industry, and occupation series.

Definitions

Total compensation costs include wages, salaries, and the employer costs for employee benefits.

Wages and salaries consist of earnings before payroll deductions, including production bonuses, incentive earnings, commissions, and cost-of-living adjustments.

Benefits include the cost to employers for paid leave, supplemental pay (including nonproduction bonuses), insurance, retirement and savings plans, and legally required benefits (such as social security, workers' compensation, and unemployment insurance).

Excluded from wages and salaries and employee benefits are such items as payment-in-kind, free room and board, and tips.

Notes on the data

The Employment Cost Index data series began in the fourth quarter of 1975, with the quarterly percent change in wages and salaries in the private nonfarm sector. Data on employer costs for employee benefits were included in 1980 to produce, when combined with the wages and salaries series, a measure of the percent change in employer costs for employee total compensation. State and local government units were added to the ECI coverage in 1981, providing a measure of total compensation change in the *civilian* nonfarm economy (excluding Federal employees). Historical indexes (June 1981=100) of the quarterly rates of change are presented in the May issue of the BLS monthly periodical, *Current Wage Developments*.

Additional sources of information

For a more detailed discussion of the Employment Cost Index, see Chapter 11, "The Employment Cost Index," in the *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), and the following *Monthly Labor Review* articles: "Employment Cost Index: a measure of change in the 'price of labor'," July 1975; "How benefits will be incorporated into the Employment Cost Index," January 1978; "Estimation procedures for the Employment Cost Index," May 1982; and "Introducing new weights for the Employment Cost Index," June 1985.

Data on the ECI are also available in BLS quarterly press releases issued in the month following the reference months of March, June, September, and December; and from the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

Collective bargaining settlements

Description of the series

Collective bargaining settlements data provide statistical measures of negotiated adjustments (increases, decreases, and freezes) in compensation (wages and benefits costs) and wages alone, quarterly for private industry and semiannually for State and local government. Compensation measures cover all collective bargaining situations involving 5,000 workers or more and wage measures cover all situations involving 1,000 workers or more. These data, covering private nonagricultural industries and State and local governments, are calculated using information obtained from bargaining agreements on file with the Bureau, parties to the agreements, and secondary sources, such as newspaper accounts. The data are not seasonally adjusted.

Settlement data are measured in terms of future specified adjustments: those that will occur within 12 months after contract ratification—first year—and all adjustments that will occur over the life of the contract expressed as an average annual rate. Adjustments are worker weighted. Both first-year and over-the-life measures exclude wage changes that may occur under cost-of-living clauses that are triggered by future movements in the Consumer Price Index.

Effective wage adjustments measure all adjustments occurring in the reference period, regardless of the settlement date. Included are changes from settlements reached during the period, changes deferred from contracts negotiated in earlier periods, and changes under cost-of-living adjustment clauses. Each wage change is worker weighted. The changes are prorated over all workers under agreements during the reference period yielding the average adjustment.

Definitions

Wage rate changes are calculated by dividing newly negotiated wages by the average hourly earnings, excluding overtime, at the time the agreement is reached. Compensation changes are calculated by dividing the change in the value of the newly negotiated wage and benefit package by existing average hourly compensation, which includes the cost of previously negotiated benefits, legally required social insurance programs, and average hourly earnings.

Compensation changes are calculated by placing a value on the benefit portion of the settlements at the time they are reached. The cost estimates are based on the assumption that conditions existing at the time of settlement (for example, methods of financing pensions or composition of labor force) will remain constant. The data, therefore, are measures of negotiated changes and not of total changes in employer cost.

Contract duration runs from the effective date of the agreement to the expiration date or first wage reopening date, if applicable. Average annual percent changes over the contract term take account of the compounding of successive changes.

Notes on the data

Care should be exercised in comparing the size and nature of the settlements in State and local government with those in the private sector because of differences in bargaining practices and settlement characteristics. A principal difference is the incidence of cost-of-living adjustment (COLA) clauses which cover only about 2 percent of workers under a few local government settlements but cover 50 percent of workers under private sector settlements. Agreements without COLA's tend to provide larger specified wage increases than those with COLA's. Another difference is that State and local government bargaining frequently excludes pension benefits which are often prescribed by law. In the private sector, in contrast, pensions are typically a bargaining issue.

Additional sources of information

For a more detailed discussion on the series, see chapter 10, "Negotiated Wage and Benefit Changes," of the BLS *Handbook of Methods*, Bulletin 2134–1. Comprehensive data are published in press releases issued quarterly (in January, April, July, and October) for private industry, and semi-

annually (in February and August) for State and local government. Historical data and additional detailed tabulations for the prior calendar year appear in the April issue of the BLS monthly periodical, *Current Wage Developments*.

Work stoppages

Description of the series

Data on work stoppages measure the number and duration of major strikes or lockouts (involving 1,000 workers or more) occurring during the month (or year), the number of workers involved, and the amount of time lost because of stoppage.

Data are largely from newspaper accounts and cover only establishments directly involved in a stoppage. They do not measure the indirect or secondary effect of stoppages on other establishments whose employees are idle owing to material shortages or lack of service.

Definitions

Number of stoppages: The number of strikes and lockouts involving 1,000 workers or more and lasting a full shift or longer.

Workers involved: The number of workers directly involved in the stoppage.

Number of days idle: The aggregate number of work days lost by workers involved in the stoppages.

Days of idleness as a percent of estimated working time: Aggregate work days lost as a percent of the aggregate number of standard work days in the period multiplied by total employment in the period.

Notes on the data

This series is not comparable with the one terminated in 1981 that covered strikes involving six workers or more.

Additional sources of information

Data for each calendar year are reported in a BLS press release issued in the first quarter of the following year. Monthly data appear in the BLS monthly periodical, *Current Wage Developments*. Historical data appear in the BLS *Handbook of Labor Statistics*.

Other compensation data

Other BLS data on pay and benefits, not included in the Current Labor Statistics section of the *Monthly Labor Review*, appear in and consist of the following:

Industry Wage Surveys provide data for specific occupations selected to represent an industry's wage structure and the types of activities performed by its workers. The Bureau collects information on weekly work schedules, shift operations and pay differentials, paid holiday and vacation practices, and information on incidence of health, insurance, and retirement plans. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Monthly Labor Review*.

Area Wage Surveys annually provide data for selected office, clerical, professional, technical, maintenance, toolroom, powerplant, material movement, and custodial occupations common to a wide variety of industries in the areas (labor markets) surveyed. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Review*.

The National Survey of Professional, Administrative, Technical, and Clerical Pay provides detailed information annually on salary levels and distributions for the types of jobs mentioned in the survey's title in private employment. Although the definitions of the jobs surveyed reflect the duties and responsibilities in private industry, they are designed to match specific pay grades of Federal white-collar employees under the General Schedule pay system. Accordingly, this survey provides the legally required information for comparing the pay of salaried employees in the Federal civil service with pay in private industry. (See Federal Pay Comparability Act of 1970, 5 U.S.C. 5305.) Data are published in a BLS news release issued in the summer and in a bulletin each fall; summaries and analytical articles also appear in the *Review*.

Employee Benefits Survey provides nationwide information on the incidence and characteristics of employee benefit plans in medium and large establishments in the United States, excluding Alaska and Hawaii. Data are published in an annual BLS news release and bulletin, as well as in special articles appearing in the *Review*.

PRICE DATA

(Tables 30–41)

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Consumer Price Indexes

Description of the series

The Consumer Price Index (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI-W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all urban consumer index (CPI-U) introduced in 1978 is representative of the 1972–73 buying habits of about 80 percent of the noninstitutional population of the United States at that time, compared with 40 percent represented in the CPI-W. In addition to wage earners and clerical workers, the CPI-U covers professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items is kept essentially unchanged between major revisions so that only price changes will be measured. All taxes directly associated with the purchase and use of items are included in the index.

Data collected from more than 24,000 retail establishments and 24,000 tenants in 85 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 28 major urban centers are presented in table 31. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

Notes on the data

In January 1983, the Bureau changed the way in which homeownership costs are measured for the CPI-U. A rental equivalence method replaced the

asset-price approach to homeownership costs for that series. In January 1985, the same change was made in the CPI-W. The central purpose of the change was to separate shelter costs from the investment component of homeownership so that the index would reflect only the cost of shelter services provided by owner-occupied homes.

Additional sources of information

For a discussion of the general method for computing the CPI, see BLS *Handbook of Methods, Volume II, The Consumer Price Index*, Bulletin 2134–2 (Bureau of Labor Statistics, April 1984). The recent change in the measurement of homeownership costs is discussed in Robert Gillingham and Walter Lane, "Changing the treatment of shelter costs for homeowners in the CPI," *Monthly Labor Review*, June 1982, pp. 9–14.

Additional detailed CPI data and regular analyses of consumer price changes are provided in the *CPI Detailed Report*, a monthly publication of the Bureau. Historical data for the overall CPI and for selected groupings may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, June 1985).

Producer Price Indexes

Description of the series

Producer Price Indexes (PPI) measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 60,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The stage of processing structure of Producer Price Indexes organizes products by class of buyer and degree of fabrication (that is, finished goods, intermediate goods, and crude materials). The traditional commodity structure of PPI organizes products by similarity of end-use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

Since January 1976, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

Notes on the data

Beginning with the January 1986 issue, the *Review* is no longer presenting tables of Producer Price Indexes for commodity groupings, special composite groups, or SIC industries. However, these data will continue to be presented in the Bureau's monthly publication *Producer Price Indexes*. Series on the net output of major mining and manufacturing industry groups will appear in the *Review* starting with data for July 1986.

The Bureau has completed the first major stage of its comprehensive overhaul of the theory, methods, and procedures used to construct the Producer Price Indexes. Changes include the replacement of judgment sampling with probability sampling techniques; expansion to systematic coverage of the net output of virtually all industries in the mining and manufacturing sectors; a shift from a commodity to an industry orientation; the exclusion of imports from, and the inclusion of exports in, the survey universe; and the respecification of commodities priced to conform to Bureau of the Census definitions. These and other changes have been phased in gradually since 1978. The result is a system of indexes that is easier to use in conjunction with data on wages, productivity, and employment and other series that are organized in terms of the Standard Industrial Classification and the Census product class designations.

Additional sources of information

For a discussion of the methodology for computing Producer Price Indexes, see BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 7.

Additional detailed data and analyses of price changes are provided monthly in *Producer Price Indexes*. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, June 1985).

International Price Indexes

Description of the series

The BLS **International Price Program** produces quarterly export and import price indexes for nonmilitary goods traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national income accounts: it includes corporations, businesses, and individuals but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents. With publication of an all-import index in February 1983 and an all-export index in February 1984, all U.S. merchandise imports and exports now are represented in these indexes. The reference period for the indexes is 1977 = 100, unless otherwise indicated.

The product universe for both the import and export indexes includes raw materials, agricultural products, semifinished manufactures, and finished manufactures, including both capital and consumer goods. Price data for these items are collected quarterly by mail questionnaire. In nearly all cases, the data are collected directly from the exporter or importer, although in a few cases, prices are obtained from other sources.

To the extent possible, the data gathered refer to prices at the U.S. border for exports and at either the foreign border or the U.S. border for imports. For nearly all products, the prices refer to transactions completed during the first 2 weeks of the third month of each calendar quarter—March, June, September, and December. Survey respondents are asked to indicate all discounts, allowances, and rebates applicable to the reported prices, so that the price used in the calculation of the indexes is the actual price for which the product was bought or sold.

In addition to general indexes of prices for U.S. exports and imports, indexes are also published for detailed product categories of exports and imports. These categories are defined by the 4- and 5-digit level of detail of the Standard Industrial Trade Classification System (SITC). The calculation of indexes by SITC category facilitates the comparison of U.S. price trends and sector production with similar data for other countries. Detailed indexes are also computed and published on a Standard Industrial Classification (SIC-based) basis, as well as by end-use class.

Notes on the data

The export and import price indexes are weighted indexes of the Laspeyeres type. Price relatives are assigned equal importance within each weight category and are then aggregated to the SITC level. The values assigned to each weight category are based on trade value figures compiled

by the Bureau of the Census. The trade weights currently used to compute both indexes relate to 1980.

Because a price index depends on the same items being priced from period to period, it is necessary to recognize when a product's specifications or terms of transaction have been modified. For this reason, the Bureau's quarterly questionnaire requests detailed descriptions of the physical and functional characteristics of the products being priced, as well as information on the number of units bought or sold, discounts, credit terms, packaging, class of buyer or seller, and so forth. When there are changes in either the specifications or terms of transaction of a product, the dollar value of each change is deleted from the total price change to obtain the "pure" change. Once this value is determined, a linking procedure is employed which allows for the continued repricing of the item.

For the export price indexes, the preferred pricing basis is f.a.s. (free alongside ship) U.S. port of exportation. When firms report export prices f.o.b. (free on board), production point information is collected which enables the Bureau to calculate a shipment cost to the port of exportation.

An attempt is made to collect two prices for imports. The first is the import price f.o.b. at the foreign port of exportation, which is consistent with the basis for valuation of imports in the national accounts. The second is the import price c.i.f. (cost, insurance, and freight) at the U.S. port of importation, which also includes the other costs associated with bringing the product to the U.S. border. It does not, however, include duty charges.

Additional sources of information

For a discussion of the general method of computing International Price Indexes, see BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 8.

Additional detailed data and analyses of international price developments are presented in the Bureau's quarterly publication *U.S. Import and Export Price Indexes* and in occasional *Monthly Labor Review* articles prepared by BLS analysts. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, June 1985).

PRODUCTIVITY DATA
(Tables 42–47)

U. S. productivity and related data

Description of the series

The productivity measures relate real physical output to real input. As such they encompass a family of measures which include single factor input measures, such as output per unit of labor input (output per hour) or output per unit of capital input, as well as measures of multifactor productivity (output per unit of labor and capital inputs combined). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

Corresponding indexes of hourly compensation, unit labor costs, unit nonlabor payments, and prices are also provided.

Definitions

Output per hour of all persons (labor productivity) is the value of goods and services in constant prices produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the value of goods and services in constant dollars produced per unit of capital services input.

Multifactor productivity is the ratio output per unit of labor and capital inputs combined. Changes in this measure reflect changes in a number of factors which affect the production process such as changes in technology, shifts in the composition of the labor force, changes in capacity utilization, research and development, skill and efforts of the work force, management, and so forth. Changes in the output per hour measures reflect the impact of these factors as well as the substitution of capital for labor.

Compensation per hour is the wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, and the wages, salaries, and supplementary payments for the self-employed (except for nonfinancial corporations in which there are no self-employed)—the sum divided by hours paid for. **Real compensation per hour** is compensation per hour deflated by the change in the Consumer Price Index for All Urban Consumers.

Unit labor costs is the labor compensation costs expended in the production of a unit of output and is derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from current dollar value of output and dividing by output. **Unit nonlabor costs** contain all the components of unit nonlabor payments *except* unit profits.

Unit profits include corporate profits and the value of inventory adjustments per unit of output.

Hours of all persons are the total hours paid of payroll workers, self-employed persons, and unpaid family workers.

Capital services is the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories—weighted by rental prices for each type of asset.

Labor and capital inputs combined are derived by combining changes in labor and capital inputs with weights which represent each component's share of total output. The indexes for capital services and combined units of labor and capital are based on changing weights which are averages of the shares in the current and preceding year (the Tornquist index-number formula).

Notes on the data

Output measures for the business sector and the nonfarm business sector exclude the constant dollar value of owner-occupied housing, rest of world, households and institutions, and general government output from the constant dollar value of gross national product. The measures are derived from data supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are developed from data of the Bureau of Labor Statistics and the Bureau of Economic Analysis.

The productivity and associated cost measures in tables 42–44 describe the relationship between output in real terms and the labor time and capital services involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input. Although these measures relate output to hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; capital investment; level of output; utilization of capacity, energy, and materials; the organization of production; managerial skill; and the characteristics and efforts of the work force.

Additional sources of information

Descriptions of methodology underlying the measurement of output per hour and multifactor productivity are found in the *BLS Handbook of Methods*, Bulletin 2134, Vol. 1, Chapter 13 (Bureau of Labor Statistics, 1982). Historical data for selected industries are provided in the Bureau's *Handbook of Labor Statistics*, Bulletin 2217, 1985.

International comparisons

Description of the series

Comparative measures of labor force, employment, and unemployment (tables 45 and 46) are prepared regularly for the United States, Canada, Australia, Japan, France, Germany, Great Britain, Italy, the Netherlands, and Sweden. Unemployment rates, approximating U.S. concepts, are prepared monthly for most of the countries; the other measures, annually.

The Bureau of Labor Statistics also prepares international comparisons of manufacturing labor productivity and labor costs (table 47) that cover the United States and 11 foreign countries—those listed above plus Belgium and Norway. These measures are limited to trend comparisons; that is, intercountry series of changes over time, rather than level comparisons because reliable international comparisons of the levels of manufacturing are unavailable. The U.S. measures are described in the notes on U.S. productivity measurement; the measures for foreign countries are compiled from various national and international data sources.

Definitions

Output measures are constant value output (value added) from the national accounts of each country, except for those for Japan prior to 1970 and for the Netherlands for 1969 forward, which are indexes of industrial production. The national accounting methods for measuring real output differ considerably among the 12 countries, but the use of different procedures does not, in itself, connote lack of comparability—rather, it reflects differences among countries in the availability and reliability of underlying data series.

Hours and compensation measures refer to all employed persons including the self-employed in the United States and Canada, and to all wage and salary employees in the other countries. *Hours* refer to hours *paid* in the United States, hours *worked* in the other countries. *Compensation (labor costs)* includes not only all payments made directly to employees and employer expenditures for social insurance and private benefit plans, but changes in significant employment or payroll taxes that are not compensation to employees but are labor costs to employers (France, Sweden, and the United Kingdom). Self-employed workers are included in the U.S. and Canadian figures by assuming that their hourly compensation is equal to the average for wage and salary employees.

Notes on the data

The data for the foreign countries in tables 45 and 46 have been adjusted, where necessary, for greater comparability with U.S. definitions of employment and unemployment. The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country. Therefore, the adjusted statistics relate to the civilian population age 16 and over in the United States, France, and Sweden, and from 1973 onward, Great Britain; 15 and over in Canada, Australia, Japan, Germany, and the Netherlands; and 14 and over in Italy. Prior to 1973, the data for Great Britain related to persons age 15 and over. The institutional population is included in the denominator of the labor force participation rates and employment-population rates for Japan and Germany.

For most of the countries in table 47, the measures refer to total manufacturing as defined by the International Standard Industrial Classification. However, the measures for France (beginning 1959), Italy (beginning 1970), and the United Kingdom (beginning 1976) refer to manufacturing and mining less energy-related products. For all countries, manufacturing includes the activities of government enterprises.

In addition, for all countries, preliminary estimates for recent years are generally based on current indicators of manufacturing output, employment and hours, and hourly compensation until national accounts and other statistics used for the long-term measures become available.

Additional sources of information

For further information, see *International Comparisons of Unemployment*, Bulletin 1979 (Bureau of Labor Statistics, 1978), Appendix B and Supplements to Appendix B. Additional detail is also found in the BLS *Handbook of Methods*, Bulletin 2134, Vol. 1, Chapter 16. Additional international comparison statistics are available in the *Handbook of Labor Statistics* (BLS Bulletin 2217, 1985). The most recent statistics are presented and analyzed annually in the *Monthly Labor Review*, typically in the December issue (for the previous year) and in February.

OCCUPATIONAL INJURY AND ILLNESS DATA

(Table 48)

Description of the series

The Annual Survey of Occupational Injuries and Illnesses is designed to collect data on injuries and illnesses based on records which employers in the following industries maintain under the Occupational Safety and Health Act of 1970: agriculture, forestry, and fishing; oil and gas extraction; construction; manufacturing; transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. Excluded from the survey are self-employed individuals, farmers with fewer than 11 employees, employers regulated by other Federal safety and health laws, and Federal, State, and local government agencies.

Because the survey is a Federal-State cooperative program and the data must meet the needs of participating State agencies, an independent sample is selected for each State. The sample is selected to represent all private industries in the States and territories. The sample size for the survey is dependent upon (1) the characteristics for which estimates are needed; (2) the industries for which estimates are desired; (3) the characteristics of the population being sampled; (4) the target reliability of the estimates; and (5) the survey design employed.

While there are many characteristics upon which the sample design could be based, the total recorded case incidence rate is used because it is one of the most important characteristics and the least variable; therefore, it requires the smallest sample size.

The survey is based on stratified random sampling with a Neyman allocation and a ratio estimator. The characteristics used to stratify the establishments are the Standard Industrial Classification (SIC) code and size of employment.

Definitions

Recordable occupational injuries and illnesses are: (1) occupational deaths, regardless of the time between injury and death, or the length of the illness; or (2) nonfatal occupational illnesses; or (3) nonfatal occupational injuries which involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment (other than first aid).

Occupational injury is any injury such as a cut, fracture, sprain, amputation, etc., which results from a work accident or from exposure involving a single incident in the work environment.

Occupational illness is an abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. It includes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion, or direct contact.

Lost workday cases are cases which involve days away from work, or days of restricted work activity, or both.

Lost workday cases involving restricted work activity are those cases which result in restricted work activity only.

Lost workdays away from work are the number of workdays (consecutive or not) on which the employee would have worked but could not

because of occupational injury or illness.

Lost workdays—restricted work activity are the number of workdays (consecutive or not) on which, because of injury or illness: (1) the employee was assigned to another job on a temporary basis; or (2) the employee worked at a permanent job less than full time; or (3) the employee worked at a permanently assigned job but could not perform all duties normally connected with it.

The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked even though able to work.

Incidence rates represent the number of injuries and/or illnesses or lost workdays per 100 full-time workers.

Notes on the data

Estimates are made for industries and employment-size classes and for severity classification: fatalities, lost workday cases, and nonfatal cases without lost workdays. Lost workday cases are separated into those where the employee would have worked but could not and those in which work activity was restricted. Estimates of the number of cases and the number of days lost are made for both categories.

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses, or lost workdays, per 100 full-time employees. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Only a few of the available measures are included in the *Handbook of Labor Statistics*. Full detail is presented in the annual bulletin, *Occupational Injuries and Illnesses in the United States, by Industry*.

Comparable data for individual States are available from the BLS Office of Occupational Safety and Health Statistics.

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration, respectively. Data from these organizations are included in BLS and State publications. Federal employee experience is compiled and published by the Occupational Safety and Health Administration. Data on State and local government employees are collected by about half of the States and territories; these data are not compiled nationally.

Additional sources of information

The Supplementary Data System provides detailed information describing various factors associated with work-related injuries and illnesses. These data are obtained from information reported by *employers* to State workers' compensation agencies. The Work Injury Report program examines selected types of accidents through an employee survey which focuses on the circumstances surrounding the injury. These data are not included in the *Handbook of Labor Statistics* but are available from the BLS Office of Occupational Safety and Health Statistics.

The definitions of occupational injuries and illnesses and lost workdays are from *Recordkeeping Requirements under the Occupational Safety and Health Act of 1970*. For additional data, see *Occupational Injuries and Illnesses in the United States, by Industry*, annual Bureau of Labor Statistics bulletin; BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), ch. 17; *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985), pp. 411–14; annual reports in the *Monthly Labor Review*; and annual U.S. Department of Labor press releases.

1. Labor market indicators

Selected indicators	1983	1984	1983	1984				1985		
			IV	I	II	III	IV	I	II	III
Employment data										
Employment status of the civilian noninstitutionalized population (household survey)[1]										
Labor Force participation rate	64.0	64.4	64.1	64.1	64.5	64.4	64.5	64.8	64.7	64.
Employment-population ratio	–	–	–	–	–	–	–	–	–	–
Unemployment rate	9.6	7.5	8.5	7.9	7.5	7.4	7.2	7.3	7.3	7.
Men	9.9	7.4	8.7	7.9	7.4	7.3	7.1	7.1	7.1	7.
16 to 24 years	18.4	14.4	16.6	15.5	14.8	14.7	15.1	13.9	14.3	13.
25 years and over	7.8	5.7	6.6	6.1	5.7	5.5	5.4	5.4	5.4	5.
Women	9.2	7.6	8.3	7.9	7.6	7.6	7.3	7.6	7.5	7.
16 to 24 years	15.6	13.3	16.4	13.6	13.8	14.0	14.0	13.2	13.0	13.
25 years and over	7.2	6.0	6.4	6.1	5.9	6.0	5.8	6.0	6.0	5.
Unemployment rate, 15 weeks and over	3.8	2.4	3.1	2.7	2.5	2.3	2.1	2.0	2.0	2.
Employment, nonagricultural (payroll data):[1]										
Total	90,196	94,461	91,804	93,036	94,013	94,919	95,849	96,640	97,338	97,9
Private sector	74,330	78,477	75,832	77,153	78,082	78,888	79,746	80,522	81,143	81,5
Goods-producing	23,334	24,730	23,938	24,402	24,680	24,861	24,973	25,077	25,056	24,9
Manufacturing	18,434	19,412	18,885	19,182	19,394	19,509	19,584	19,564	19,430	19,33
Service-producing	66,862	69,731	67,866	68,633	69,333	70,058	70,876	71,563	72,283	72,9
Average hours										
Private sector	35.0	35.3	35.2	35.3	35.3	35.5	35.2	35.1	35.1	35.1
Manufacturing	40.1	40.7	40.8	40.9	40.8	40.5	40.5	40.4	40.3	40.
Overtime	3.0	3.4	3.3	3.5	3.5	3.3	3.4	3.3	3.2	3.
Employment Cost Index										
Percent change in the ECI, compensation:[2]										
All workers (excluding farm, household, and Federal workers)	–	–	1.1	1.7	.8	1.3	1.2	1.5	.7	1.6
Private industry workers	–	–	1.2	1.7	.8	.8	1.3	1.2	.8	1.3
Goods-producing[3]	–	–	.9	1.6	.9	.9	1.1	1.5	.7	.8
Servicing-producing[3]	–	–	1.5	1.9	1.0	.7	1.4	1.3	1.0	1.8
State and local government workers	–	–	1.0	1.6	.4	3.5	1.0	1.2	.2	3.4
Workers by bargaining status (private industry)										
Union	–	–	.8	1.5	.9	.7	1.1	.7	.8	.8
Nonunion	–	–	1.5	1.6	1.0	.8	1.3	1.6	1.0	1.4

[1] Quarterly data seasonally adjusted.

[2] Annual changes are December-to-December change. Quarterly changes calculated using the last month of each quarter.

[3] Goods-producing industries include mining, construction, and manufacturing. Service-producing industries include all other private sector industries.

– Data not available.

Note: Quarterly household employment data have been revised to reflect the seasonal

perience through December 1985.

2. Annual and quarterly percent changes in compensation, prices, and productivity

Selected measures	1983	1984	1983	1984				1985		
			IV	I	II	III	IV	I	II	III
Compensation data [1], [2]										
Employment Cost Index-Compensation (wages, salaries, benefits)										
Civilian nonfarm	–	–	1.1	1.7	0.8	1.3	1.2	1.3	0.7	1.6
Private nonfarm	–	–	1.2	1.7	.9	.8	1.3	1.2	.8	1.3
Employment Cost Index-Wages and Salaries										
Civilian nonfarm	–	–	1.0	1.2	.8	1.3	1.2	1.2	.9	1.7
Private nonfarm	–	–	1.1	1.2	.9	.8	1.2	1.2	1.1	1.3
Price data [1]										
Consumer Price Index (All urban consumers): All items	298.4	311.1	[illegible]	305.2	306.6	307.3	308.8	316.1	317.4	318.8
Producer Price Index										
Finished goods	285.2	291.1	[illegible]	289.5	290.6	291.4	291.2	292.1	292.6	292.1
Finished consumer goods	284.6	290.3	[illegible]	288.9	290.1	291.1	290.3	290.8	290.7	290.1
Capital equipment	287.2	294.0	[illegible]	291.6	292.3	292.3	294.5	297.4	299.2	299.3
Intermediate materials, supplies, components	312.3	320.0	[illegible]	316.3	317.6	319.7	320.3	319.5	318.7	318.6
Crude materials	[illegible]	[illegible]	[illegible]	264.0	260.5	266.9	260.7	250.7	250.0	242.9
U.S. Export Price Index	–	–	–	100.0	101.9	102.5	105.2	108.1	107.7	105.8
U.S. Import Price Index	–	–	86.7	86.4	86.7	86.2	84.0	82.1	82.0	80.3
Productivity data										
Output per hour of all persons:										
Business Sector	2.7	3.2	3.1	3.5	3.3	2.7	3.2	1.1	.3	1.1
Nonfarm business sector	3.6	2.7	3.6	3.5	2.9	2.1	2.4	.8	–.2	.8
Nonfinancial corporations [3]	3.3	2.3	3.6	4.0	2.9	.9	1.6	–	–.7	1.0

[1] Annual changes are December-to-December change. Quarterly changes are calculated using the last month of each quarter.

[2] Excludes Federal and private household workers.

[3] Output per hour of all employees.

– Data not available.

3. Alternative measures of wage and compensation changes

Components	Quarterly average–						Four quarters ended in–					
	1984			1985			1984			1985		
	II	III	IV	I	II	III	II	III	IV	I	II	III
Average hourly compensation:[1]												
All persons, business sector	–	–	–	–	–	–	–	–	–	–	–	–
All employees, nonfarm business sector	–	–	–	–	–	–	–	–	–	–	–	–
Hourly earnings index:[2]												
All private nonfarm	–	–	–	–	–	–	–	–	–	–	–	–
Employment Cost Index-compensation:												
Civilian nonfarm [3]	0.8	1.2	1.2	1.3	0.7	1.6	5.5	5.1	5.2	4.8	4.6	4.9
Private nonfarm	.8	.8	1.3	1.2	.8	1.3	5.4	4.8	4.9	4.4	4.2	4.7
Union	.9	.7	1.1	.7	.8	.8	4.9	4.1	4.3	3.5	3.1	3.2
Nonunion	1.0	.9	1.3	1.6	1.0	1.4	5.7	5.2	5.2	4.9	4.9	5.4
State and local governments	.4	2.5	1.0	1.2	.2	3.4	6.2	6.6	6.6	6.3	6.1	6.0
Employment cost index-wages and salaries:												
Civilian nonfarm[3]	.8	1.2	1.2	1.2	.9	1.7	4.8	4.3	4.5	4.4	4.5	5.0
Private nonfarm	.9	.8	1.2	1.2	1.1	1.3	4.7	4.1	4.1	4.1	4.3	4.8
Union	.8	.7	.9	.7	1.1	.9	4.2	3.3	3.4	3.0	3.4	3.6
Nonunion	.8	.8	1.3	1.4	1.1	1.5	5.0	4.5	4.5	4.6	4.8	5.4
State and local governments	.3	3.4	.8	1.0	.2	3.5	5.4	5.8	5.9	5.6	5.5	5.6
Total effective wage adjustments[4]	.9	1.2	.7	.8	.8	1.2	4.3	4.2	3.7	3.6	3.5	3.5
From current settlements	.1	.2	.3	.1	.2	.2	1.0	1.0	.8	.7	.9	.9
From prior settlements	.7	.7	.2	.6	.5	.6	2.2	2.1	2.0	2.2	1.9	1.8
From cost-of-living provision	.2	.3	.2	.1	.1	.4	1.1	1.2	.9	.7	.7	.8
Negotiated wage adjustments from settlements[4]												
First-year adjustments	2.6	2.1	2.3	3.3	2.5	2.0	3.5	3.2	2.4	2.4	2.4	2.4
Annual rate over life of contract	2.7	2.6	1.8	3.2	2.8	3.1	3.1	2.8	2.4	2.3	2.4	2.5
Negotiated wage and benefit adjustments from settlements[5]												
First-year adjustment	3.5	2.7	3.7	3.6	3.5	2.0	4.7	4.2	3.6	3.4	3.5	3.1
Annual rate over life of contract	3.2	3.1	2.8	2.7	3.4	3.0	3.5	3.2	2.8	2.6	2.7	2.7

[1] Seasonally adjusted.

[2] Production or nonsupervisory workers.

[3] Excludes Federal and household workers.

[4] Limited to major collective bargaining units of 1,000 or more workers. The most recent data are preliminary.

[5] Limited to major collective bargaining units of 5,000 or more workers. The most recent data are preliminary.

– Data not available.

4. Employment status of the total population, by sex, monthly data seasonally adjusted

(Number in thousands)

Employment status	Annual average		1984	1985											
	1984	1985	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
TOTAL															
Noninstitutional population [1], [2]	178,080	179,912	179,004	179,081	179,219	179,368	179,501	179,649	179,798	179,967	180,131	180,304	180,470	180,642	180,816
Labor force[2]	115,241	117,167	116,202	116,451	116,685	117,036	116,958	117,044	116,726	116,976	117,069	117,522	117,814	117,832	117,927
Participation rate [3]	64.7	65.1	64.9	65.0	65.1	65.2	65.2	65.2	64.9	65.0	65.0	65.2	65.3	65.2	65.2
Total employed [2]	106,702	108,856	107,946	108,012	108,290	108,652	108,574	108,644	108,303	108,575	108,936	109,251	109,513	109,671	109,904
Employment-population ratio [4]	59.9	60.5	60.3	60.3	60.4	60.6	60.5	60.5	60.2	60.3	60.5	60.6	60.7	60.7	60.8
Resident Armed Forces [1]	1,697	1,706	1,698	1,697	1,703	1,701	1,702	1,705	1,702	1,704	1,726	1,732	1,700	1,702	1,698
Civilian employed	105,005	107,150	106,248	106,315	106,587	106,951	106,872	106,939	106,601	106,871	107,210	107,519	107,813	107,969	108,206
Agriculture	3,321	3,179	3,387	3,319	3,325	3,314	3,353	3,284	3,140	3,120	3,095	3,017	3,058	3,070	3,151
Nonagricultural industries	101,685	103,971	102,861	102,996	103,262	103,637	103,519	103,655	103,461	103,751	104,115	104,502	104,755	104,899	105,055
Unemployed	8,539	8,312	8,256	8,439	8,395	8,384	8,384	8,400	8,423	8,401	8,133	8,271	8,301	8,161	8,023
Unemployment rate [5]	7.4	7.1	7.1	7.2	7.2	7.2	7.2	7.2	7.2	7.2	6.9	7.0	7.0	6.9	6.8
Not in labor force	62,839	62,744	62,802	62,630	62,534	62,332	62,543	62,605	63,072	62,991	63,062	62,782	62,656	62,810	62,889
Men, 16 years and over															
Noninstitutional population [1], [2]	85,156	86,025	85,607	85,629	85,692	85,764	85,827	85,898	85,970	86,052	86,132	86,217	86,293	86,374	86,455
Labor force[2]	65,386	65,967	65,821	65,737	65,782	65,898	65,929	66,012	65,808	65,884	65,945	66,074	66,227	66,176	66,139
Participation rate [3]	76.8	76.7	76.9	76.8	76.8	76.8	76.8	76.8	76.5	76.6	76.6	76.6	76.7	76.6	76.5
Total employed [2]	60,642	61,447	61,238	61,163	61,207	61,381	61,373	61,498	61,175	61,273	61,510	61,629	61,656	61,731	61,793
Employment-population ratio [4]	71.2	71.4	71.5	71.4	71.4	71.6	71.5	71.6	71.2	71.2	71.4	71.5	71.4	71.5	71.5
Resident Armed Forces [1]	1,551	1,556	1,550	1,549	1,554	1,553	1,553	1,556	1,552	1,554	1,574	1,580	1,551	1,552	1,549
Civilian employed	59,091	59,891	59,688	59,614	59,653	59,828	59,820	59,942	59,623	59,719	59,936	60,049	60,105	60,179	60,244
Unemployed	4,744	4,521	4,583	4,574	4,575	4,517	4,556	4,514	4,633	4,611	4,435	4,445	4,571	4,445	4,346
Unemployment rate [5]	7.3	6.9	7.0	7.0	7.0	6.9	6.9	6.8	7.0	7.0	6.7	6.7	6.9	6.7	6.6
Women, 16 years and over															
Noninstitutional population [1], [2]	92,924	93,886	93,397	93,452	93,527	93,603	93,674	93,751	93,828	93,915	93,999	94,087	94,177	94,268	94,361
Labor force[2]	49,855	51,200	50,381	50,714	50,903	51,138	51,029	51,032	50,918	51,092	51,124	51,448	51,587	51,655	51,788
Participation rate [3]	53.7	54.5	53.9	54.3	54.4	54.6	54.5	54.4	54.3	54.4	54.4	54.7	54.8	54.8	54.9
Total employed[2]	46,061	47,409	46,708	46,849	47,083	47,271	47,201	47,146	47,128	47,302	47,426	47,622	47,857	47,939	48,111
Employment-population ratio [4]	49.6	50.5	50.0	50.1	50.3	50.5	50.4	50.3	50.2	50.4	50.5	50.6	50.8	50.9	51.0
Resident Armed Forces [1]	146	150	148	148	149	148	149	149	150	150	152	152	149	149	149
Civilian employed	45,915	47,259	46,560	46,701	46,934	47,123	47,052	46,997	46,978	47,152	47,274	47,470	47,708	47,790	47,962
Unemployed	3,794	3,791	3,673	3,865	3,820	3,867	3,828	3,886	3,790	3,790	3,698	3,826	3,730	3,716	3,677
Unemployment rate [5]	7.6	7.4	7.3	7.6	7.5	7.6	7.5	7.6	7.4	7.4	7.2	7.4	7.2	7.2	7.1

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[1] The population and Armed Forces figures are not adjusted for seasonal variation.

[2] Includes members of the Armed Forces stationed in the United States.

[3] Labor force as a percent of the noninstitutional population.

[4] Total employed as a percent of the noninstitutional population.

[5] Unemployment as a percent of the labor force (including the resident Armed Forces).

NOTE: Monthly data have been revised based on the seasonal experience through December 1985.

5. Employment status of the civilian population, by sex, age, race and Hispanic origin, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1984	1985											
	1984	1985	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
TOTAL															
Civilian noninstitutional population[1]	176,383	178,206	177,306	177,384	177,516	177,667	177,799	177,944	178,096	178,263	178,405	178,572	178,770	178,940	179,112
Civilian labor force	113,544	115,461	114,504	114,754	114,982	115,335	115,256	115,339	115,024	115,272	115,343	115,790	116,114	116,130	116,229
Participation rate	64.4	64.8	64.6	64.7	64.8	64.9	64.8	64.8	64.6	64.7	64.7	64.8	65.0	64.9	64.9
Employed	105,005	107,150	106,248	106,315	106,587	106,951	106,872	106,939	106,601	106,871	107,210	107,519	107,813	107,969	108,206
Employment-population ratio[2]	59.5	60.1	59.9	59.9	60.0	60.2	60.1	60.1	59.9	60.0	60.1	60.2	60.3	60.3	60.4
Unemployed	8,539	8,312	8,256	8,439	8,395	8,384	8,384	8,400	8,423	8,401	8,133	8,271	8,301	8,161	8,023
Unemployment rate	7.5	7.2	7.2	7.4	7.3	7.3	7.3	7.3	7.3	7.3	7.1	7.1	7.1	7.0	6.9
Not in labor force	62,839	62,744	62,802	62,630	62,534	62,332	62,543	62,605	63,072	62,991	63,062	62,782	62,656	62,810	62,883
Men, 20 years and over															
Civilian noninstitutional population[1]	76,219	77,195	76,753	76,760	76,829	76,904	76,988	77,068	77,135	77,243	77,306	77,389	77,499	77,566	77,651
Civilian labor force	59,701	60,277	60,106	59,997	60,037	60,154	60,165	60,240	60,246	60,158	60,269	60,407	60,526	60,553	60,548
Participation rate	78.3	78.1	78.3	78.2	78.1	78.2	78.1	78.2	78.1	77.9	78.0	78.1	78.1	78.1	78.0
Employed	55,769	56,562	56,331	56,231	56,274	56,411	56,390	56,544	56,384	56,403	56,636	56,751	56,849	56,897	56,982
Employment-population ratio[2]	73.2	73.3	73.4	73.3	73.2	73.4	73.2	73.4	73.1	73.0	73.3	73.3	73.4	73.4	73.4
Agriculture	2,418	2,278	2,486	2,409	2,368	2,329	2,358	2,362	2,260	2,230	2,231	2,171	2,188	2,210	2,278
Nonagricultural industries	53,351	54,284	53,845	53,822	53,906	54,082	54,032	54,182	54,124	54,173	54,405	54,580	54,661	54,687	54,704
Unemployed	3,932	3,715	3,775	3,766	3,763	3,743	3,775	3,696	3,862	3,755	3,633	3,656	3,677	3,656	3,566
Unemployment rate	6.6	6.2	6.3	6.3	6.3	6.2	6.3	6.1	6.4	6.2	6.0	6.1	6.1	6.0	5.9
Women, 20 years and over															
Civilian noninstitutional population[1]	85,429	86,506	85,995	86,015	86,096	86,181	86,274	86,380	86,477	86,575	86,652	86,727	86,810	86,901	86,999
Civilian labor force	45,900	47,283	46,477	46,753	46,853	47,095	47,103	47,082	47,185	47,190	47,340	47,558	47,663	47,713	47,870
Participation rate	53.7	54.7	54.0	54.4	54.4	54.6	54.6	54.5	54.6	54.5	54.6	54.8	54.9	54.9	55.0
Employed	42,793	44,154	43,475	43,593	43,713	43,927	43,925	43,883	44,033	44,070	44,197	44,363	44,609	44,656	44,882
Employment-population ratio[2]	50.1	51.0	50.6	50.7	50.8	51.0	50.9	50.8	50.9	50.9	51.0	51.2	51.4	51.4	51.6
Agriculture	595	596	580	593	606	630	633	600	572	596	581	557	609	591	587
Nonagricultural industries	42,198	43,558	42,895	43,000	43,107	43,297	43,292	43,283	43,461	43,474	43,616	43,806	44,000	44,065	44,295
Unemployed	3,107	3,129	3,002	3,160	3,140	3,168	3,178	3,199	3,152	3,120	3,143	3,195	3,054	3,057	2,988
Unemployment rate	6.8	6.6	6.5	6.8	6.7	6.7	6.7	6.8	6.7	6.6	6.6	6.7	6.4	6.4	6.2
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	14,735	14,506	14,557	14,610	14,600	14,582	14,536	14,498	14,483	14,445	14,448	14,456	14,463	14,472	14,474
Civilian labor force	7,943	7,901	7,921	8,004	8,092	8,086	7,988	8,017	7,593	7,924	7,734	7,825	7,925	7,864	7,811
Participation rate	53.9	54.5	54.4	54.8	55.4	55.5	54.9	55.3	52.4	54.9	53.5	54.1	54.8	54.3	54.0
Employed	6,444	6,434	6,442	6,491	6,600	6,613	6,557	6,512	6,184	6,398	6,377	6,405	6,355	6,416	6,342
Employment-population ratio[2]	43.7	44.4	44.3	44.4	45.2	45.4	45.1	44.9	42.7	44.3	44.1	44.3	43.9	44.3	43.8
Agriculture	309	305	311	317	351	355	362	332	308	294	283	289	261	269	276
Nonagricultural industries	6,135	6,129	6,131	6,174	6,249	6,258	6,195	6,180	5,876	6,104	6,094	6,116	6,094	6,147	6,066
Unemployed	1,499	1,468	1,479	1,513	1,492	1,473	1,431	1,505	1,409	1,526	1,357	1,420	1,570	1,448	1,469
Unemployment rate	18.9	18.6	18.7	18.9	18.4	18.2	17.9	18.8	18.6	19.3	17.5	18.1	19.8	18.4	18.8
White															
Civilian noninstitutional population[1]	152,347	153,679	152,734	153,103	153,191	153,296	153,369	153,489	153,597	153,717	153,819	153,938	154,082	154,203	154,327
Civilian labor force	98,492	99,926	99,044	99,358	99,612	99,862	99,718	99,771	99,527	99,705	99,817	100,179	100,533	100,478	100,533
Participation rate	64.6	65.0	64.8	64.9	65.0	65.1	65.0	65.0	64.8	64.9	64.9	65.1	65.2	65.2	65.1
Employed	92,120	93,736	92,871	93,040	93,414	93,617	93,470	93,574	93,132	93,378	93,684	94,055	94,369	94,507	94,585
Employment-population ratio[2]	60.5	61.0	60.8	60.8	61.0	61.1	60.9	61.0	60.6	60.7	60.9	61.1	61.2	61.3	61.3
Unemployed	6,372	6,191	6,173	6,318	6,198	6,245	6,248	6,197	6,395	6,327	6,133	6,124	6,164	5,971	5,948
Unemployment rate	6.5	6.2	6.2	6.4	6.2	6.3	6.3	6.2	6.4	6.3	6.1	6.1	6.1	5.9	5.9
Black															
Civilian noninstitutional population[1]	19,348	19,664	19,513	19,518	19,542	19,569	19,594	19,620	19,646	19,675	19,700	19,726	19,761	19,790	19,819
Civilian labor force	12,033	12,364	12,268	12,305	12,299	12,294	12,364	12,372	12,317	12,354	12,289	12,376	12,412	12,457	12,522
Participation rate	62.2	62.9	62.9	63.0	62.9	62.8	63.1	63.1	62.7	62.8	62.4	62.7	62.8	62.9	63.2
Employed	10,119	10,501	10,410	10,451	10,333	10,422	10,489	10,466	10,538	10,499	10,560	10,500	10,566	10,518	10,657
Employment-population ratio[2]	52.3	53.4	53.3	53.5	52.9	53.3	53.5	53.3	53.6	53.4	53.6	53.2	53.5	53.1	53.8
Unemployed	1,914	1,864	1,858	1,854	1,966	1,872	1,875	1,906	1,779	1,855	1,729	1,876	1,846	1,939	1,865
Unemployment rate	15.9	15.1	15.1	15.1	16.0	15.2	15.2	15.4	14.4	15.0	14.1	15.2	14.9	15.6	14.9

See footnotes at end of table.

5. Continued— Employment status of the civilian population, by sex, age, race, and Hispanic origin, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1984	1985											
	1984	1985	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Hispanic origin															
Civilian noninstitutional population[1]	11,184	11,528	11,232	11,363	11,394	11,425	11,457	11,488	11,514	11,544	11,573	11,601	11,630	11,660	[illegible]
Civilian labor force	7,247	7,448	7,467	7,289	7,355	7,380	7,380	7,371	7,417	7,462	7,529	7,584	7,589	7,519	[illegible]
Participation rate	64.8	64.6	65.9	64.1	64.6	64.6	64.2	64.2	64.4	64.8	65.1	65.4	65.3	64.5	[illegible]
Employed	6,468	6,664	6,693	6,519	6,620	6,621	6,594	6,586	6,630	6,644	6,748	6,794	6,745	6,719	[illegible]
Employment-population ratio[2]	57.9	57.8	58.1	57.4	58.1	58.0	57.6	57.3	57.6	57.6	58.3	58.6	58.0	57.6	[illegible]
Unemployed	779	785	774	770	735	759	786	785	787	818	781	790	844	800	[illegible]
Unemployment rate	10.7	10.5	10.4	10.6	10.0	10.3	10.4	10.6	10.6	11.0	10.4	10.4	11.1	10.6	[illegible]

[1] The population figures are not seasonally adjusted.

[2] Civilian employment as a percent of the civilian noninstitutional population.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" groups are not presented and Hispanics are inclu in both the white and black population groups. Monthly data have been revised bas on the seasonal experience through December 1985.

6. Selected employment indicators, monthly data seasonally adjusted

(In thousands)

Selected categories	Annual average		1984	1985											
	1984	1985	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
CHARACTERISTICS															
Civilian employed, 16 years and over	105,005	107,150	106,246	106,315	106,587	106,951	106,672	106,509	106,601	106,871	107,210	107,519	107,813	107,969	108,226
Men	59,091	59,891	59,666	59,614	59,653	59,828	59,620	59,642	59,623	59,719	59,936	60,049	60,105	60,179	60,244
Women	45,915	47,259	46,580	46,701	46,934	47,123	47,052	46,867	46,978	47,152	47,274	47,470	47,708	47,790	47,982
Married men, spouse present	39,056	39,248	39,300	39,402	39,324	39,467	39,362	39,260	38,986	39,086	39,148	39,103	39,272	39,314	39,270
Married women, spouse present	25,636	26,336	26,047	25,970	26,079	26,163	26,087	26,036	26,174	26,316	26,362	26,531	26,702	26,721	26,884
Women who maintain families	5,465	5,587	5,408	5,567	5,585	5,600	5,603	5,626	5,642	5,607	5,627	5,599	5,514	5,606	5,669
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,585	1,535	1,600	1,509	1,587	1,589	1,663	1,662	1,530	1,479	1,488	1,436	1,488	1,537	1,572
Self-employed workers	1,553	1,458	1,474	1,523	1,508	1,502	1,460	1,498	1,451	1,474	1,444	1,414	1,436	1,361	1,409
Unpaid family workers	213	185	223	222	229	220	219	199	158	170	176	179	172	158	164
Nonagricultural industries:															
Wage and salary workers	93,565	95,871	94,740	95,098	95,236	95,606	95,493	95,660	95,391	95,822	95,791	96,546	96,530	96,676	96,921
Government	15,770	16,031	15,858	15,820	15,957	15,969	15,955	15,936	16,030	15,948	16,075	16,145	16,213	16,157	16,194
Private industries	77,794	79,841	78,882	79,278	79,279	79,637	79,538	79,724	79,361	79,874	79,716	80,401	80,317	80,519	80,727
Private households	1,238	1,249	1,266	1,376	1,299	1,225	1,218	1,255	1,228	1,251	1,295	1,265	1,271	1,197	1,131
Other	76,556	78,592	77,616	77,902	77,980	78,412	78,320	78,469	78,133	78,623	78,421	79,136	79,046	79,322	79,596
Self-employed workers	7,785	7,811	7,789	7,753	7,694	7,784	7,717	7,711	7,728	7,734	7,874	7,848	7,891	8,013	7,903
Unpaid family workers	335	289	340	326	336	321	305	290	282	277	303	288	248	249	250
PERSONS AT WORK PART TIME[1]															
All industries:															
Part time for economic reasons	5,744	5,590	5,790	5,656	5,396	5,682	5,680	5,679	5,544	5,599	5,660	5,564	5,475	5,466	5,494
Slack work	2,430	2,430	2,599	2,473	2,344	2,586	2,587	2,607	2,524	2,414	2,460	2,433	2,251	2,306	2,300
Could only find part-time work	2,948	2,819	2,851	2,830	2,817	2,703	2,767	2,871	2,751	2,766	2,895	2,915	2,867	2,880	2,864
Voluntary part time	13,169	13,489	13,393	13,343	13,524	13,517	13,398	13,078	13,438	13,604	13,522	13,488	13,713	13,845	13,506
Nonagricultural industries:															
Part time for economic reasons	5,512	5,334	5,611	5,362	5,068	5,421	5,402	5,590	5,279	5,339	5,413	5,289	5,241	5,285	5,294
Slack work	2,291	2,273	2,469	2,330	2,073	2,387	2,380	2,416	2,394	2,251	2,319	2,282	2,116	2,198	2,195
Could only find part-time work	2,986	2,730	2,707	2,735	2,732	2,670	2,870	2,785	2,675	2,686	2,740	2,730	2,801	2,704	2,760
Voluntary part time	12,704	13,059	12,861	12,866	13,087	13,016	12,989	12,812	12,995	13,259	13,179	13,089	13,277	13,194	13,122

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

Note: Monthly data have been revised based on the seasonal experience through December 1985.

7. Selected unemployment indicators, monthly data seasonally adjusted

(Unemployment rates)

Selected categories	Annual average		1984	1985											
	1984	1985	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
CHARACTERISTIC															
Total, all civilian workers	7.5	7.2	7.2	7.4	7.3	7.3	7.3	7.3	7.3	7.3	7.1	7.1	7.1	7.0	6.9
Both sexes, 16 to 19 years	18.9	18.6	18.7	18.5	18.4	18.2	17.9	18.6	18.6	18.3	17.5	18.1	18.8	18.4	18.8
Men, 20 years and over	6.6	6.2	6.3	6.3	6.3	6.2	6.3	6.1	6.4	6.2	6.0	6.1	6.1	6.0	5.9
Women, 20 years and over	6.8	6.6	6.5	6.8	6.7	6.7	6.7	6.8	6.7	6.6	6.6	6.7	6.4	6.4	6.2
White, total	6.5	6.2	6.2	6.4	6.2	6.3	6.3	6.2	6.4	6.3	6.1	6.1	6.1	5.9	5.9
Both sexes, 16 to 19 years	16.0	15.7	15.6	15.7	15.4	15.1	15.2	16.0	16.0	16.1	15.2	15.3	17.0	15.5	15.9
Men, 16 to 19 years	16.8	16.5	16.3	16.1	16.8	15.6	15.7	16.7	16.7	17.1	17.2	16.2	18.5	15.8	16.2
Women, 16 to 19 years	15.2	14.8	15.2	15.3	14.0	14.7	14.5	15.1	15.2	15.0	13.0	14.4	15.3	15.1	15.6
Men, 20 years and over	5.7	5.4	5.5	5.5	5.4	5.4	5.4	5.2	5.7	5.6	5.3	5.2	5.2	5.2	5.1
Women, 20 years and over	5.8	5.7	5.6	5.8	5.7	5.6	5.6	5.6	5.6	5.7	5.7	5.7	5.5	5.4	5.4
Black, total	15.9	15.1	15.1	15.1	16.0	15.2	15.2	15.4	14.4	15.0	14.1	15.2	14.9	15.6	14.9
Both sexes, 16 to 19 years	42.7	40.2	41.4	41.5	42.1	41.5	39.3	40.4	39.5	41.2	35.3	39.6	39.7	40.8	41.6
Men, 16 to 19 years	42.7	41.0	43.5	43.9	40.9	41.1	39.4	39.3	41.0	43.1	34.9	41.1	41.0	45.2	41.0
Women, 16 to 19 years	42.6	39.2	38.9	38.8	43.3	41.9	39.3	41.5	37.8	39.0	35.9	38.1	38.2	36.0	42.3
Men, 20 years and over	14.3	13.2	13.4	12.9	14.2	13.3	13.3	13.4	12.5	12.8	11.9	13.3	12.7	13.7	13.1
Women, 20 years and over	13.5	13.1	13.0	13.0	13.7	13.0	13.2	13.5	12.7	13.1	13.1	13.5	12.1	13.6	12.6
Hispanic origin, total	10.7	10.5	10.4	10.6	10.0	10.3	10.4	10.6	10.6	11.0	10.4	10.4	11.1	10.6	10.4
Married men, spouse present	4.6	4.3	4.4	4.5	4.4	4.3	4.3	4.0	4.6	4.4	4.1	4.3	4.2	4.3	4.3
Married women, spouse present	5.7	5.6	5.5	5.7	5.4	5.8	5.8	5.7	5.6	5.7	5.4	5.6	5.3	5.5	5.3
Women who maintain families	10.3	10.4	9.9	10.2	10.9	10.3	10.7	10.6	9.9	10.3	10.8	11.3	10.4	10.0	9.4
Full-time workers	7.2	6.8	6.9	7.0	7.0	6.9	6.9	6.9	6.9	7.0	6.8	6.8	6.8	6.7	6.6
Part-time workers	9.3	9.3	9.0	9.3	8.8	9.5	9.7	10.0	9.5	9.4	9.0	9.3	9.6	8.8	9.0
Unemployed 15 weeks and over	2.4	2.0	2.1	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9
Labor force time lost[1]	8.6	8.1	8.3	8.3	8.2	8.2	8.2	8.3	8.2	8.2	8.1	8.1	7.9	7.9	7.8
INDUSTRY															
Nonagricultural private wage and salary workers	7.4	7.2	7.2	7.3	7.3	7.2	7.3	7.2	7.3	7.3	7.1	7.2	7.1	7.0	6.9
Mining	10.0	9.5	10.2	10.3	10.8	10.9	10.6	7.5	10.9	9.9	8.6	8.9	7.7	7.3	10.3
Construction	14.3	13.1	13.6	13.5	13.4	13.3	13.3	11.0	13.5	13.4	13.1	13.6	13.5	13.4	12.6
Manufacturing	7.5	7.7	7.3	7.6	7.6	7.7	7.9	7.8	7.7	7.9	7.8	7.7	7.5	7.7	7.3
Durable goods	7.2	7.6	7.3	7.2	7.3	7.5	7.7	7.8	7.9	7.9	7.9	7.7	7.3	7.6	7.3
Nondurable goods	7.8	7.8	7.5	8.0	8.0	8.1	8.2	7.8	7.5	7.9	7.6	7.9	7.6	7.8	7.3
Transportation and public utilities	5.5	5.1	5.1	5.1	5.4	4.7	5.4	5.2	5.3	5.7	4.5	5.3	5.1	5.1	5.0
Wholesale and retail trade	8.0	7.6	7.5	7.7	7.7	7.5	7.4	7.8	7.7	7.6	7.7	7.8	7.7	7.5	7.8
Finance and service industries	5.9	5.6	5.9	5.9	5.7	5.7	5.7	6.1	5.7	5.6	5.5	5.5	5.4	5.4	5.3
Government workers	4.5	3.9	4.3	4.1	4.0	4.0	3.9	3.9	3.9	4.0	3.9	3.8	3.9	3.6	3.8
Agricultural wage and salary workers	13.5	13.2	12.7	15.4	13.6	12.5	13.2	11.9	12.6	14.0	14.0	13.3	12.9	12.5	10.6

[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

NOTE: Monthly data have been revised based on the seasonal experience through December 1985.

8. Unemployment rates by sex and age, monthly data seasonally adjusted

(Civilian workers)

Sex and age	Annual average		1984	1985											
	1984	1985	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
Total, 16 years and over	7.5	7.2	7.2	7.4	7.3	7.3	7.3	7.3	7.3	7.3	7.1	7.1	7.1	7.0
16 to 24 years	13.9	13.6	13.6	13.8	13.7	13.5	13.4	14.0	13.6	13.9	13.0	13.3	13.9	13.5
16 to 19 years	18.9	18.6	18.7	18.9	18.4	18.2	17.9	18.8	18.6	19.3	17.5	18.1	19.8	18.4
16 to 17 years	21.2	21.0	20.9	21.0	20.4	20.6	20.8	21.2	21.6	21.7	19.1	20.3	22.7	21.4
18 to 19 years	17.4	17.0	17.5	17.3	17.4	16.5	16.3	17.1	16.4	17.3	16.6	16.7	17.8	16.9
20 to 24 years	11.5	11.1	11.1	10.9	11.2	11.1	11.1	11.6	11.2	11.2	10.8	10.9	10.9	11.0
25 years and over	5.8	5.6	5.5	5.7	5.6	5.6	5.7	5.5	5.8	5.6	5.5	5.6	5.4	5.4
25 to 54 years	6.1	5.8	5.8	6.0	5.9	6.0	6.1	5.8	6.0	5.9	5.8	5.8	5.7	5.6
55 years and over	4.5	4.1	4.1	4.2	4.0	4.0	4.1	4.3	4.3	4.4	4.1	4.1	3.9	3.8
Men, 16 years and over	7.4	7.0	7.1	7.1	7.1	7.0	7.1	7.0	7.2	7.2	6.9	6.9	7.1	6.8
16 to 24 years	14.4	14.1	14.2	13.9	14.3	13.9	13.8	14.7	14.2	14.6	13.6	13.6	14.6	13.9
16 to 19 years	19.6	19.5	19.4	19.3	19.4	18.5	18.5	19.4	19.2	20.5	19.6	19.3	21.5	19.4
16 to 17 years	21.9	21.9	20.3	21.3	21.3	21.7	21.4	22.2	20.2	22.1	21.9	20.7	24.0	20.9
18 to 19 years	18.3	17.9	18.1	18.0	18.4	16.1	16.8	17.6	18.4	18.7	18.1	18.3	19.9	18.7
20 to 24 years	11.9	11.4	11.6	11.3	11.8	11.7	11.4	12.3	11.7	11.6	10.9	11.0	11.1	11.2
25 years and over	5.7	5.3	5.4	5.5	5.4	5.3	5.5	5.1	5.6	5.4	5.3	5.3	5.3	5.2
25 to 54 years	5.9	5.6	5.6	5.7	5.6	5.6	5.8	5.3	5.8	5.6	5.6	5.5	5.5	5.4
55 years and over	4.6	4.1	4.4	4.3	4.1	3.9	4.0	4.1	4.4	4.6	3.8	4.0	4.1	4.0
Women, 16 years and over	7.6	7.4	7.3	7.6	7.5	7.6	7.5	7.6	7.5	7.4	7.3	7.5	7.3	7.2
16 to 24 years	13.2	13.0	12.9	13.2	13.0	13.1	12.9	13.3	12.9	13.1	12.2	12.9	13.1	13.1
16 to 19 years	18.0	17.6	17.9	18.5	17.4	17.9	17.2	18.1	17.6	17.9	16.3	18.9	17.9	17.4
16 to 17 years	20.4	20.0	21.5	20.7	19.4	19.3	20.0	20.1	19.9	21.2	15.6	18.8	21.2	22.0
18 to 19 years	16.6	16.0	15.7	16.5	16.3	16.9	15.7	16.5	16.4	15.7	16.3	14.9	15.5	15.1
20 to 24 years	10.9	10.7	10.4	10.6	10.6	10.5	10.7	10.8	10.6	10.7	10.7	10.9	10.7	10.8
25 years and over	6.0	5.9	5.7	6.0	6.0	6.0	6.0	6.1	6.0	5.9	5.8	6.0	5.8	5.8
25 to 54 years	6.3	6.2	6.0	6.4	6.3	6.4	6.3	6.4	6.3	6.2	6.1	6.2	5.9	5.9
55 years and over	4.2	4.1	3.7	4.1	3.9	4.2	4.2	4.4	4.1	4.2	4.5	4.2	3.7	3.8

NOTE: Monthly data have revised based on the seasonal experience through December 1985.

9. Unemployed persons by reason for unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Reason for unemployment	Annual average		1984	1985											
	1984	1985	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
Job losers	4,421	4,139	4,196	4,271	4,238	4,177	4,229	3,984	4,167	4,206	4,144	4,142	4,040	4,081
On layoff	1,171	1,157	1,095	1,216	1,208	1,155	1,182	1,088	1,135	1,134	1,112	1,167	1,161	1,175
Other job losers	3,250	2,982	3,101	3,055	3,030	3,022	3,047	2,896	3,032	3,072	3,032	2,975	2,878	2,903
Job leavers	823	877	898	877	898	881	852	870	960	894	875	852	911	859
Reentrants	2,184	2,256	2,240	2,240	2,238	2,301	2,283	2,376	2,233	2,184	2,181	2,306	2,237	2,258
New entrants	1,110	1,039	1,015	1,045	1,088	1,074	1,051	1,142	1,018	1,068	941	918	1,046	1,055
PERCENT OF UNEMPLOYED														
Job losers	51.8	49.8	50.5	50.6	50.4	49.6	50.3	47.6	49.6	50.2	50.8	50.2	49.1	50.0
On layoff	13.7	13.9	13.2	14.4	14.3	13.7	14.0	12.7	13.5	13.6	13.6	14.2	14.1	14.4
Other job losers	38.1	35.9	37.3	36.2	36.1	35.9	36.2	34.9	36.1	36.6	37.2	36.1	35.0	35.6
Job leavers	9.6	10.6	10.3	10.4	10.3	10.2	10.1	10.4	11.7	10.7	10.7	10.3	11.1	9.9
Reentrants	25.6	27.1	27.0	26.6	26.6	27.4	27.1	28.4	26.6	26.1	26.9	28.3	27.2	27.2
New entrants	13.0	12.5	12.2	12.4	12.6	12.8	12.5	13.6	12.1	13.1	11.5	11.1	12.7	12.9
PERCENT OF CIVILIAN LABOR FORCE														
Job losers	3.9	3.6	3.7	3.7	3.7	3.6	3.7	3.5	3.6	3.6	3.6	3.6	3.5	3.5
Job leavers	.7	.8	.7	.8	.8	.7	.7	.8	.9	.8	.8	.7	.8	.7
Reentrants	1.9	2.0	2.0	2.0	1.9	2.0	2.0	2.1	1.9	1.9	1.9	2.0	1.9	1.9
New entrants	1.0	.9	.9	.9	.9	.9	.9	1.0	.9	1.0	.8	.8	.9	.9

NOTE: Monthly data have been revised based on the seasonal experience through December 1985.

10. Duration of unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Weeks of unemployment	Annual average		1984	1985											
	1984	1985	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Less than 5 weeks	3,350	3,498	3,362	3,627	3,501	3,596	3,529	3,607	3,498	3,535	3,422	3,494	3,430	3,485	3,374
5 to 14 weeks	2,451	2,509	2,524	2,540	2,498	2,487	2,516	2,584	2,536	2,514	2,566	2,505	2,536	2,440	2,480
15 weeks and over	2,737	2,305	2,384	2,247	2,413	2,400	2,374	2,274	2,338	2,329	2,274	2,367	2,277	2,286	2,188
15 to 26 weeks	1,104	1,025	983	932	1,065	1,061	1,031	1,068	1,083	1,078	1,047	1,095	1,057	894	973
27 weeks and over	1,634	1,280	1,401	1,315	1,348	1,339	1,343	1,211	1,255	1,251	1,227	1,272	1,239	1,311	1,215
Mean duration in weeks	18.2	15.6	17.1	15.9	16.0	15.9	16.1	15.0	15.5	15.5	15.5	15.5	15.4	15.7	15.4
Median duration in weeks	7.9	6.8	7.3	6.8	7.1	7.0	6.8	6.7	6.9	7.1	7.2	6.9	7.0	6.9	6.9

NOTE: Monthly data have been revised based on the seasonal experience through December 1985.

11. Unemployment rates of civilian workers by State, data not seasonally adjusted

State	Oct. 1984	Oct. 1985
Alabama	10.5	7.9
Alaska	9.0	9.2
Arizona	4.4	6.4
Arkansas	8.3	8.7
California	7.0	7.2
Colorado	5.3	5.5
Connecticut	4.0	4.6
Delaware	4.9	4.3
District of Columbia	8.7	8.7
Florida	7.0	5.3
Georgia	5.8	6.7
Hawaii	6.0	5.5
Idaho	5.4	6.2
Illinois	8.8	9.2
Indiana	7.8	6.8
Iowa	6.0	6.5
Kansas	5.0	4.6
Kentucky	8.5	9.2
Louisiana	9.5	10.9
Maine	5.0	3.9
Maryland	5.0	4.4
Massachusetts	3.4	3.3
Michigan	10.1	9.6
Minnesota	5.1	5.3
Mississippi	8.9	9.4
Missouri	6.4	5.8
Montana	6.1	6.8
Nebraska	3.8	5.0
Nevada	7.2	7.5
New Hampshire	3.2	2.6
New Jersey	5.1	5.5
New Mexico	7.1	8.6
New York	7.1	6.6
North Carolina	6.4	4.6
North Dakota	4.1	5.1
Ohio	9.1	9.0
Oklahoma	6.6	6.8
Oregon	8.3	6.7
Pennsylvania	8.2	7.1
Rhode Island	4.2	3.8
South Carolina	6.9	7.2
South Dakota	4.2	4.5
Tennessee	7.9	7.0
Texas	5.3	7.6
Utah	6.0	5.3
Vermont	4.1	3.9
Virginia	4.8	5.3
Washington	8.6	7.4
West Virginia	15.4	12.5
Wisconsin	6.4	6.2
Wyoming	5.0	6.1

12. Employment of workers on nonagricultural payrolls by State, data not seasonally adjusted

(In thousands)

State	Nov., 1984	Oct., 1985	Nov., 1985^{p}
Alabama	1,400.4	1,406.6	1,408.6
Alaska	224.2	234.5	227.4
Arizona	1,224.2	1,290.2	1,298.6
Arkansas	796.6	808.3	803.6
California	10,743.9	10,876.1	10,901.0
Colorado	1,466.8	1,431.0	1,431.6
Connecticut	1,504.2	1,563.5	1,580.8
Delaware	286.9	295.2	298.7
District of Columbia	615.4	606.9	600.5
Florida	4,288.8	4,460.4	4,504.0
Georgia	2,548.9	2,600.3	2,643.4
Hawaii	415.1	420.1	424.0
Idaho	330.2	343.1	340.6
Illinois	4,710.1	4,715.2	4,714.2
Indiana	2,173.0	2,259.5	2,259.1
Iowa	1,077.8	1,072.1	1,068.0
Kansas	980.9	991.8	994.8
Kentucky	1,231.2	1,259.7	1,248.0
Louisiana	1,610.9	1,599.7	1,594.8
Maine	450.4	464.3	469.1
Maryland	1,846.9	1,904.9	1,919.3
Massachusetts	2,924.5	3,013.7	3,016.3
Michigan	3,400.6	3,508.6	3,504.6
Minnesota	1,861.3	1,911.5	1,905.6
Mississippi	840.5	858.1	857.5
Missouri	2,041.8	2,051.0	2,044.1
Montana	285.9	282.3	280.6
Nebraska	645.7	653.1	652.6
Nevada	440.7	450.8	450.0
New Hampshire	463.0	494.0	493.5
New Jersey	3,397.8	3,490.5	3,493.9
New Mexico	514.1	522.2	522.7
New York	7,667.5	7,793.5	7,832.9
North Carolina	2,621.5	2,665.0	2,673.3
North Dakota	258.6	255.4	254.0
Ohio	4,330.2	4,436.6	4,452.8
Oklahoma	1,192.2	1,185.5	1,182.0
Oregon	1,020.5	1,050.5	1,042.9
Pennsylvania	4,737.9	4,789.1	4,798.8
Rhode Island	418.9	422.0	422.4
South Carolina	1,301.1	1,348.7	1,349.4
South Dakota	247.6	245.5	243.0
Tennessee	1,842.0	1,888.8	1,892.0
Texas	6,514.9	6,642.3	6,649.9
Utah	620.6	636.0	637.1
Vermont	218.7	230.4	229.9
Virginia	2,374.6	2,468.1	2,473.9
Washington	1,670.2	1,721.6	1,713.3
West Virginia	589.3	594.4	593.3
Wisconsin	1,961.2	2,020.2	2,015.7
Wyoming	195.8	201.7	197.4
Puerto Rico	662.3	676.3	686.7
Virgin Islands	35.8	34.9	35.5

^{p} = preliminary

12. Employment of workers on nonagricultural payrolls by industry, monthly data seasonally adjusted

(In thousands)

Industry	Annual average		1984	1985										
	1984	1985	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.p
TOTAL	94,461	97,682	96,082	96,419	96,591	96,910	97,120	97,421	97,473	97,707	97,977	98,217	98,559	98,739
PRIVATE SECTOR	78,477	81,287	80,010	80,319	80,480	80,767	80,962	[illegible]	81,360	81,386	81,634	81,765	82,073	82,276
GOODS-PRODUCING	24,730	25,084	25,046	25,112	25,082	25,056	25,030	25,088	25,010	24,980	25,015	24,982	25,031	25,076
Mining	974	969	973	974	976	977	962	962	974	969	965	962	960	953
Oil and gas extraction	613	616	624	621	620	618	623	624	618	619	615	615	610	605
Construction	4,345	4,661	4,469	4,534	4,505	4,583	4,641	4,658	4,636	4,660	4,689	4,721	4,750	4,748
General building contractors	1,156	1,239	1,190	1,219	1,214	1,223	1,233	1,234	1,223	1,229	1,242	1,252	1,262	1,269
Manufacturing	19,412	19,424	19,603	19,604	19,581	19,526	19,467	19,428	19,366	19,351	19,362	19,279	19,338	19,375
Production workers	13,316	13,214	13,409	13,399	13,347	13,309	13,249	13,203	13,169	13,137	13,145	13,087	13,140	13,167
Durable goods	11,522	11,565	11,701	11,702	11,675	11,651	11,608	11,586	11,560	11,509	11,519	11,449	11,493	11,507
Production workers	7,749	7,692	7,856	7,843	7,806	7,776	7,730	7,704	7,671	7,630	7,628	7,588	7,627	7,636
Lumber and wood products	707	703	711	709	704	701	694	697	694	697	700	701	706	712
Furniture and fixtures	487	497	497	499	498	499	497	493	494	494	499	494	496	495
Stone, clay, and glass products	595	599	601	602	600	601	600	599	598	599	601	598	600	601
Primary metal industries	859	815	844	844	840	832	823	819	815	806	798	795	799	803
Blast furnaces and basic steel products	334	302	316	315	313	311	308	305	304	302	299	291	292	298
Fabricated metal products	1,464	1,472	1,488	1,486	1,483	1,480	1,479	1,477	1,472	1,467	1,467	1,462	1,465	1,466
Machinery, except electrical	2,187	2,181	2,232	2,226	2,224	2,220	2,207	2,200	2,191	2,175	2,167	2,143	2,143	2,136
Electrical and electronic equipment	2,209	2,208	2,253	2,252	2,246	2,243	2,223	2,216	2,205	2,190	2,184	2,175	2,179	2,179
Transportation equipment	1,926	1,969	1,995	1,974	1,972	1,969	1,962	1,981	1,980	1,986	1,995	1,999	2,068	2,015
Motor vehicles and equipment	860	872	869	861	876	867	876	873	875	868	868	861	872	867
Instruments and related products	714	724	723	723	725	727	726	723	725	724	725	722	722	725
Miscellaneous manufacturing industries	384	376	386	385	381	379	377	378	376	372	373	373	373	373
Nondurable goods	7,890	7,869	7,902	7,902	7,886	7,875	7,859	7,840	7,826	7,842	7,843	7,830	7,845	7,868
Production workers	5,561	5,522	5,554	5,556	5,541	5,530	5,519	5,499	5,498	5,507	5,507	5,501	5,513	5,531
Food and kindred products	1,619	1,636	1,630	1,633	1,633	1,638	1,630	1,634	1,644	1,630	1,636	1,630	1,636	1,637
Tobacco manufactures	65	65	66	67	66	66	66	65	66	65	64	65	64	65
Textile mill products	746	703	722	720	712	708	707	701	699	699	697	695	698	700
Apparel and other textile products	1,197	1,162	1,184	1,182	1,175	1,167	1,164	1,153	1,142	1,160	1,152	1,155	1,159	1,161
Paper and allied products	681	683	683	683	682	682	681	682	684	684	683	681	682	686
Printing and publishing	1,372	1,421	1,387	1,403	1,406	1,407	1,411	1,414	1,419	1,425	1,429	1,427	1,431	1,442
Chemicals and allied products	1,049	1,042	1,054	1,052	1,052	1,052	1,049	1,044	1,042	1,040	1,039	1,040	1,036	1,033
Petroleum and coal products	189	177	186	185	184	183	182	181	180	179	176	170	170	169
Rubber and misc. plastics products	782	795	799	796	799	799	795	791	799	797	792	790	795	800
Leather and leather products	192	175	181	179	177	176	174	174	173	176	174	174	175	173
SERVICE-PRODUCING	69,731	72,598	71,047	71,307	71,509	71,854	72,090	72,333	72,463	72,727	72,962	73,255	73,508	73,663
Transportation and public utilities	5,171	5,301	5,246	5,259	5,272	5,289	5,278	5,301	5,295	5,302	5,282	5,317	5,327	5,341
Transportation	2,929	3,059	3,009	3,016	3,029	[illegible]	3,037	3,057	3,052	3,060	3,076	3,078	3,087	3,105
Communication and public utilities	2,242	2,242	2,237	2,244	2,243	2,241	2,241	2,244	2,240	2,242	2,244	2,239	2,240	2,236
Wholesale trade	5,555	5,770	5,665	5,666	5,687	5,714	5,730	5,748	5,780	5,773	5,791	5,808	5,830	5,834
Durable goods	3,272	3,417	3,347	3,366	3,387	3,377	3,388	3,402	3,414	3,426	3,424	3,442	3,454	3,463
Nondurable goods	2,276	2,353	2,318	2,330	2,330	2,337	2,345	2,348	2,364	2,347	2,367	2,366	2,376	2,371
Retail trade	16,584	17,418	17,036	17,080	17,169	17,249	17,280	17,392	17,425	17,459	17,514	17,509	17,610	17,621
General merchandise stores	2,276	2,349	2,360	2,341	2,343	2,348	2,346	2,371	2,351	2,344	2,354	2,356	2,366	2,349
Food stores	2,656	2,826	2,746	2,753	2,773	2,789	2,794	2,825	2,831	2,842	2,849	2,852	2,869	2,880
Automotive dealers and service stations	1,852	1,863	1,851	1,856	1,866	1,873	1,894	1,890	1,895	1,896	1,902	1,906	1,912	1,916
Eating and drinking places	5,459	5,662	5,636	5,559	5,586	5,615	5,642	5,666	5,692	5,739	5,725	5,740	5,759	5,773
Finance, insurance, and real estate	5,682	5,894	5,776	5,790	5,809	5,835	5,860	5,859	5,896	5,932	5,959	5,987	6,011	6,045
Finance	2,865	2,976	2,902	2,910	2,919	2,930	2,941	2,958	2,966	2,984	2,993	3,011	3,020	3,036
Insurance	1,750	1,816	1,780	1,783	1,789	1,792	1,799	1,806	1,814	1,817	1,827	1,831	1,837	1,847
Real estate	1,074	1,130	1,094	1,097	1,101	1,110	1,118	1,134	1,134	1,131	1,134	1,145	1,151	1,161
Services	20,761	21,931	21,252	21,302	21,460	21,644	21,723	21,913	21,955	21,929	22,079	22,155	22,244	22,358
Business services	4,076	4,464	4,259	4,286	4,324	4,377	4,402	4,424	4,441	4,445	4,489	4,504	4,536	4,573
Health services	6,104	6,267	6,104	6,169	6,166	6,204	6,216	6,240	6,243	6,260	6,281	6,309	6,323	6,352
Government	15,984	16,294	16,082	16,100	16,111	16,143	16,159	16,213	16,213	16,241	16,340	16,452	16,486	16,463
Federal	2,807	2,873	2,856	2,858	2,834	2,860	2,869	2,873	2,872	2,876	2,866	2,894	2,892	2,882
State	3,712	3,761	3,722	3,730	3,733	3,744	3,749	3,759	3,765	3,789	3,799	3,818	3,827	3,850
Local	9,465	9,640	9,504	9,504	9,544	9,540	9,550	9,581	9,576	9,575	9,695	9,730	9,767	9,730

p = preliminary.

NOTE: See "Note on the data" for a description of the most recent benchmark revision.

14. Average weekly hours of production or nonsupervisory workers on private nonagricultural payrolls by industry, monthly data seasonally adjusted

Industry	Annual average		1984	1985											
	1984	1985	Dec.ᵖ	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.ᵖ	Dec.ᵖ
PRIVATE SECTOR	35.2	35.1	35.2	35.1	35.1	35.2	35.0	35.1	35.1	35.0	35.1	35.1	35.1	35.0	35.1
CONSTRUCTION	37.7	37.7	37.8	37.7	37.6	38.1	36.9	37.6	37.2	37.6	37.5	37.9	37.9	37.5	37.2
MANUFACTURING	40.7	40.5	40.6	40.6	40.1	40.4	40.2	40.4	40.4	40.3	40.6	40.7	40.7	40.7	41.0
Overtime hours	3.4	3.3	3.4	3.4	3.3	3.2	3.4	3.1	3.2	3.2	3.3	3.3	3.4	3.4	3.6
Durable goods	41.4	41.2	41.3	41.3	40.7	41.1	40.9	41.1	41.2	41.0	41.3	41.3	41.3	41.3	41.7
Overtime hours	3.8	3.5	3.8	3.6	3.5	3.5	3.6	3.2	3.3	3.3	3.4	3.5	3.5	3.6	3.8
Lumber and wood products	39.9	39.8	39.6	39.7	38.9	38.8	39.5	39.8	40.1	39.7	40.0	40.1	40.3	40.0	40.1
Furniture and fixtures	39.7	39.4	39.8	40.4	39.5	39.5	39.2	38.9	38.9	38.8	39.2	39.4	39.4	39.5	39.9
Stone, clay, and glass products	42.0	41.9	41.8	41.7	41.6	42.0	[illegible]	42.1	41.9	42.0	42.0	42.0	42.1	41.7	42.0
Primary metal industries	41.7	41.5	41.2	41.0	40.9	41.1	41.5	41.2	41.6	41.4	41.7	41.5	41.8	41.8	42.5
Steel furnaces and basic steel products	40.8	41.1	39.8	39.9	40.5	40.8	40.2	40.7	41.2	41.2	41.8	41.8	41.7	42.0	42.8
Fabricated metal products	41.4	41.2	41.4	41.4	40.9	41.1	41.1	41.1	41.3	41.3	41.4	41.6	41.5	41.4	41.7
Machinery except electrical	41.9	41.5	41.7	41.7	41.1	41.6	41.2	41.4	41.6	41.3	41.6	41.6	41.6	41.6	41.9
Electrical and electronic equipment	41.0	40.6	41.0	40.6	40.2	40.7	40.2	40.4	40.6	40.3	40.7	40.5	40.6	41.0	41.2
Transportation equipment	42.7	42.6	42.8	43.1	41.9	42.5	42.3	42.8	42.3	42.5	42.9	42.9	42.8	42.7	42.9
Motor vehicles and equipment	43.8	43.5	44.8	44.3	42.4	43.2	43.3	43.5	42.7	43.3	43.8	43.8	43.8	43.7	44.1
Instruments and related products	41.3	41.0	41.8	41.2	40.7	41.0	40.7	40.9	41.1	40.7	40.7	40.8	40.9	41.1	42.3
Miscellaneous manufacturing	39.4	39.4	39.3	39.2	39.0	39.1	39.0	39.3	39.4	39.0	39.3	38.9	38.9	38.8	38.9
Nondurable goods	39.6	39.6	39.6	39.5	39.3	39.4	39.1	39.4	39.4	39.4	39.6	39.8	39.9	39.9	40.2
Overtime hours	3.1	3.1	3.0	3.0	2.9	2.9	3.0	2.9	3.0	3.0	3.1	3.1	3.2	3.2	3.4
Food and kindred products	39.8	39.9	40.1	39.8	39.7	39.8	39.9	40.1	39.8	40.0	39.9	40.2	40.3	39.9	40.3
Tobacco manufactures	38.9	37.1	38.8	38.3	38.2	38.9	35.4	37.9	38.6	34.8	38.8	38.9	38.2	35.1	37.1
Textile mill products	39.9	39.8	39.2	39.2	38.8	39.1	38.8	38.9	39.4	39.1	40.0	40.7	40.7	41.1	41.6
Apparel and other textile products	36.4	36.3	36.3	36.2	35.9	36.1	35.8	36.2	36.3	36.3	36.4	36.5	36.6	36.8	37.3
Paper and allied products	43.1	43.1	43.1	43.0	42.9	42.9	43.0	43.0	42.9	42.7	43.0	43.1	43.3	43.2	43.7
Printing and publishing	37.9	37.7	37.7	37.8	37.7	37.8	37.6	37.4	37.5	37.5	37.9	38.0	37.9	37.8	38.3
Chemicals and allied products	41.9	41.9	41.8	42.0	41.9	42.1	41.9	41.9	42.0	41.8	41.8	41.8	41.7	41.9	41.8
Petroleum and coal products	43.7	43.1	43.5	43.2	43.1	43.3	42.0	41.7	42.6	42.6	43.3	43.4	44.3	43.2	44.3
Leather and leather products	36.8	37.2	36.9	36.8	36.4	37.1	37.0	37.1	37.0	37.0	37.2	37.8	37.9	37.6	37.7
TRANSPORTATION AND PUBLIC UTILITIES	39.4	39.5	39.3	39.3	39.4	39.5	39.4	39.5	39.5	39.2	39.6	39.5	39.5	39.4	39.7
WHOLESALE TRADE	38.8	38.7	38.6	38.6	38.6	38.7	38.8	38.7	38.6	38.6	38.6	38.7	38.6	38.6	38.6
RETAIL TRADE	30.0	29.7	29.9	29.8	29.8	29.8	29.7	29.9	29.9	29.7	29.6	29.6	29.5	29.5	29.3
SERVICES	32.6	32.6	32.8	32.7	32.8	32.8	32.7	32.8	32.8	32.7	32.6	32.8	32.9	32.7	32.9

ᵖ = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark adjustment.

15. Average hourly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1984	1985											
	1984	1985	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.p	Dec.p
PRIVATE SECTOR	$8.30	$8.57	$8.46	$8.50	$8.52	$8.52	$8.54	$8.53	$8.50	$8.54	$8.54	$8.69	$8.65	$8.68	$8.73
Seasonally adjusted	–	–	8.47	8.44	8.49	8.52	8.54	8.55	8.59	8.57	8.60	8.65	8.64	8.67	8.75
MINING	11.63	11.95	11.70	11.86	11.90	11.91	11.89	11.86	11.89	11.88	11.95	12.00	11.95	12.00	12.13
CONSTRUCTION	12.12	12.26	12.29	12.30	12.33	12.22	12.21	12.10	12.12	12.16	12.22	12.40	12.36	12.20	12.39
MANUFACTURING	9.18	9.52	9.40	9.43	9.43	9.45	9.48	9.46	9.50	9.53	9.48	9.65	9.64	9.61	9.71
Durable goods	9.74	10.09	9.96	9.90	9.99	10.01	10.03	10.04	10.08	10.10	10.05	10.15	10.14	10.21	10.31
Lumber and wood products	8.03	8.19	8.09	8.10	8.09	8.06	8.04	8.12	8.24	8.20	8.26	8.31	8.29	8.27	8.24
Furniture and fixtures	6.85	7.19	6.99	7.01	7.01	7.07	7.08	7.11	7.10	7.22	7.22	7.29	7.31	7.34	7.41
Stone, clay, and glass products	9.57	9.83	9.66	9.70	9.73	9.71	9.80	9.80	9.84	9.89	9.87	9.90	9.86	9.90	9.93
Primary metal industries	11.47	11.68	11.49	11.55	11.69	11.66	11.64	11.64	11.65	11.78	11.63	11.69	11.64	11.80	11.79
Blast furnaces and basic steel products	12.99	13.35	12.95	13.07	13.42	13.27	13.32	13.31	13.29	13.51	13.37	13.45	13.34	13.45	13.45
Fabricated metal products	9.36	9.66	9.58	9.59	9.59	9.62	9.64	9.63	9.66	9.66	9.61	9.70	9.68	9.72	9.87
Machinery, except electrical	9.96	10.29	10.16	10.13	10.14	10.15	10.17	10.22	10.29	10.31	10.27	10.38	10.41	10.46	10.60
Electrical and electronic equipment	9.04	9.47	9.32	9.33	9.33	9.30	9.40	9.39	9.46	9.47	9.50	9.56	9.56	9.61	9.67
Transportation equipment	12.22	12.71	12.62	12.67	12.63	12.59	12.63	12.63	12.66	12.65	12.66	12.76	12.77	12.82	13.01
Motor vehicles and equipment	12.74	13.44	13.27	13.41	13.36	13.29	13.40	13.36	13.30	13.38	13.34	13.51	13.46	13.54	13.80
Instruments and related products	8.86	9.10	9.03	9.00	9.11	9.10	9.11	9.13	9.15	9.20	9.22	9.28	9.27	9.30	9.36
Miscellaneous manufacturing	7.04	7.26	7.16	7.23	7.19	7.20	7.22	7.26	7.28	7.30	7.26	7.30	7.30	7.33	7.44
Nondurable goods	8.37	8.68	8.55	8.59	8.60	8.61	8.67	8.64	8.65	8.72	8.67	8.70	8.69	8.75	8.84
Food and kindred products	8.39	8.54	8.45	8.48	8.51	8.53	8.59	8.58	8.55	8.54	8.47	8.51	8.49	8.59	8.69
Tobacco manufactures	11.27	12.08	11.17	11.39	11.80	12.00	12.16	12.65	12.83	12.91	12.44	11.47	11.45	12.07	12.29
Textile mill products	6.46	6.71	6.57	6.59	6.60	6.64	6.70	6.68	6.69	6.69	6.72	6.75	6.76	6.80	6.85
Apparel and other textile products	5.56	5.72	5.68	5.73	5.70	5.73	5.74	5.69	5.70	5.70	5.69	5.75	5.73	5.75	5.78
Paper and allied products	10.41	10.82	10.66	10.63	10.64	10.64	10.72	10.75	10.79	10.91	10.86	10.90	10.91	10.98	11.04
Printing and publishing	9.40	9.69	9.57	9.56	9.60	9.61	9.60	9.60	9.61	9.67	9.73	9.79	9.75	9.80	9.87
Chemicals and allied products	11.08	11.56	11.34	11.39	11.39	11.37	11.48	11.46	11.52	11.60	11.62	11.67	11.72	11.82	11.94
Petroleum and coal products	13.43	14.04	13.62	13.96	13.99	14.06	14.18	14.00	13.97	14.00	13.99	14.07	13.97	14.02	14.23
Rubber and miscellaneous plastics products	8.29	8.53	8.44	8.40	8.46	8.46	8.46	8.45	8.50	8.54	8.51	8.56	8.53	8.61	8.70
Leather and leather products	5.70	5.82	5.80	5.82	5.79	5.82	5.84	5.83	5.82	5.83	5.80	5.82	5.76	5.83	5.81
TRANSPORTATION AND PUBLIC UTILITIES	11.11	11.36	11.29	11.26	11.27	11.24	11.27	11.24	11.32	11.36	11.40	11.52	11.46	11.56	11.60
WHOLESALE TRADE	8.96	9.27	9.19	9.16	9.22	9.19	9.24	9.24	9.28	9.27	9.25	9.33	9.25	9.30	9.44
RETAIL TRADE	5.88	5.97	5.89	5.97	5.96	5.97	5.98	5.97	5.94	5.93	5.91	5.89	5.97	6.00	5.99
FINANCE, INSURANCE, AND REAL ESTATE	7.62	7.94	7.78	7.77	7.87	7.87	7.85	7.83	7.95	7.87	7.90	8.03	8.00	8.09	8.19
SERVICES	7.64	7.95	7.84	7.84	7.87	7.87	7.89	7.88	7.91	7.86	7.87	8.04	8.04	8.11	8.20

– Data not available.
p = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

16. Average weekly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1984	1985											
	1984	1985	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.p	Dec.p
PRIVATE SECTOR															
Current dollars	$294.05	$301.16	$300.33	$294.95	$294.78	$298.25	$298.88	$298.55	$300.02	$301.46	$302.33	$305.54	$303.62	$302.93	$309.04
Seasonally adjusted	-	-	298.14	298.24	298.00	298.80	298.90	300.11	301.31	298.85	301.86	302.62	303.29	303.46	307.13
Constant (1977) dollars	173.48	-	174.81	171.29	170.59	171.68	170.60	170.50	172.58	171.48	171.68	173.01	171.54	170.47	-
MINING	503.58	518.63	515.87	526.79	514.08	519.29	516.57	515.91	523.89	509.65	517.44	524.40	516.24	519.60	523.72
CONSTRUCTION	469.82	462.20	460.89	447.72	451.29	460.69	461.54	464.44	461.77	469.39	468.03	477.40	472.15	446.86	458.40
MANUFACTURING															
Current dollars	373.63	385.56	387.29	380.03	374.37	381.76	380.15	382.04	385.70	382.15	382.99	389.64	388.21	393.05	403.94
Constant (1977) dollars	220.43	-	225.16	220.89	218.52	219.79	217.89	218.18	219.65	217.36	217.49	220.83	219.37	221.19	-
Durable goods	403.24	415.71	419.32	410.58	403.60	412.41	410.22	411.84	417.31	410.86	412.05	420.21	418.78	423.72	437.14
Lumber and wood products	320.40	325.96	321.88	315.60	309.85	317.58	317.58	325.61	336.19	325.54	333.70	327.39	334.92	327.40	329.42
Furniture and fixtures	271.95	283.29	283.79	276.19	270.58	277.66	278.63	275.16	281.46	276.53	285.16	288.14	292.40	292.67	303.07
Stone, clay, and glass products	401.94	411.88	404.62	392.85	393.09	404.91	411.60	415.52	418.20	418.25	418.49	420.75	418.06	414.81	417.08
Primary metal industries	478.30	484.72	477.98	473.56	478.12	481.56	480.73	479.57	486.97	485.34	480.32	487.47	481.80	483.24	506.35
Blast furnaces and basic steel products	527.39	548.69	516.71	517.57	544.85	540.09	547.45	543.65	552.86	559.31	550.84	564.14	546.61	558.16	574.22
Fabricated metal products	388.33	398.96	408.25	395.11	387.44	398.34	395.24	395.76	400.48	394.13	395.92	403.52	401.72	404.35	421.48
Machinery, except electrical	417.32	427.04	434.85	422.42	415.74	424.27	417.99	421.06	427.65	420.65	422.10	432.22	430.97	439.06	454.74
Electrical and electronic equipment	370.64	384.48	389.58	379.73	373.20	383.11	376.00	377.48	385.02	378.91	383.82	387.73	388.14	390.89	405.14
Transportation equipment	521.79	541.45	554.02	546.08	524.15	537.58	536.04	539.30	538.32	531.30	531.30	544.42	545.28	551.28	572.44
Motor vehicles and equipment	558.01	584.64	597.15	584.08	559.37	576.79	586.92	587.38	579.79	574.00	588.66	589.23	586.86	590.34	623.76
Instruments and related products	365.51	376.79	382.67	369.90	369.87	374.01	368.86	372.50	376.07	370.76	373.41	381.41	377.29	384.08	401.12
Miscellaneous manufacturing	277.38	288.83	285.66	279.08	276.82	282.24	280.86	285.38	286.10	281.76	284.50	292.00	284.16	293.93	301.32
Nondurable goods	331.46	343.73	342.00	336.73	333.66	338.37	337.26	339.55	342.54	341.82	344.20	349.00	346.73	350.00	356.90
Food and kindred products	330.52	340.75	342.23	334.96	331.89	335.23	336.73	343.20	340.29	341.80	341.34	347.21	343.80	345.32	353.66
Tobacco manufactures	438.40	448.17	433.40	434.85	442.30	432.40	424.39	469.32	463.69	437.65	461.52	438.15	448.84	438.14	465.59
Textile mill products	257.75	267.06	258.86	257.01	254.10	258.96	257.20	260.52	266.83	258.23	270.14	275.40	276.40	280.84	285.39
Apparel and other textile products	202.02	207.64	206.75	205.13	202.35	208.85	203.20	205.08	209.19	208.34	207.32	209.88	210.66	212.18	216.17
Paper and allied products	446.07	466.34	466.91	456.03	451.14	454.20	458.62	460.10	463.97	465.86	465.66	473.06	472.40	476.53	480.18
Printing and publishing	358.26	365.31	368.53	359.25	358.08	362.30	360.00	358.09	358.45	360.69	369.74	373.98	368.53	373.28	383.84
Chemicals and allied products	464.25	485.20	486.82	477.24	476.10	479.88	481.01	480.17	484.59	482.56	483.39	487.81	488.39	486.44	505.06
Petroleum and coal products	586.89	605.12	584.30	587.49	584.58	601.77	595.56	583.80	596.52	606.10	605.77	620.40	620.27	609.87	630.39
Rubber and miscellaneous plastics products	345.69	348.73	355.32	352.34	343.44	347.71	348.83	345.01	350.20	346.72	348.36	351.41	350.58	354.73	360.66
Leather and leather products	209.76	216.50	215.16	211.85	207.28	212.43	215.50	218.04	221.54	218.80	216.92	219.41	216.59	219.21	220.20
TRANSPORTATION AND PUBLIC UTILITIES	437.73	449.51	445.56	438.01	440.66	441.73	441.76	441.75	449.40	448.30	454.86	457.34	452.67	456.62	462.84
WHOLESALE TRADE	345.89	358.75	357.49	351.74	352.20	353.62	354.62	357.50	360.89	359.66	359.86	362.00	357.88	361.07	369.10
RETAIL TRADE	176.40	177.31	179.65	172.73	174.31	175.52	175.22	177.91	179.39	180.27	179.07	177.80	175.52	175.80	179.10
FINANCE, INSURANCE, AND REAL ESTATE	278.13	289.02	285.53	282.83	288.47	288.47	285.74	284.23	291.77	285.66	288.77	292.29	290.40	292.85	301.30
SERVICES	250.59	260.76	257.94	254.80	256.56	256.56	257.21	257.69	261.03	260.17	260.50	263.71	263.71	264.29	269.76

- Data not available.
p = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

17. The Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Not seasonally adjusted				Seasonally adjusted					
	Dec. 1984	Oct. 1985	Nov. 1985p	Dec. 1985p	Dec. 1984	Aug. 1985	Sept. 1985	Oct. 1985	Nov. 1985	Dec. 1985p
PRIVATE SECTOR (in current dollars)	163.5	166.5	167.3	168.5	163.3	165.7	166.7	166.4	167.1	168.4
Mining[1]	176.9	179.7	179.8	181.2	-	-	-	-	-	-
Construction	149.2	151.2	148.8	150.6	148.9	149.3	150.0	149.4	149.6	150.1
Manufacturing	165.6	169.3	170.2	171.1	165.4	169.3	169.1	169.4	170.1	170.6
Transportation and public utilities	164.7	167.5	168.9	169.7	164.1	166.1	167.3	167.0	167.7	169.0
Wholesale trade[1]	166.6	171.0	172.4	174.3	-	-	-	-	-	-
Retail trade	154.3	158.3	156.9	158.9	155.6	155.8	157.2	156.7	157.2	156.1
Finance, insurance, and real estate[1]	166.6	173.0	174.6	176.9	-	-	-	-	-	-
Services	166.9	171.1	172.4	174.4	166.7	169.6	171.5	171.1	172.1	174.2
PRIVATE SECTOR (in constant dollars)	95.0	94.1	94.1	-	94.9	94.3	94.7	94.3	94.1	-

[1] This series is not seasonally adjusted because the seasonal component is small relative to the trend-cycle, irregular components, or both, and consequently cannot be separated with sufficient precision.

- Data not available.

p = preliminary.

NOTE: See "Notes on the data" for a description of the recent benchmark revision. Due to the LABSTAT rounding system, a few indexes may differ by .1 from data published elsewhere.

18. Indexes of diffusion: Industries in which employment increased, data seasonally adjusted

(In percent)

Time span and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Over 1-month span												
1983	52.2	46.9	58.7	70.0	66.9	63.0	72.7	69.5	73.2	74.1	66.8	68
1984	67.3	72.7	66.8	67.3	60.5	64.3	65.7	59.1	48.4	66.5	55.1	68
1985	57.6	50.3	55.9	44.6	50.3	47.0	54.9	56.8	[1] 43.5	[1] 63.6	–	–
Over 3-month span												
1983	46.2	53.2	63.0	73.5	71.9	73.8	72.7	80.3	80.8	78.6	74.8	74.
1984	78.1	75.9	77.6	68.9	68.7	67.0	65.4	60.3	60.0	56.5	67.0	60.
1985	58.6	54.1	46.8	45.9	44.1	49.7	50.5	[1] 48.0	[1] 52.4	–	–	–
Over 6-month span												
1983	50.0	62.4	66.7	67.8	74.3	78.4	79.7	79.5	78.9	79.2	79.7	78.4
1984	79.2	77.8	77.3	75.4	69.2	64.9	63.2	64.1	67.0	59.7	57.6	60.3
1985	52.2	49.5	44.3	44.6	44.3	[1] 41.4	[1] 47.3	–	–	–	–	–
Over 12-month span												
1983	48.6	55.1	61.4	68.6	72.4	75.1	77.0	79.7	78.4	80.8	81.6	81.1
1984	81.9	78.4	78.6	75.1	72.7	73.0	70.0	65.7	63.5	60.5	[1] 56.4	[1] 51.6
1985	50.6	46.4	[1] 48.9	[1] 46.8	–	–	–	–	–	–	–	–

[1] Preliminary data.

– Data not available.

NOTE: Figures are the percent of industries with employment rising. (Half of the unchanged components are counted as rising.) Data are centered within the spans. See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

19. Annual data: Employment status of the noninstitutional population

(Number in thousands)

Employment status	1977	1978	1979	1980	1981	1982	1983	1984	1985
Noninstitutional population	160,689	163,541	166,460	169,349	171,775	173,939	175,891	178,080	179,912
Labor force									
Total (number)	100,665	103,882	106,559	108,544	110,315	111,872	113,226	115,241	117,167
Percent of population	62.6	63.5	64.0	64.1	64.2	64.3	64.4	64.7	65.1
Employed									
Total (number)	93,673	97,679	100,421	100,907	102,042	101,194	102,510	106,702	108,856
Percent of population	–	–	–	–	–	–	–	–	–
Resident Armed Forces	1656	1631	1597	1604	1645	1668	1676	1697	1706
Civilian									
Total	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005	107,150
Agriculture	3,283	3,387	3,347	3,364	3,368	3,401	3,383	3,321	3,179
Nonagricultural industries	88,734	92,661	95,477	95,938	97,030	96,125	97,450	101,685	103,971
Unemployed									
Total (number)	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539	8,312
Percent of labor force	6.9	6.0	5.8	7.0	7.5	9.5	9.5	7.4	7.1
Not in labor force (number)	60,025	59,659	59,900	60,806	61,460	62,067	62,665	62,839	62,744

– Data not available.

20. Annual data: Employment levels by industry

(Number in thousands)

Industry	1977	1978	1979	1980	1981	1982	1983	1984	1985p
Total employment	82,471	86,697	89,823	90,406	91,156	89,566	90,196	94,461	97,682
Private sector	67,344	71,026	73,876	74,166	75,126	73,729	74,330	78,477	81,307
Goods-producing	24,346	25,585	26,461	25,658	25,497	23,813	23,334	24,730	25,054
Mining	813	851	958	1,027	1,139	1,128	952	974	969
Construction	3,851	4,229	4,463	4,346	4,188	3,905	3,948	4,345	4,661
Manufacturing	19,682	20,505	21,040	20,285	20,170	18,781	18,434	19,412	19,424
Service-producing	58,125	61,113	63,363	64,748	65,659	65,753	66,862	69,731	72,628
Transportation and public utilities	4,713	4,923	5,136	5,146	5,165	5,082	4,954	5,171	5,301
Wholesale trade	4,708	4,969	5,204	5,275	5,358	5,278	5,268	5,550	5,770
Retail trade	13,808	14,573	14,989	15,035	15,189	15,179	15,613	16,584	17,418
Finance, insurance, and real estate	4,467	4,724	4,975	5,160	5,298	5,341	5,468	5,682	5,924
Services	15,303	16,252	17,112	17,890	18,619	19,036	19,694	20,761	21,931
Government	15,127	15,672	15,947	16,241	16,031	15,837	15,869	15,984	16,294
Federal	2,727	2,753	2,773	2,866	2,772	2,739	2,774	2,807	2,873
State	3,377	3,474	3,541	3,610	3,640	3,640	3,662	3,712	3,781
Local	9,023	9,446	9,633	9,765	9,619	9,458	9,434	9,465	9,640

NOTE: Data include Alaska and Hawaii beginning in 1959. See "Notes on the data" for a description of the most recent benchmark revision.

p = preliminary

21. Annual data: Average hours and earnings of production or nonsupervisory workers on nonagricultural payrolls, by industry

Industry	1977	1978	1979	1980	1981	1982	1983	1984	1985p
Private sector									
Average weekly hours	36.0	35.8	35.7	35.3	35.2	34.8	35.0	35.3	35.1
Average hourly earnings	5.25	5.69	6.16	6.66	7.25	7.68	8.02	8.33	8.58
Average weekly earnings	189.00	203.70	219.91	235.10	255.20	267.26	280.70	294.05	301.16
Mining									
Average weekly hours	43.4	43.4	43.0	43.3	43.7	42.7	42.5	43.3	43.4
Average hourly earnings	6.94	7.67	8.49	9.17	10.04	10.77	11.28	11.63	11.95
Average weekly earnings	301.20	332.88	365.07	397.06	438.75	459.88	479.40	503.58	518.63
Construction									
Average weekly hours	36.5	36.8	37.0	37.0	36.9	36.7	37.1	37.7	37.7
Average hourly earnings	8.10	8.66	9.27	9.94	10.82	11.63	11.94	12.12	12.26
Average weekly earnings	295.65	318.69	342.99	367.78	399.26	426.82	442.97	456.92	462.20
Manufacturing									
Average weekly hours	40.3	40.4	40.2	39.7	39.8	38.9	40.1	40.7	40.5
Average hourly earnings	5.68	6.17	6.70	7.27	7.99	8.49	8.83	9.18	9.52
Average weekly earnings	228.90	249.27	269.34	288.62	318.00	330.26	354.08	373.63	385.56
Transportation and public utilities									
Average weekly hours	39.9	40.0	39.9	39.6	39.4	39.0	39.0	39.4	39.5
Average hourly earnings	6.99	7.57	8.16	8.87	9.70	10.32	10.79	11.11	11.38
Average weekly earnings	278.90	302.80	325.58	351.25	382.18	402.48	420.81	437.73	449.51
Wholesale trade									
Average weekly hours	38.8	38.8	38.8	38.5	38.5	38.3	38.5	38.6	38.7
Average hourly earnings	5.39	5.88	6.39	6.96	7.56	8.09	8.55	8.96	9.27
Average weekly earnings	209.13	228.14	247.93	267.96	291.06	309.85	329.18	345.86	358.75
Retail trade									
Average weekly hours	31.6	31.0	30.6	30.2	30.1	29.9	29.8	30.0	29.7
Average hourly earnings	3.85	4.20	4.53	4.88	5.25	5.48	5.74	5.88	5.97
Average weekly earnings	121.66	130.20	138.62	147.38	158.03	163.85	171.05	176.40	177.31
Finance, insurance, and real estate									
Average weekly hours	36.4	36.4	36.2	36.2	36.3	36.2	36.2	36.5	36.4
Average hourly earnings	4.54	4.89	5.27	5.79	6.31	6.78	7.29	7.62	7.94
Average weekly earnings	165.26	178.00	190.77	209.60	229.05	245.44	263.90	278.13	289.02
Services									
Average weekly hours	33.0	32.8	32.7	32.6	32.6	32.6	32.7	32.8	32.8
Average hourly earnings	4.65	4.99	5.36	5.85	6.41	6.92	7.31	7.64	7.95
Average weekly earnings	153.45	163.67	175.27	190.71	208.97	225.59	239.04	250.59	260.76

p = preliminary.

22. Employment Cost Index, compensation,[1] by occupation and industry group

(June 1981 = 100)

Series	1983		1984				1985			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept., 1985	
Civilian workers [2]	116.5	117.8	119.8	120.8	122.4	123.9	125.5	126.4	128.4	1.6	4.9
Workers, by occupational group:											
White-collar workers	117.6	118.9	120.9	122.1	124.0	125.5	127.3	128.3	130.7	1.9	5.4
Blue-collar workers	114.8	115.8	117.7	118.6	119.6	120.9	122.2	123.1	124.4	1.1	4.0
Service workers	116.7	118.1	122.0	122.1	124.6	126.8	127.8	128.0	130.9	2.3	5.1
Workers, by industry division:											
Manufacturing	115.0	116.0	117.9	119.1	120.4	122.0	123.9	124.6	125.5	.7	4.2
Nonmanufacturing	117.2	118.6	120.7	121.8	123.3	124.8	126.2	127.2	129.7	2.0	5.2
Services	121.1	122.6	125.0	125.5	128.8	130.8	131.9	132.6	136.4	2.9	5.9
Public administration [3]	119.8	121.4	122.9	123.7	126.9	128.6	130.1	130.3	134.2	3.0	5.8
Private industry workers	115.6	117.0	119.0	120.1	121.1	122.7	124.2	125.2	126.8	1.3	4.7
Workers, by occupational group:											
White-collar workers	116.5	117.9	119.9	121.4	122.4	123.9	125.8	127.1	128.8	1.3	5.2
Blue-collar workers	114.6	115.7	117.5	118.4	119.3	120.6	121.9	122.8	124.0	1.0	3.9
Service workers	115.1	117.9	121.5	121.2	123.2	125.7	128.3	126.5	128.8	1.8	4.5
Workers, by industry division:											
Manufacturing	115.0	116.0	117.9	119.1	120.4	122.0	123.9	124.6	125.5	.7	4.2
Nonmanufacturing	116.0	117.5	119.6	120.7	121.8	123.1	124.4	125.8	127.8	1.6	4.9
State and local government workers	120.8	122.0	123.9	124.4	128.8	130.1	131.7	132.0	136.5	3.4	6.0
Workers, by occupational group:											
White-collar workers	121.5	122.6	124.5	125.0	129.7	131.1	132.5	132.9	137.6	3.5	6.1
Blue-collar workers	118.0	119.2	121.9	122.3	125.0	125.9	128.1	128.5	131.9	2.6	5.5
Workers, by industry division:											
Services	121.7	122.6	124.5	125.0	129.9	131.3	132.8	133.2	137.9	3.5	6.2
Schools	121.9	122.6	124.5	124.7	130.6	132.0	133.4	133.7	139.1	4.0	6.5
Elementary and secondary	123.3	123.9	125.4	125.7	132.1	133.5	134.4	134.6	140.9	4.7	6.7
Hospitals and other services[4]	121.1	122.6	124.4	125.7	127.9	129.2	131.1	131.5	134.1	2.0	4.8
Public administration[3]	119.8	121.4	122.9	123.7	126.9	128.6	130.1	130.3	134.2	3.0	5.8

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[1] Cost (cents-per-hour worked) measured in the Employment Cost Index consists of wages, salaries and employer cost of employee benefits.

[2] Consist of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[3] Consists of legislative, judicial, administrative, and regulatory activities.

[4] Includes, for example, library, social, and health services.

23. Employment Cost Index, wages and salaries, by occupation and industry group

(June 1981 = 100)

Series	1983		1984				1985			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept., 1985	
Civilian workers [1]	115.3	116.6	117.9	118.8	120.3	121.7	123.1	124.2	126.3	1.7	5.0
Workers, by occupational group:											
White-collar workers	116.7	117.9	119.3	120.4	122.2	123.5	125.2	126.4	128.8	1.9	5.4
Blue-collar workers	113.1	114.0	115.3	116.1	117.0	118.2	119.3	120.5	122.0	1.2	4.3
Service workers	115.1	117.4	120.0	119.8	122.3	124.3	124.8	125.3	128.0	2.2	4.7
Workers, by industry division											
Manufacturing	113.3	114.5	115.7	116.8	118.0	119.5	121.0	122.3	123.2	.7	4.4
Nonmanufacturing	116.1	117.4	118.8	119.7	121.3	122.6	123.9	125.0	127.6	2.1	5.2
Services	120.1	121.3	123.3	123.8	127.2	128.9	129.7	130.5	134.2	2.8	5.5
Public administration [2]	118.2	119.4	120.4	121.3	124.4	125.7	127.0	127.2	131.4	3.3	5.6
Private industry workers	114.5	115.8	117.2	118.2	119.2	120.6	122.0	123.3	124.9	1.3	4.8
Workers, by occupational group:											
White-collar workers	115.9	117.2	118.5	119.9	120.9	122.3	124.0	125.5	127.3	1.4	5.3
Professional and technical	119.9	120.4	122.2	123.8	125.2	127.3	127.7	128.7	131.2	1.9	4.8
Managers and administrators	114.8	115.7	118.0	119.2	121.0	122.2	123.8	126.5	127.7	.9	5.5
Salesworkers	109.4	111.2	110.2	111.9	110.5	111.6	116.3	117.4	119.3	1.6	8.0
Clerical workers	116.7	118.3	119.6	120.7	122.0	122.9	124.7	125.6	127.1	1.2	4.2
Blue-collar workers	112.9	113.8	115.1	115.9	116.7	118.0	119.1	120.3	121.7	1.2	4.3
Craft and kindred workers	114.3	115.4	116.5	117.3	118.0	119.4	120.8	122.0	123.7	1.4	4.8
Operatives, except transport	112.3	113.6	114.9	115.8	116.6	117.9	118.9	120.1	121.1	.8	3.9
Transport equipment operatives	110.7	110.2	111.7	112.7	113.4	114.0	114.5	115.7	117.7	1.7	3.8
Nonfarm laborers	110.8	112.1	112.8	114.1	114.7	115.9	116.7	118.5	118.6	.1	3.4
Service workers	113.7	116.5	118.6	119.3	121.2	123.7	123.8	124.4	126.3	1.5	4.2
Workers, by industry division:											
Manufacturing	113.3	114.5	115.7	116.8	118.0	119.5	121.0	122.3	123.2	.7	4.4
Durables	112.9	114.4	115.7	116.6	117.7	119.1	120.6	122.0	122.7	.6	4.2
Nondurables	113.9	114.8	115.8	117.1	118.6	120.2	121.6	122.6	124.0	1.1	4.6
Nonmanufacturing	115.2	116.5	118.0	119.0	119.9	121.2	122.6	123.9	125.9	1.6	5.0
Construction	112.2	112.9	113.3	114.0	114.3	114.4	115.5	116.6	117.3	.6	2.6
Transportation and public utilities	115.7	116.8	118.5	119.3	119.9	120.7	121.7	122.8	124.8	1.6	4.1
Wholesale and retail trade	111.5	112.3	114.3	116.0	116.5	118.1	118.8	121.1	122.7	1.3	5.3
Wholesale trade	115.7	116.5	118.2	120.0	120.7	122.9	123.7	126.8	127.7	.7	5.8
Retail trade	109.9	110.6	112.6	114.4	114.9	116.2	116.9	118.9	120.8	1.6	5.1
Finance, insurance, and real estate	113.5	116.9	116.1	116.9	115.3	115.8	122.0	121.7	124.1	2.0	7.6
Services	120.4	121.9	124.2	124.7	127.1	129.5	129.9	131.0	133.9	2.2	5.4
State and local government workers	118.2	120.0	121.6	122.0	126.1	127.1	128.4	128.7	133.2	3.5	5.6
Workers, by occupational group											
White-collar workers	118.8	120.6	122.2	122.5	127.1	128.0	129.3	129.6	134.3	3.6	5.7
Blue-collar workers	116.4	116.9	118.1	119.6	121.9	122.5	124.2	124.5	127.9	2.7	4.9
Workers, by industry division											
Services	118.8	120.6	122.2	122.5	127.2	128.1	129.4	129.7	134.5	3.7	5.7
Schools	118.9	120.4	122.2	122.3	127.8	128.7	129.9	130.2	135.6	4.3	6.3
Elementary and secondary	121.1	121.7	122.9	123.0	129.3	130.2	130.8	131.1	137.5	4.9	6.3
Hospitals and other services [3]	118.7	120.6	121.9	123.1	125.1	125.9	127.7	128.0	130.2	1.7	4.1
Public administration [2]	118.2	119.4	120.4	121.3	124.4	125.7	127.0	127.2	131.4	3.3	5.6

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[1] Consist of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[2] Consist of legislative, judicial, administrative, and regulatory activities.

[3] Includes, for example, library, social and health services.

24. Employment Cost Index, private nonfarm workers, by bargaining status, region, and area size

(June 1981 = 100)

Series	1983		1984				1985			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept., 1985	
COMPENSATION											
Workers, by bargaining status[1]											
Union	117.8	118.8	120.6	121.7	122.6	123.9	124.8	125.5	126.5	0.8	3.2
Manufacturing	116.3	117.2	119.3	120.5	121.6	123.2	124.2	124.2	125.0	.6	2.8
Nonmanufacturing	119.2	120.4	121.9	122.8	123.6	124.5	125.3	126.6	127.8	.9	3.4
Nonunion	114.4	115.9	118.0	119.2	120.3	121.9	123.8	125.0	126.8	1.4	5.4
Manufacturing	113.6	114.9	116.6	117.9	119.3	120.8	123.6	124.8	125.7	.7	5.4
Nonmanufacturing	114.7	116.4	118.8	119.8	120.7	122.4	123.9	125.1	127.3	1.8	5.5
Workers, by region[1]											
Northeast	116.0	117.5	118.9	120.7	122.4	123.8	125.1	126.4	128.8	1.9	5.2
South	115.6	117.1	119.7	120.7	120.7	122.2	124.2	125.2	126.5	1.0	4.8
Midwest (formerly North Central)	113.9	114.7	117.2	117.9	119.7	120.8	122.0	122.7	124.2	1.2	3.8
West	118.0	120.0	121.0	122.2	122.5	124.9	126.8	127.9	129.1	.9	5.4
Workers, by area size[1]											
Metropolitan areas	116.0	117.4	119.4	120.6	121.5	123.2	124.7	125.7	127.3	1.3	4.8
Other areas	113.4	114.5	116.7	117.4	119.0	119.8	121.4	122.5	123.9	1.1	4.1
WAGES AND SALARIES											
Workers, by bargaining status[1]											
Union	116.0	116.9	118.1	119.0	119.8	120.9	121.7	123.0	124.1	.9	3.6
Manufacturing	113.7	114.8	116.1	117.1	118.1	119.5	120.4	121.7	122.8	.9	4.0
Nonmanufacturing	118.3	118.9	120.1	120.7	121.3	122.1	122.8	124.1	125.3	1.0	3.3
Nonunion	113.7	115.2	116.7	117.8	118.8	120.4	122.1	123.4	125.2	1.5	5.4
Manufacturing	113.0	114.2	115.4	116.5	117.9	119.5	121.5	122.8	123.7	.7	4.9
Nonmanufacturing	114.0	115.6	117.2	118.3	119.2	120.7	122.3	123.6	125.9	1.9	5.6
Workers, by region[1]											
Northeast	115.3	116.6	117.4	118.9	120.5	121.9	123.0	124.6	126.8	1.8	5.2
South	114.3	115.7	117.9	119.0	119.0	120.2	122.3	123.4	124.8	1.1	4.9
Midwest (formerly North Central)	112.8	113.6	115.5	116.0	117.8	118.7	119.6	121.1	122.5	1.2	4.0
West	116.5	118.5	118.8	119.6	120.0	122.5	124.0	125.1	126.6	1.2	5.5
Workers, by area size[1]											
Metropolitan areas	114.9	116.2	117.6	118.6	119.5	121.0	122.4	123.8	125.5	1.4	5.0
Other areas	112.3	113.4	115.1	116.0	117.5	118.3	119.6	120.6	121.9	1.1	3.7

[1] The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the Monthly Labor Review Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

25. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		Quarterly average							
	1983	1984	1983	1984				1985		
			IV	I	II	III	IV	I^{p}	II^{p}	III^{p}
Specified adjustments:										
Total compensation[1] adjustments,[2] settlements covering 5,000 workers or more:										
First year of contract	3.4	3.6	4.0	5.1	3.5	2.7	3.7	4.4	3.5	1.7
Annual rate over life of contract	3.0	2.8	3.1	4.7	3.2	3.1	2.0	4.0	3.5	2.9
Wage adjustments, settlements covering 1,000 workers or more:										
First year of contract	2.6	2.4	4.2	2.8	2.6	2.1	2.3	3.4	2.5	1.7
Annual rate over life of contract	2.8	2.4	2.8	3.3	2.7	2.6	1.5	3.2	2.9	2.9
Effective adjustments:										
Total effective wage adjustment[3]	4.0	3.7	1.1	.9	.9	1.2	.7	.7	.8	1.2
From settlements reached in period	.8	.8	.6	.1	.1	.2	.3	.1	.2	.2
Deferred from settlements reached in earlier periods	2.5	2.0	.3	.4	.7	.7	.2	.6	.5	.6
From cost-of-living-adjustments clauses	.6	.9	.2	.3	.2	.3	.2	.1	.1	.4

[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases and no changes in compensation or wages.

[3] Because of rounding total may not equal sum of parts.

^{p} = preliminary.

26. Average specified compensation and wage adjustments, major collective bargaining settlements in private industry situations covering 1,000 workers or more during 4-quarter periods (in percent)

Measure	Average for four quarters ending–							
	1983	1984				1985		
	IV	I	II	III	IV	I^p	II^p	III^p
Specified total compensation adjustments, settlements covering 5,000 workers or more, all industries:								
First year of contract	3.4	4.8	4.7	4.2	3.6	3.4	3.5	3.1
Annual rate over life of contract	3.0	3.6	3.5	3.2	2.8	2.7	2.8	2.8
Specified wage adjustments, settlements covering 1,000 workers or more:								
All industries								
First year of contract	2.6	3.5	3.5	3.2	2.4	2.4	2.4	2.3
Contracts with COLA clauses	1.9	4.0	4.6	4.5	2.9	2.5	2.3	2.0
Contracts without COLA clauses	3.3	3.0	2.7	2.3	2.1	2.4	2.4	2.6
Annual rate over life of contract	2.8	3.0	3.1	2.8	2.4	2.3	2.4	2.4
Contracts with COLA clauses	2.0	2.6	2.9	2.8	1.8	1.3	1.8	1.8
Contracts without COLA clauses	3.7	3.4	3.2	2.8	2.7	2.8	2.8	2.9
Manufacturing								
First year of contract	.4	2.8	3.0	2.8	2.3	2.1	2.0	1.5
Contracts with COLA clauses	-.7	2.4	3.2	1.5	2.1	2.0	1.9	1.5
Contracts without COLA clauses	3.2	2.9	2.8	3.7	2.9	2.5	2.2	1.4
Annual rate over life of contract	2.1	2.8	3.1	2.8	1.5	1.4	1.4	1.6
Contracts with COLA clauses	1.4	2.2	2.8	1.8	1.0	.9	1.3	1.4
Contracts without COLA clauses	3.9	3.7	3.6	3.8	3.3	3.2	3.0	2.4
Nonmanufacturing								
First year of contract	3.8	3.8	3.7	3.3	2.5	2.6	2.7	3.1
Contracts with COLA clauses	4.4	4.9	5.2	5.4	5.5	5.1	4.3	4.0
Contracts without COLA clauses	3.3	3.0	2.6	2.1	2.0	2.4	2.5	2.9
Annual rate over life of contract	3.2	3.1	3.0	2.8	2.9	2.8	2.9	3.2
Contracts with COLA clauses	2.6	2.9	3.0	3.1	4.8	4.0	3.8	3.9
Contracts without COLA clauses	3.7	3.3	3.0	2.6	2.6	2.7	2.8	3.1
Construction								
First year of contract	1.5	1.2	.8	.9	.5	.9	1.1	1.0
Contracts with COLA clauses	-.6	.1	-.4	4.0	4.0	4.6	9.2	(¹)
Contracts without COLA clauses	1.9	1.4	.9	.9	.4	.8	1.0	(¹)
Annual rate over life of contract	2.4	2.0	1.7	1.4	1.0	1.4	1.8	1.7
Contracts with COLA clauses	.9	.7	.0	1.4	1.4	1.7	4.6	(¹)
Contracts without COLA clauses	2.6	2.2	1.8	1.4	1.0	1.4	1.7	(¹)

[1] Data do not meet publication standards.

^p = preliminary.

27. Average effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more during 4-quarter periods (in percent)

Effective wage adjustment	Average for four quarters ending–						
	1984				1985		
	I	II	III	IV	I^p	II^p	III^p
For all workers:¹							
Total	4.7	4.3	4.2	3.7	3.6	3.5	3.4
From settlements reached in period	1.2	1.0	1.0	.8	.7	.9	.8
Deferred from settlements reached in earlier period	2.5	2.2	2.1	2.0	2.2	1.9	1.8
From cost-of-living-adjustments clauses	1.0	1.1	1.2	.9	.7	.7	.8
For workers receiving changes:							
Total	5.5	5.3	5.0	4.4	4.5	4.2	4.3
From settlements reached in period	4.2	3.6	3.7	3.0	2.9	2.9	2.8
Deferred from settlements reached in earlier period	5.5	4.9	4.2	4.0	4.2	3.9	3.7
From cost-of-living-adjustments clauses	3.8	4.0	3.2	2.7	2.3	2.3	2.8

[1] Because of rounding total may not equal sum of parts.

^p = preliminary.

28. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, State and local government collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		First 6 months 1985p
	1983	1984	
Specified adjustments:			
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:			
First year of contract	4.6	5.2	4.7
Annual rate over life of contract	5.2	5.4	4.9
Wage adjustments, settlements covering 1,000 workers or more:			
First year of contract	–	4.8	4.9
Annual rate over life of contract	–	5.1	5.1
Effective adjustments:			
Total effective wage adjustment [3]	–	5.0	1.6
From settlements reached in period	–	1.9	.9
Deferred from settlements reached in earlier periods	–	3.1	.6
From cost-of-living-adjustment clauses	–	.0	.0

[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases and no changes in compensation or wages.

[3] Because of rounding total may not equal sum of parts.

– Data not available.

p = preliminary.

29. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1984	1985											
	1984	1985	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July^p	Aug.^p	Sept.^p	Oct.^p	Nov.^p	Dec.^p
Number of stoppages:															
Beginning in period	62	–	3	2	4	4	3	2	2	9	6	11	4	2	2
In effect during period	68	–	13	9	13	12	8	8	8	13	18	20	18	11	8
Workers involved:															
Beginning in period (in thousands)	376.0	–	42.5	4.7	29.3	15.2	6.2	6.9	15.7	52.3	15.3	66.5	74.8	25.0	9.2
In effect during period (in thousands)	391.0	–	58.0	16.0	43.9	48.2	14.1	14.8	28.5	60.2	66.6	93.8	117.3	64.8	38.1
Days idle:															
Number (in thousands)	8,496.0	–	655.8	278.3	259.3	698.5	229.5	203.3	454.3	500.2	889.7	931.4	1,430.0	651.2	665.4
Percent of estimated working time [1]	.04	–	.04	.01	.01	.03	.01	.01	.02	.02	.03	.04	.06	.03	.03

[1] Agricultural and government employees are included in the total employed and total working time: private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time worked is found in "'Total Economy' Measure of Strike Idleness," Monthly Labor Review, October 1968, pp. 54-58.

– Data not available.

p = preliminary.

30. Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity service group; and CPI for urban wage earners and clerical workers, All items

(1967=100, unless otherwise indicated)

Series	Annual average		1984	1985											
	1984	1985	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS:															
All items	311.1	322.2	315.5	316.1	317.4	318.8	320.1	321.3	322.3	322.8	323.5	324.5	325.5	326.6	327.4
All items (1957-59=100)	361.8	374.7	367.0	367.6	369.1	370.7	372.3	373.7	374.8	375.5	376.2	377.4	378.5	379.9	380.8
Food and beverages	295.1	302.0	297.2	299.3	301.4	301.6	301.6	301.0	301.4	301.6	301.8	302.1	302.5	303.6	305.6
Food	302.9	309.8	305.1	307.3	309.5	309.7	309.6	308.9	309.3	309.5	309.7	309.9	309.8	311.0	313.2
Food at home	292.6	296.8	293.2	298.1	298.6	298.4	297.7	296.2	296.0	296.2	295.9	295.6	295.3	298.6	299.3
Cereals and bakery products	305.3	317.0	310.7	312.4	313.7	314.4	314.8	315.9	317.3	317.3	318.5	319.2	318.9	319.9	321.9
Meats, poultry, fish, and eggs	288.6	283.4	285.9	288.6	287.0	285.1	283.6	279.8	280.8	280.5	279.7	280.6	281.1	286.1	289.8
Dairy products	253.2	258.0	258.4	258.6	258.2	258.9	259.3	258.4	257.8	257.8	257.4	258.0	257.1	257.1	258.9
Fruits and vegetables	317.4	325.7	309.7	320.8	333.6	332.1	333.2	330.3	329.0	328.9	328.3	319.9	317.1	314.3	323.9
Other foods at home	352.2	361.1	354.6	358.0	358.6	360.5	360.8	361.3	360.8	360.6	361.7	362.6	363.0	362.2	361.3
Sugar and sweets	389.1	398.8	391.7	394.5	394.6	394.8	396.1	397.6	398.3	400.2	401.8	401.1	402.6	401.4	402.2
Fats and oils	298.0	294.4	293.7	295.9	295.1	294.9	294.0	294.0	296.0	297.8	297.1	294.8	291.2	292.1	290.3
Nonalcoholic beverages	443.0	451.7	443.4	449.4	452.7	454.0	454.0	454.1	451.5	448.2	448.6	452.8	454.1	451.7	448.8
Other prepared foods	294.9	294.2	287.7	288.6	291.5	292.2	292.8	293.4	293.4	294.5	295.8	296.3	296.8	296.8	297.3
Food away from home	333.4	346.6	338.2	339.9	341.4	342.6	343.9	345.1	346.9	347.3	348.4	349.9	350.3	351.3	352.1
Alcoholic beverages	222.1	229.5	223.9	224.3	225.6	226.5	226.7	227.7	227.8	227.8	228.9	229.3	236.4	236.2	236.2
Housing	336.5	349.9	341.2	342.0	343.6	344.7	346.9	348.5	350.4	351.6	352.9	353.8	354.4	355.0	355.8
Shelter	361.7	382.0	370.1	371.2	373.3	374.3	375.9	378.5	381.0	383.2	385.9	386.9	389.1	391.3	392.3
Renters' costs (12/82=100)	108.6	115.4	111.3	111.8	112.4	112.9	113.5	114.5	115.1	115.8	116.6	117.0	117.9	118.4	119.3
Rent, residential	249.3	264.6	256.1	257.1	258.4	259.2	260.4	262.6	263.6	265.0	266.6	267.7	269.9	271.7	272.4
Other renters' costs	373.4	388.4	375.1	378.5	381.9	386.1	390.9	396.5	401.6	405.1	409.9	410.7	412.5	408.7	398.1
Homeowners' costs (12/82=100)	107.3	113.1	109.8	110.0	110.7	110.8	111.3	112.4	112.8	113.5	114.3	114.6	115.1	115.8	116.3
Owners' equivalent rent (12/82=100)	107.3	113.2	109.8	110.0	110.7	110.9	111.3	112.5	112.8	113.5	114.3	114.8	115.1	115.9	116.3
Household insurance (12/82=100)	107.5	112.4	109.0	109.0	109.5	110.4	111.4	112.0	112.7	112.7	113.0	113.7	114.6	114.5	115.0
Maintenance and repairs	350.2	368.9	364.4	368.0	366.8	370.0	368.0	368.2	367.8	367.8	370.6	368.7	368.5	372.7	373.7
Maintenance and repair services	409.7	421.1	414.2	414.7	415.8	422.2	418.2	416.0	423.2	421.1	425.1	421.9	422.2	426.4	426.2
Maintenance and repair commodities	262.7	268.8	267.7	269.9	270.5	270.6	270.4	269.2	265.7	267.8	269.2	268.6	268.0	271.5	273.3
Fuel and other utilities	387.3	393.6	388.0	387.2	386.5	388.2	386.7	393.0	398.4	399.9	399.9	400.5	395.6	392.1	393.3
Fuels	485.5	488.1	480.2	481.2	480.6	482.2	483.0	480.0	487.7	487.3	494.4	496.8	496.4	481.5	483.6
Fuel oil, coal, and bottled gas	641.8	619.5	625.9	621.6	623.4	620.8	623.5	620.8	612.0	601.9	594.6	601.7	615.3	641.6	657.3
Gas (piped) and electricity	445.2	452.7	442.2	444.1	443.3	445.5	445.9	454.7	465.6	467.1	465.1	465.5	453.9	440.5	439.9
Other utilities and public services	230.2	240.7	234.1	235.3	234.3	236.3	236.4	238.8	241.1	242.8	244.2	244.6	244.7	245.9	245.8
Household furnishings and operations	242.5	247.2	244.2	244.2	246.2	246.9	247.9	247.9	247.1	246.5	247.0	247.1	248.4	248.9	248.8
Housefurnishings	199.1	200.1	199.7	198.8	200.7	200.6	201.7	201.2	200.0	198.8	199.1	199.0	200.3	200.8	200.1
Housekeeping supplies	303.2	313.6	307.5	309.9	311.5	311.8	312.6	312.9	313.6	313.1	313.5	313.9	315.7	316.4	317.7
Housekeeping services	327.5	338.9	330.6	331.3	333.9	337.4	337.9	338.0	338.3	338.8	340.7	341.5	342.2	342.7	343.2
Apparel and upkeep	200.2	206.0	203.2	199.8	201.8	205.3	205.9	205.3	204.6	202.8	205.3	209.6	211.1	211.2	209.0
Apparel commodities	187.0	191.6	189.6	185.7	187.5	191.3	191.8	191.0	190.2	188.0	190.6	195.3	196.7	196.8	194.2
Men's and boys' apparel	192.4	197.9	196.0	193.2	192.8	195.2	197.4	197.8	196.4	194.5	197.2	201.5	203.2	203.6	202.0
Women's and girls' apparel	163.6	169.5	167.2	161.3	164.1	169.9	170.0	169.0	166.5	163.4	167.7	176.1	177.9	176.5	172.6
Infants' and toddlers' apparel	287.0	299.7	291.9	290.3	298.6	302.1	295.3	299.3	300.7	294.5	300.6	302.0	302.1	307.0	304.1
Footwear	209.5	212.1	211.4	208.6	210.1	213.1	213.2	213.2	213.9	211.4	210.3	210.9	212.3	215.5	213.1
Other apparel commodities	216.4	215.5	213.3	212.2	215.6	216.9	215.8	215.1	216.3	216.7	217.5	215.2	214.9	214.9	214.6
Apparel services	305.0	320.9	311.5	312.5	316.0	317.1	318.4	319.4	319.9	321.4	322.9	324.1	325.7	326.3	326.9
Transportation	311.7	319.9	315.8	314.7	314.3	316.7	320.0	321.4	321.8	321.8	320.7	319.7	320.9	323.2	324.0
Private transportation	306.6	314.2	310.4	309.1	308.7	311.0	314.6	316.0	316.3	316.1	314.9	313.6	314.7	317.0	317.8
New vehicles	208.0	214.9	211.6	212.7	213.6	213.8	213.9	214.2	214.3	214.3	214.2	214.2	215.9	218.2	219.2
New cars	208.5	215.2	212.0	213.1	213.9	214.1	214.1	214.5	214.7	214.7	214.6	214.5	216.2	218.4	219.4
Used cars	375.7	379.7	382.7	382.8	384.6	386.1	386.4	384.2	380.3	376.7	374.0	374.3	375.3	378.4	375.6
Motor fuel	370.7	373.8	366.4	357.6	352.4	360.6	374.2	381.6	384.7	385.5	381.9	377.7	374.6	376.7	377.5
Gasoline	370.2	373.3	365.7	356.8	351.6	360.0	373.8	381.4	384.5	385.3	381.8	377.4	374.2	376.1	376.8
Maintenance and repair	341.5	351.4	346.2	346.9	348.2	348.5	348.2	349.6	350.4	351.1	351.9	353.5	355.7	356.8	357.5
Other private transportation	273.3	287.6	282.3	283.9	284.4	284.5	285.8	286.6	286.6	287.6	287.7	288.8	289.6	289.9	295.2
Other private transportation commodities	201.5	202.6	202.2	202.0	203.8	201.9	202.8	201.3	203.9	202.2	202.8	203.4	202.8	201.6	202.1
Other private transportation services	295.0	312.8	306.2	308.3	308.5	309.1	310.5	310.7	311.3	313.0	313.0	310.4	315.4	321.2	322.7
Public transportation	385.2	402.8	392.8	394.5	394.4	397.3	398.0	398.4	399.3	402.4	403.7	406.0	411.5	412.8	412.9
Medical care	379.5	403.1	388.5	391.1	393.6	396.5	398.0	399.5	401.7	404.0	406.6	408.3	410.5	413.0	414.7
Medical care commodities	239.7	256.7	247.3	248.2	249.8	251.9	253.9	255.2	257.0	257.9	259.3	260.2	261.3	262.7	262.9
Medical care services	410.3	435.1	419.3	422.4	425.3	428.1	429.4	430.9	433.0	435.8	438.6	440.5	443.0	445.8	448.0
Professional services	346.1	367.3	354.0	356.8	359.3	361.9	363.0	364.5	366.4	368.1	370.0	371.7	373.2	375.5	377.1
Other medical care services	486.0	517.0	496.2	501.7	505.2	508.0	509.6	511.2	513.6	517.6	521.6	523.9	527.4	530.8	533.6
Entertainment	255.1	265.0	260.1	261.0	261.3	262.2	263.3	263.6	264.8	265.7	265.7	266.6	268.4	269.0	269.3
Entertainment commodities	253.3	260.6	256.8	257.1	257.9	258.7	259.5	259.5	260.1	260.8	260.5	262.5	264.0	264.0	262.5
Entertainment services	258.3	271.8	265.5	267.0	266.7	267.6	269.2	269.9	272.0	273.3	273.6	273.3	275.2	276.6	277.1
Other goods and services	307.7	326.6	316.7	319.1	320.5	321.1	321.8	322.3	323.0	325.0	326.0	333.3	334.9	335.3	336.5
Tobacco products	310.0	328.5	314.6	321.0	323.2	323.7	324.0	324.1	324.8	330.0	331.5	332.8	334.4	334.7	337.4
Personal care	271.4	281.9	276.6	277.2	278.2	278.7	279.8	280.9	281.7	282.3	283.3	284.1	285.0	285.4	286.3
Toilet goods and personal care appliances	269.6	278.5	273.5	274.0	275.4	276.0	277.1	277.5	277.9	278.9	279.4	280.6	281.4	281.1	282.5
Personal care services	274.1	286.0	280.4	281.1	281.7	282.0	283.3	285.0	286.1	286.3	287.7	288.2	289.2	290.2	290.6
Personal and educational expenses	365.7	397.1	384.3	385.6	386.9	387.6	388.3	388.5	389.1	390.1	390.7	412.5	414.7	415.4	415.5
School books and supplies	322.8	350.8	334.0	340.7	343.8	343.9	344.5	344.5	344.9	345.5	346.1	362.1	364.5	364.7	364.7
Personal and educational services	375.6	407.7	395.5	395.9	396.9	397.6	398.5	398.6	399.4	400.4	401.1	423.9	426.2	426.9	427.0

See footnotes at end of table.

39. Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity service group; and CPI for urban wage earners and clerical workers, All items

(1967=100, unless otherwise indicated)

Series	Annual average		1984	1985											
	1984	1985	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
All items	311.1	322.2	315.5	316.1	317.4	318.8	320.1	321.3	322.3	322.8	323.5	324.5	325.5	326.6	
Commodities	290.7	298.7	292.8	292.7	294.0	295.3	296.8	297.0	296.9	296.5	296.5	297.1	297.9	299.2	
Food and beverages	295.1	302.0	297.2	299.3	301.4	301.6	301.6	301.0	301.4	301.6	301.6	302.1	302.5	303.6	
Commodities less food and beverages	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nondurables less food and beverages	275.7	282.1	277.0	274.4	274.7	277.9	281.5	283.1	283.5	282.9	283.1	284.6	285.3	286.8	
Apparel commodities	187.0	191.6	188.6	185.7	187.5	191.3	191.8	191.0	190.2	189.0	190.6	195.3	196.7	196.8	
Nondurables less food, beverages, and apparel	325.8	333.3	326.6	324.5	324.2	327.1	332.3	335.1	336.2	336.4	336.4	336.3	336.6	337.9	
Durables	266.5	270.7	269.8	270.2	271.4	271.9	272.6	271.6	270.4	269.3	268.6	269.7	270.2	271.5	
Services	363.0	381.5	370.6	372.1	373.5	375.0	376.2	378.8	381.3	383.3	384.9	386.5	387.7	388.7	
Rent of shelter	107.7	113.9	110.3	110.6	111.3	111.5	112.0	113.2	113.6	114.3	115.1	115.4	116.1	116.7	
Household services less rent of shelter	108.1	111.2	108.5	108.9	108.9	108.7	108.8	110.9	112.7	113.2	113.2	113.6	112.1	110.8	
Transportation services	321.1	337.0	330.1	331.8	332.2	333.2	334.1	334.5	336.3	337.0	337.4	337.1	341.1	344.7	
Medical care services	410.3	435.1	419.3	422.4	425.3	428.1	429.4	430.9	433.0	435.8	438.6	440.5	443.0	445.8	
Other services	298.0	314.1	306.1	307.1	307.8	308.6	309.9	310.7	312.0	313.0	313.8	319.7	321.4	322.5	
Special indexes:															
All items less food	311.3	323.3	316.2	316.3	317.4	319.1	320.8	322.4	323.6	324.2	325.0	326.2	327.4	328.6	
All items less shelter	295.1	303.9	298.6	298.9	300.0	301.5	302.8	303.4	304.3	304.4	304.8	305.7	306.3	307.2	
All items less homeowners' costs	108.3	109.7	107.6	107.8	108.2	108.7	109.2	109.5	109.8	109.9	110.1	110.4	110.7	111.1	
All items less medical care	307.3	317.7	311.5	311.9	313.1	314.5	315.8	317.0	317.9	318.4	318.9	319.9	320.8	321.9	
Commodities less food	287.0	272.5	269.2	267.8	268.6	270.6	272.8	273.4	273.1	272.4	272.3	273.1	274.4	275.7	
Nondurables less food	270.8	277.2	272.2	268.7	270.2	273.2	276.5	279.0	279.4	277.9	278.1	279.6	282.7	282.0	
Nondurables less food and apparel	311.9	319.2	312.8	310.9	310.8	313.5	318.1	320.7	321.7	321.9	321.1	321.0	322.0	324.0	
Nondurables	298.6	299.2	298.3	299.0	300.2	301.0	302.7	303.3	302.7	298.5	299.7	294.6	295.1	298.4	
Services less rent of shelter	108.5	113.5	110.6	111.1	111.3	111.9	112.2	112.8	113.7	114.2	114.5	115.0	115.1	115.2	
Services less medical care	355.6	373.3	363.0	364.3	365.5	366.9	368.1	370.9	373.3	375.2	376.7	378.3	379.3	380.1	
Energy	423.6	428.5	419.9	414.5	411.4	416.8	424.4	431.7	436.8	437.1	433.8	432.6	427.1	425.1	
All items less energy	302.9	314.8	308.2	309.2	310.9	312.0	312.7	313.3	313.9	314.6	315.6	316.8	318.4	319.8	
All items less food and energy	301.2	314.4	307.3	307.9	309.5	310.8	311.8	312.8	313.4	314.1	315.3	316.9	318.9	320.4	
Commodities less food and energy	253.1	259.7	256.7	256.5	258.1	258.3	260.0	259.6	259.0	258.2	258.8	260.2	262.0	262.7	
Energy commodities	408.8	408.9	404.1	395.7	391.3	398.3	410.8	417.0	418.7	418.1	414.0	411.2	410.1	415.2	
Services less energy	356.4	375.9	365.0	366.4	368.0	369.4	370.7	372.9	374.8	376.8	378.6	380.2	382.5	384.8	
Purchasing power of the consumer dollar:															
1967=$1.00	32.1	31.0	31.7	31.6	31.5	31.4	31.2	31.1	31.0	31.0	30.9	30.8	30.7	30.6	30.5
1957-59=$1.00	27.6	26.7	27.2	27.2	27.1	27.0	26.9	26.8	26.7	26.6	26.6	26.5	26.4	26.3	26.3
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS:															
All items	307.6	318.5	312.2	312.6	313.9	315.3	316.7	317.8	318.7	319.1	319.6	320.5	321.3	322.0	323.4
All items (1957-59=100)	357.7	370.4	363.1	363.6	365.1	366.7	368.3	369.6	370.6	371.2	371.8	372.7	373.7	375.1	376.1
Food and beverages	295.2	301.8	297.1	299.1	301.2	301.6	301.4	300.6	301.2	301.4	301.6	301.9	302.2	303.4	305.4
Food	302.7	309.3	304.7	306.9	309.0	309.3	309.2	308.4	308.8	309.0	309.1	309.3	309.3	310.6	312.8
Food at home	291.2	295.3	291.7	294.5	297.0	296.9	296.1	294.6	294.5	294.6	294.3	294.0	293.7	296.2	297.8
Cereals and bakery products	303.7	315.4	308.0	310.7	311.9	312.7	313.1	314.1	315.7	315.7	316.6	317.6	317.3	318.2	320.4
Meats, poultry, fish, and eggs	269.0	262.7	265.3	269.0	268.3	265.6	262.9	259.2	260.3	258.7	259.0	258.9	260.4	265.4	269.2
Dairy products	252.2	259.9	257.3	257.8	258.3	257.8	257.2	257.3	258.7	256.6	256.3	256.6	255.9	255.9	256.7
Fruits and vegetables	312.5	320.3	303.9	314.9	327.1	325.6	329.1	324.6	323.5	323.9	320.6	313.6	311.2	309.4	310.3
Other foods at home	352.7	361.5	354.9	358.3	360.2	361.0	361.3	361.6	361.3	361.1	362.2	362.9	363.4	362.5	361.9
Sugar and sweets	388.6	389.3	391.4	394.0	394.4	394.2	395.5	398.9	399.0	398.6	401.4	400.6	402.2	400.9	401.8
Fats and oils	287.5	293.9	290.1	295.3	294.7	294.3	293.7	293.6	295.6	297.3	296.5	294.1	290.6	291.6	299.6
Nonalcoholic beverages	444.4	453.2	444.7	460.9	464.2	465.5	466.6	466.4	463.0	449.8	451.2	454.1	455.6	463.1	460.4
Other prepared foods	296.4	295.7	289.1	290.9	292.0	293.7	294.2	294.9	295.0	296.1	297.3	297.7	298.3	298.3	299.7
Food away from home	335.7	349.7	342.3	343.0	344.6	345.6	347.1	348.4	350.1	350.4	351.5	353.0	353.4	354.4	355.2
Alcoholic beverages	225.3	232.6	227.2	227.6	229.1	229.9	229.9	230.9	231.0	231.0	232.2	232.6	233.1	233.6	233.1
Housing	329.2	343.3	336.0	336.7	337.2	338.2	339.5	342.1	344.0	345.0	346.2	347.2	347.5	348.3	348.1
Shelter	360.0	370.4	[illegible]	330.0	362.0	363.0	364.7	368.1	369.5	371.5	374.0	375.0	377.1	379.3	380.4
Renters' costs (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rent, residential	248.6	263.7	256.3	258.3	257.5	258.4	259.6	261.8	262.7	264.1	265.7	266.6	268.9	270.7	271.5
Other renters' costs	372.4	397.9	374.8	377.8	380.8	385.3	391.0	398.7	401.0	406.2	408.6	408.8	411.6	408.0	387.5
Homeowners' costs (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Owners' equivalent rent (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Household insurance (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maintenance and repairs	356.3	364.1	358.8	360.9	361.5	364.3	363.1	361.8	362.9	363.4	365.6	364.4	364.6	367.7	370.5
Maintenance and repair services	403.5	415.0	407.7	407.8	408.8	414.8	411.7	410.1	417.0	415.3	419.6	416.8	417.4	420.9	420.1
Maintenance and repair commodities	257.2	261.1	259.3	260.8	261.1	261.6	261.6	260.7	258.4	260.0	260.6	260.5	260.5	262.7	264.2
Fuel and other utilities	388.6	394.7	397.1	398.3	397.5	398.2	399.7	393.8	400.9	401.2	400.1	401.9	396.3	393.2	394.3
Fuels	465.0	467.5	479.7	460.7	460.3	461.6	462.3	468.9	467.7	467.0	464.0	466.7	467.2	461.0	469.1
Fuel oil, coal, and bottled gas	644.3	622.0	659.4	623.9	625.7	623.1	625.9	623.2	614.3	604.2	598.9	604.3	618.1	644.3	669.9
Gas (piped) and electricity	444.1	451.6	441.0	443.2	442.3	444.4	444.8	463.0	465.1	466.3	464.2	465.9	452.0	436.5	438.8
Other utilities and public services	231.2	241.6	236.0	236.3	235.1	237.2	237.3	237.7	242.0	243.7	245.1	245.6	245.7	248.8	248.7
Household furnishings and operations	239.1	243.4	240.5	240.4	242.6	243.2	244.1	244.0	243.3	242.6	243.1	243.2	244.5	245.1	245.2
Housefurnishings	197.0	197.6	197.3	198.3	198.3	198.2	199.2	198.9	197.6	196.2	196.6	196.5	197.7	198.3	197.8
Housekeeping supplies	300.2	310.7	304.6	305.9	308.5	308.9	309.8	310.0	310.8	310.3	310.4	311.0	312.7	313.6	315.0
Housekeeping services	328.0	340.2	331.1	331.8	334.9	336.5	336.0	339.2	339.5	341.0	342.2	342.8	343.9	344.5	345.0
Apparel and upkeep	199.1	205.0	202.1	199.5	200.7	204.2	204.9	204.2	203.7	201.8	204.3	208.7	210.2	210.2	208.1

See footnotes at end of table.

38. Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity service group; and CPI for urban wage earners and clerical workers, All Items

(1967=100, unless otherwise indicated)

Series	Annual average		1984	1985											
	1984	1985	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Apparel commodities	188.6	191.3	189.2	185.1	187.2	190.9	191.5	190.7	190.0	187.8	190.4	195.1	196.6	196.5	194.1
Men's and boys' apparel	192.9	196.2	195.8	193.6	193.1	195.7	197.8	198.2	196.6	194.8	197.3	201.8	203.5	203.7	202.2
Women's and girls' apparel	165.0	171.3	168.6	162.1	165.6	171.5	172.0	169.7	168.4	165.5	169.9	178.2	180.0	178.3	174.5
Infants' and toddlers' apparel	297.6	311.7	302.9	309.7	310.1	314.5	309.4	310.6	313.5	306.4	311.2	314.9	314.8	320.7	317.3
Footwear	210.0	212.5	211.7	209.5	210.6	213.4	213.3	213.3	214.1	211.8	210.5	211.0	212.6	215.9	213.6
Other apparel commodities	204.5	203.1	201.9	199.9	203.0	204.2	203.3	202.7	204.0	204.5	206.2	202.5	202.4	202.5	202.4
Apparel services	302.9	316.5	309.3	310.2	313.6	314.7	316.1	317.0	317.6	319.0	320.5	321.8	323.2	323.6	324.4
Transportation	313.9	321.6	317.9	316.7	318.3	318.7	322.0	323.3	323.6	323.5	322.3	321.1	322.2	324.6	325.3
Private transportation	310.1	317.4	313.9	312.6	312.2	314.6	318.0	319.4	319.6	319.3	318.0	316.6	317.6	320.1	320.6
New vehicles	207.3	214.2	210.6	212.0	212.8	213.2	213.2	213.5	213.9	213.6	213.5	213.5	215.3	217.5	218.6
New cars	207.9	214.5	211.3	212.4	213.1	213.4	213.4	213.8	214.0	214.0	213.9	213.8	215.5	217.8	218.8
Used cars	375.7	379.7	382.8	382.8	384.6	386.2	386.4	384.2	380.3	376.7	374.0	374.3	375.3	376.4	375.6
Motor fuel	372.2	375.4	367.8	360.0	354.0	362.2	375.7	383.0	386.2	387.2	383.8	379.5	378.3	378.7	378.6
Gasoline	371.8	375.0	367.1	359.2	353.2	361.6	375.3	382.7	386.0	387.0	383.7	379.2	375.8	378.1	378.9
Maintenance and repair	342.2	352.6	347.1	347.9	349.2	349.6	349.3	350.6	351.5	352.2	352.9	354.5	355.9	357.2	359.0
Other private transportation	274.2	287.7	283.3	284.7	285.2	285.1	286.3	286.9	286.9	287.7	287.6	286.2	288.2	289.7	294.7
Other private transportation commodities	209.9	204.7	204.7	204.2	206.1	204.2	205.1	206.6	205.9	204.3	204.9	205.6	206.0	208.7	204.3
Other private transportation services	295.4	312.3	306.7	308.6	308.7	309.2	310.4	310.4	310.9	312.4	312.1	308.9	314.1	309.2	321.3
Public transportation	376.8	391.7	382.8	384.2	384.2	389.7	387.4	387.6	388.4	392.1	393.5	396.6	398.3	400.1	400.2
Medical care	377.7	401.2	388.7	392.3	392.9	394.6	396.1	397.7	399.6	402.0	404.5	406.3	408.5	410.9	412.6
Medical care commodities	239.7	256.3	247.2	249.0	249.6	251.5	253.5	254.8	255.7	257.4	258.9	259.6	260.9	262.2	262.3
Medical care services	407.9	432.7	417.0	420.1	423.1	425.7	427.1	428.7	430.7	433.3	436.1	438.1	440.6	443.2	445.4
Professional services	346.5	367.7	354.4	357.2	359.7	362.4	363.6	365.9	366.8	368.5	370.4	372.1	373.7	375.8	377.8
Other medical care services	484.7	513.9	496.3	499.9	502.3	505.0	506.6	508.2	510.5	514.4	518.4	520.7	524.4	527.5	530.4
Entertainment	251.2	260.1	255.9	258.6	258.9	257.3	258.6	259.9	260.1	260.9	260.8	261.6	260.9	262.7	263.0
Entertainment commodities	247.7	254.2	250.9	251.1	251.9	252.2	253.2	253.1	253.9	254.5	254.3	256.0	257.1	257.2	256.7
Entertainment services	260.5	271.6	265.8	267.4	268.8	267.4	269.2	270.0	272.9	273.2	273.3	272.6	274.6	278.3	278.8
Other goods and services	304.9	322.7	312.9	315.6	317.1	317.6	318.3	318.8	318.5	321.8	322.9	328.7	330.1	330.6	331.9
Tobacco products	300.7	328.1	314.2	320.6	323.0	323.4	323.6	323.6	324.4	329.7	331.1	332.4	334.0	334.3	337.1
Personal care	269.4	278.6	274.4	274.9	275.9	276.3	277.5	278.6	279.2	279.9	280.9	281.8	282.7	283.1	284.0
Toilet goods and personal care appliances	270.3	278.0	274.2	274.6	275.9	276.5	277.5	277.8	278.2	279.2	280.0	281.1	282.0	281.9	283.3
Personal care services	268.8	280.5	276.0	275.7	276.3	276.5	278.0	279.7	280.7	280.9	282.2	282.8	283.7	284.8	285.2
Personal and educational expenses	369.2	389.3	376.4	377.9	379.3	380.1	380.7	380.9	381.6	382.5	383.2	414.5	416.5	417.3	417.4
School books and supplies	327.5	355.7	338.9	345.5	346.7	348.8	349.4	349.5	349.9	350.6	351.2	368.9	369.2	369.3	369.4
Personal and educational services	378.2	410.1	387.8	398.3	398.4	400.3	[illegible]	401.2	401.9	402.9	403.6	428.1	428.1	428.9	429.1
All items	307.6	318.5	312.2	312.6	313.9	315.3	316.7	317.8	318.7	319.1	319.6	320.5	321.3	322.6	323.4
Commodities	290.4	296.5	292.7	292.5	293.8	295.2	296.7	296.8	296.8	296.4	296.3	296.8	297.6	298.9	299.7
Food and beverages	295.2	301.6	297.1	299.1	301.2	301.6	301.4	300.8	301.2	301.4	301.6	301.8	302.2	303.4	305.4
Commodities less food and beverages	269.3	-	271.8	270.7	271.4	273.6	276.3	277.5	277.7	-	-	-	-	-	-
Nondurables less food and beverages	277.5	280.6	276.7	275.8	276.2	278.4	280.2	284.9	285.4	285.0	285.1	286.5	287.0	288.5	288.7
Apparel commodities	188.6	191.3	189.2	185.1	187.2	190.9	191.5	190.7	190.0	187.8	190.4	195.1	196.6	196.5	194.1
Nondurables less food, beverages, and apparel	327.0	334.2	327.5	325.2	324.7	327.8	333.1	336.0	337.2	337.6	336.6	336.4	336.5	336.8	340.1
Durables	261.1	265.2	264.6	264.9	266.2	266.7	267.3	266.3	265.1	263.6	263.1	263.1	264.5	265.7	266.7
Services	359.0	377.3	366.9	368.3	369.6	371.0	372.2	374.9	377.4	379.2	380.7	382.0	383.0	384.2	385.1
Rent of shelter (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Household services less rent of shelter (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transportation services	317.2	332.2	326.1	327.7	328.1	328.6	328.6	329.9	330.6	332.2	332.4	331.4	336.5	339.3	340.5
Medical care services	407.9	432.7	417.0	420.1	423.1	425.7	427.1	428.7	430.7	433.3	436.1	438.1	440.6	443.2	445.4
Other services	292.9	310.1	302.3	303.5	304.2	304.9	306.2	307.2	308.4	309.3	310.1	315.0	316.7	317.8	318.3
Special indexes:															
All items less food	307.5	319.4	312.7	312.7	313.7	315.4	317.2	318.7	318.8	320.3	320.9	321.9	322.9	324.2	324.8
All items less shelter	295.1	300.4	298.3	298.6	299.7	301.1	302.4	303.0	303.9	304.0	304.0	304.8	305.4	306.4	307.2
All items less homeowners' costs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All items less medical care	304.0	314.3	308.4	308.7	309.9	311.3	312.6	313.7	314.6	314.9	315.3	316.1	316.9	318.1	318.9
Commodities less food	267.1	272.8	269.6	269.2	269.0	271.0	273.3	273.8	273.6	272.8	272.7	273.4	274.5	275.9	275.9
Nondurables less food	272.6	279.0	273.9	271.2	271.7	274.7	278.2	279.8	280.4	280.0	280.2	281.5	282.4	283.8	283.9
Nondurables less food and apparel	313.2	320.3	313.8	311.8	311.5	314.4	319.1	321.8	322.9	323.2	322.4	322.3	323.1	325.0	326.3
Nondurables	287.4	290.9	290.0	289.6	289.9	291.8	293.4	294.0	294.4	294.3	294.5	295.2	295.7	297.1	299.2
Services less rent of shelter (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Services less medical care	350.5	368.0	359.2	360.4	361.6	362.8	364.1	366.6	368.3	371.1	372.5	373.6	374.5	375.5	376.2
Energy	423.3	426.3	418.5	413.6	410.6	416.0	424.2	431.3	436.9	437.2	433.9	432.5	428.6	425.4	428.8
All items less energy	298.3	309.9	303.6	304.7	306.4	307.4	308.1	308.6	309.1	309.5	310.4	311.5	313.0	314.5	315.3
All items less food and energy	295.8	306.7	302.1	302.7	304.3	305.5	306.4	307.3	307.8	308.3	309.4	310.7	312.7	314.2	314.6
Commodities less food and energy	250.5	256.8	254.0	253.8	256.5	256.6	257.2	256.8	256.2	256.3	255.8	257.2	258.8	259.5	259.2
Energy commodities	410.5	410.9	404.7	396.2	391.8	398.0	411.6	418.0	419.9	419.6	415.7	412.6	411.2	416.3	418.9
Services less energy	350.8	371.1	360.7	362.0	363.6	364.9	366.2	368.4	369.9	371.9	373.7	374.9	377.3	378.8	380.8
Purchasing power of the consumer dollar:															
1967=$1.00	32.5	31.4	32.0	32.0	31.9	31.7	31.6	31.5	31.4	31.3	31.3	31.2	31.1	31.0	30.9
1957-59=$1.00	28.0	27.0	27.5	27.5	27.4	27.3	27.2	27.1	27.0	26.9	26.9	26.8	26.8	26.7	26.6

- Data not available.

31. Consumer Price Index: U.S. city average and available local area data: all items

(1967=100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1984	1985						1984	1985					
			Dec.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Dec.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.
U.S. city average		-	315.5	316.1	323.5	324.5	325.5	326.6	327.4	312.2	312.6	318.6	320.5	321.3	322.6	323.4
Chicago, Ill.-Northwestern Ind.	M	-	314.0	315.1	320.9	320.3	322.6	324.2	325.9	301.7	302.5	312.1	312.1	308.0	310.9	312.6
Detroit, Mich.	M	-	308.1	310.9	318.0	320.5	318.7	323.1	323.1	300.0	301.2	309.3	310.3	309.7	313.2	315.1
Los Angeles-Long Beach, Anaheim, Calif.	M	-	311.1	319.0	320.9	320.6	320.1	322.0	320.1	309.5	309.1	318.0	317.7	320.0	319.1	320.1
New York, N.Y.-Northeastern N.J.	M	-	309.9	308.4	316.7	318.9	317.4	319.6	320.8	301.6	302.0	309.5	309.3	309.0	312.5	313.5
Philadelphia, Pa.-N.J.	M	-	305.1	308.3	315.6	316.5	317.4	318.6	319.7	307.9	309.4	318.6	318.1	320.3	321.5	322.5
Anchorage, Alaska (10/67 = 100)	1	10/67	-	279.3	-	284.5	-	286.9	-	-	271.7	-	277.3	-	280.1	-
Baltimore, Md.	1	-	-	316.2	-	327.5	-	327.3	-	-	315.1	-	326.3	-	325.3	-
Boston, Mass.	1	-	-	308.4	-	321.3	-	325.4	-	-	307.8	-	319.3	-	323.0	-
Cincinnati, Ohio-Ky.-Ind.	1	-	-	325.1	-	329.6	-	329.4	-	-	318.9	-	322.8	-	326.2	-
Denver-Boulder, Colo.	1	-	-	350.6	-	358.9	-	359.4	-	-	348.2	-	352.3	-	354.1	-
Miami, Fla. (11/77 = 100)	1	11/77	-	169.6	-	173.5	-	173.9	-	-	169.8	-	174.5	-	174.0	-
Milwaukee, Wis.	1	-	-	344.6	-	352.4	-	353.9	-	-	343.4	-	351.4	-	353.2	-
Northeast, Pa.	1	-	-	301.5	-	308.9	-	310.6	-	-	301.0	-	309.3	-	309.6	-
Portland, Oreg.-Wash.	1	-	-	308.8	-	314.9	-	317.1	-	-	307.4	-	306.4	-	307.3	-
St. Louis, Mo.-Ill.	1	-	-	313.3	-	321.6	-	321.6	-	-	310.4	-	318.5	-	318.5	-
San Diego, Calif.	1	-	-	334.1	-	347.3	-	349.0	-	-	329.1	-	340.3	-	341.9	-
Seattle-Everett, Wash.	1	-	-	319.5	-	321.6	-	324.0	-	-	306.7	-	309.9	-	310.8	-
Washington, D.C.-Md.-Va.	1	-	-	314.6	-	323.6	-	328.9	-	-	317.7	-	327.4	-	330.5	-
Atlanta, Ga.	2	-	316.2	-	331.4	-	332.0	-	336.3	316.0	-	329.3	-	330.0	-	332.6
Buffalo, N.Y.	2	-	303.4	-	306.5	-	308.3	-	309.8	289.8	-	292.9	-	295.3	-	295.9
Cleveland, Ohio	2	-	330.7	-	348.1	-	348.6	-	346.8	318.6	-	327.0	-	327.0	-	327.5
Dallas-Ft. Worth, Tex.	2	-	320.7	-	343.4	-	343.9	-	344.5	325.0	-	337.0	-	337.5	-	339.3
Honolulu, Hawaii	2	-	299.8	-	294.2	-	296.6	-	299.5	297.6	-	301.3	-	302.7	-	306.8
Houston, Tex.	2	-	333.4	-	336.2	-	337.6	-	336.8	330.9	-	336.3	-	335.0	-	334.1
Kansas City, Mo.-Kansas	2	-	313.7	-	321.1	-	323.1	-	321.8	304.0	-	311.2	-	312.9	-	311.7
Minneapolis-St. Paul, Minn.-Wis.	2	-	327.9	-	339.6	-	340.6	-	340.4	323.9	-	334.4	-	338.0	-	336.0
Pittsburgh, Pa.	2	-	322.1	-	325.9	-	329.4	-	331.5	304.6	-	309.0	-	309.9	-	312.8
San Francisco-Oakland, Calif.	2	-	305.8	-	305.8	-	308.7	-	306.4	301.5	-	300.6	-	301.0	-	301.3
Region[3]																
Northeast	2	12/77	169.0	-	171.0	-	172.5	-	174.3	165.1	-	168.0	-	170.3	-	172.1
North Central	2	12/77	170.4	-	174.3	-	174.9	-	176.0	167.4	-	171.0	-	171.4	-	172.6
South	2	12/77	170.8	-	174.5	-	175.7	-	176.3	170.7	-	174.3	-	175.3	-	176.0
West	2	12/77	170.2	-	175.9	-	176.9	-	177.2	168.6	-	173.9	-	174.8	-	175.2
Population size class[3]																
A-1	2	12/77	167.0	-	172.3	-	172.9	-	174.2	163.4	-	168.3	-	169.7	-	170.2
A-2	2	12/77	172.5	-	176.6	-	177.6	-	178.4	169.9	-	173.7	-	174.6	-	175.4
B	2	12/77	170.8	-	174.9	-	176.3	-	177.2	168.6	-	172.4	-	173.6	-	174.6
C	2	12/77	168.7	-	172.5	-	173.6	-	174.9	169.3	-	173.9	-	174.1	-	175.3
D	2	12/77	169.3	-	172.3	-	173.9	-	174.7	171.0	-	173.8	-	174.9	-	176.0
Region/population size class cross classification[3]																
Class A:																
Northeast	2	12/77	164.3	-	169.5	-	169.6	-	171.2	161.2	-	165.0	-	166.1	-	167.7
North Central	2	12/77	173.2	-	176.3	-	176.2	-	178.4	169.6	-	173.3	-	173.1	-	174.5
South	2	12/77	170.3	-	174.8	-	175.6	-	176.5	170.6	-	174.9	-	175.7	-	176.5
West	2	11/77	172.1	-	176.0	-	179.1	-	179.3	168.4	-	173.8	-	174.6	-	176.0
Class B:																
Northeast	2	12/77	169.9	-	173.3	-	174.9	-	176.7	167.1	-	172.4	-	171.8	-	173.5
North Central	2	12/77	169.2	-	171.5	-	173.4	-	174.2	165.9	-	169.3	-	169.5	-	170.5
South	2	12/77	172.0	-	176.0	-	177.4	-	179.0	169.0	-	172.7	-	173.9	-	174.7
West	2	12/77	170.9	-	175.9	-	177.9	-	178.4	171.7	-	177.5	-	176.4	-	176.9

See footnotes at end of table.

31. Continued— Consumer Price Index: U.S. city average and available local area data: all items

(1967 = 100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1984	1985						1984	1985					
			Dec.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Dec.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.
Class C:																
Northeast	2	12/77	174.4	-	178.9	-	181.7	-	184.1	173.2	-	180.8	-	180.5	-	183.8
North Central	2	12/77	168.4	-	169.1	-	170.1	-	171.5	166.5	-	168.0	-	168.9	-	169.2
South	2	12/77	170.2	-	172.5	-	174.3	-	175.3	171.9	-	175.1	-	175.7	-	176.7
West	2	12/77	162.9	-	166.6	-	166.7	-	168.1	161.9	-	167.7	-	168.3	-	167.8
Class D:																
Northeast	2	12/77	169.7	-	173.7	-	175.6	-	178.1	169.9	-	173.6	-	175.3	-	177.7
North Central	2	12/77	167.6	-	170.7	-	171.8	-	172.6	169.9	-	172.7	-	173.1	-	174.2
South	2	12/77	170.4	-	172.8	-	174.8	-	174.5	172.2	-	174.5	-	176.2	-	176.1
West	2	12/77	170.1	-	173.3	-	174.5	-	176.2	171.6	-	174.8	-	176.0	-	177.7

[1] Area is generally the Standard Metropolitan Statistical Area (SMSA), exclusive of farms. L.A.-Long Beach, Anaheim, Calif. is a combination of two SMSA's, and N.Y., N.Y.-Northeastern N.J. and Chicago, Ill.-Northwestern Ind. are the more extensive Standard Consolidated Areas. Area definitions are those established by the Office of Management and Budget in 1973, except for Denver-Boulder, Colo. which does not include Douglas County. Definitions do not include revisions made since 1973.

[2] Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated:

M - Every month.

1 - January, March, May, July, September, and November.

2 - February, April, June, August, October, and December.

[3] Regions are defined as the four Census regions.

The population size classes are aggregations of areas which have urban population as defined:

A-1 - More than 4,000,000.

A-2 - 1,250,000 to 4,000,000.

B - 385,000 to 1,250,000

C - 75,000 to 385,000.

D - Less than 75,000.

Population size class A is the aggregation of population size classes A-1 and A-2.

- Data not available.

NOTE: Local area CPI indexes are by-products of the national CPI program. Because each local index is a small subset of the national index, it has a smaller sample size and is, therefore, subject to substantially more sampling and other measurement error than the national index. As a result, local area indexes show greater volatility than the national index, although their long-term trends are quite similar. Therefore, the Bureau of Labor Statistics strongly urges users to consider adopting the national average CPI for use in escalator clauses.

32. Annual data: Consumer Price Index: All items

Series	1977	1978	1979	1980	1981	1982	1983	1984	1985
Consumer Price Index for All Urban Consumers:									
All items:									
Index	181.5	195.4	217.4	246.8	272.4	289.1	298.4	311.1	322.2
Percent change	6.5	7.7	11.3	13.5	10.4	6.1	3.2	4.3	3.6
Food and beverages:									
Index	188.0	206.3	228.5	248.0	267.3	278.2	284.4	295.1	302.0
Percent change	8.0	9.7	10.8	8.5	7.8	4.1	2.2	3.8	2.3
Housing									
Index	186.5	202.8	227.6	263.3	293.5	314.7	323.1	336.5	349.9
Percent change	6.8	8.7	12.2	15.7	11.5	7.2	2.7	4.1	4.0
Apparel and upkeep:									
Index	154.2	159.6	166.6	178.4	186.9	191.8	196.5	200.2	206.0
Percent change	4.5	3.5	4.4	7.1	4.8	2.6	2.5	1.9	2.9
Transportation:									
Index	177.2	185.5	212.0	249.7	280.0	291.5	298.4	311.7	319.9
Percent change	7.1	4.7	14.3	17.8	12.1	4.1	2.4	4.5	2.6
Medical care:									
Index	202.4	219.4	239.7	265.9	294.5	328.7	357.3	379.5	403.1
Percent change	9.6	8.4	9.3	10.9	10.8	11.6	8.7	6.2	6.2
Entertainment:									
Index	167.7	176.6	188.5	205.3	221.4	235.8	246.0	255.1	265.0
Percent change	4.9	5.3	6.7	8.9	7.8	6.5	4.3	3.7	3.9
Other goods and services:									
Index	172.2	183.3	196.7	214.5	235.7	259.9	288.3	307.7	326.6
Percent change	5.8	6.4	7.3	9.0	9.9	10.3	10.9	6.7	6.1
Consumer Price Index for Urban Wage Earners and Clerical workers									
All items:									
Index	181.5	195.3	217.7	247.0	272.3	288.6	297.4	307.6	318.5
Percent change	6.5	7.6	11.5	13.5	10.2	6.0	3.0	3.4	3.5

33. Producer Price Indexes, by stage of processing

(1967 = 100)

Grouping	Annual average		1985											
	1984	1985	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Finished goods	291.1	–	292.1	292.6	292.1	293.1	294.1	294.9	294.8	293.5	290.2	294.8	296.7	297.2
Finished consumer goods	290.3	–	290.6	290.7	290.1	291.2	292.4	292.2	290.1	291.4	288.5	292.4	294.7	295.4
Finished consumer foods	273.3	–	273.7	275.6	273.7	272.2	269.5	268.7	271.2	268.7	268.5	269.7	272.0	274.4
Finished consumer goods excluding foods	294.1	–	294.3	293.5	293.6	295.9	299.0	299.9	299.2	297.8	294.7	298.4	301.1	301.1
Nondurable goods less food	337.3	–	334.9	332.7	333.4	337.4	342.4	342.1	342.4	340.0	340.3	340.2	343.3	343.7
Durable goods	238.6	–	240.2	240.9	240.4	240.7	241.4	241.9	241.9	241.8	234.4	244.9	245.0	244.4
Capital equipment	294.0	–	297.4	299.2	299.3	299.9	300.3	300.5	300.6	301.0	298.4	303.7	303.6	303.5
Intermediate materials, supplies, and components	320.0	–	318.5	318.7	318.6	319.3	318.9	319.3	318.6	317.9	317.8	317.8	318.1	318.9
Materials and components for manufacturing	301.8	–	300.6	300.5	300.0	300.6	300.5	300.3	299.8	299.1	299.3	299.0	297.6	297.6
Materials for food manufacturing	271.1	–	255.2	255.3	253.9	253.9	251.9	252.0	250.3	253.0	250.2	252.3	253.6	253.0
Materials for nondurable manufacturing	290.5	–	288.9	288.0	287.3	287.1	288.7	286.4	285.8	285.8	284.8	283.6	282.6	282.5
Materials for durable manufacturing	325.1	–	320.6	320.7	318.9	322.1	320.0	322.3	320.9	320.3	319.2	318.6	317.4	317.6
Components for manufacturing	287.5	–	290.4	290.8	291.0	291.1	291.1	291.3	291.6	291.9	292.0	292.2	292.4	292.4
Materials and components for construction	310.3	–	313.4	313.3	313.5	314.0	315.9	317.3	316.9	316.5	315.5	315.4	315.1	315.4
Processed fuels and lubricants	565.2	–	558.3	548.3	547.9	562.3	566.0	549.1	544.0	538.8	548.3	544.9	560.7	557.3
Containers	302.3	–	311.1	311.8	313.1	312.4	311.7	312.0	311.4	310.3	309.9	310.4	309.8	310.7
Supplies	283.4	–	280.9	280.8	280.8	280.7	280.4	282.3	282.6	284.1	284.3	285.0	285.8	285.9
Crude materials for further processing	330.8	–	318.9	316.1	312.3	311.0	309.1	305.6	300.9	298.3	292.4	300.0	305.6	304.7
Foodstuffs and feedstuffs	259.5	–	250.7	250.0	242.9	239.9	238.3	233.7	231.6	221.0	215.9	224.5	239.7	239.8
Nonfood materials¹	380.5	–	381.9	368.2	368.4	360.2	357.7	364.0	363.5	361.2	352.5	363.3	362.3	351.1
Special groupings														
Finished goods, excluding foods	294.8	–	296.0	295.9	296.0	297.8	300.1	300.2	300.5	299.5	298.0	301.4	302.7	302.5
Finished energy goods	750.3	–	711.7	692.0	692.2	714.9	746.1	741.4	733.8	719.9	718.9	716.1	732.9	736.1
Finished goods less energy	265.1	–	267.9	268.3	268.6	268.8	268.4	268.4	268.7	268.0	266.7	270.6	271.7	272.1
Finished consumer goods less energy	257.8	–	260.5	261.6	261.1	260.9	260.3	260.3	261.9	260.9	257.9	262.2	263.5	264.1
Finished goods less food and energy	262.3	–	266.0	267.2	267.2	267.7	268.2	268.6	269.4	269.4	265.6	271.5	271.9	271.4
Finished consumer goods less food and energy	245.9	–	249.8	250.5	250.5	251.1	251.5	252.0	252.0	252.9	249.5	254.9	255.1	254.7
Consumer nondurable goods less food and energy	239.0	–	242.8	243.9	244.4	245.0	245.2	245.6	247.4	247.3	247.8	248.2	248.6	248.5
Intermediate materials less food and feeds	325.0	–	325.4	324.5	324.7	325.5	326.4	325.7	325.0	324.5	324.6	324.3	324.5	325.2
Intermediate foods and feeds	253.1	–	240.7	239.2	236.7	235.4	232.6	232.2	231.7	227.1	225.5	229.5	231.0	231.7
Intermediate energy goods	546.0	–	535.7	526.0	527.5	531.5	536.7	528.6	523.8	519.8	526.0	524.4	529.5	536.3
Intermediate goods less energy	303.8	–	304.2	304.2	304.0	304.3	304.5	304.6	304.3	303.9	303.3	303.3	303.2	303.3
Intermediate materials less food and energy	303.6	–	305.1	305.3	306.2	305.6	305.8	306.0	305.6	305.5	304.9	304.6	304.2	304.2
Crude energy materials	785.2	–	757.5	754.1	746.4	749.1	760.7	754.5	752.6	742.9	745.4	743.4	742.9	739.5
Crude materials less energy	255.5	–	246.2	245.9	240.4	238.6	234.8	231.7	230.1	221.8	218.3	224.8	233.4	232.9
Crude nonfood materials less energy	268.1	–	254.4	256.3	256.4	257.3	252.3	247.4	247.2	245.8	246.9	247.2	244.9	242.6

[1] Crude nonfood materials except fuel.

– Data not available.

34. Producer Price Indexes, by durability of product

(1967 = 100)

Grouping	Annual average		1985											
	1984	1985	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Total durable goods	293.6	-	295.6	296.4	296.3	297.1	297.6	297.8	297.6	297.8	296.3	299.8	298.7	299.5
Total nondurable goods	323.3	-	320.1	318.0	317.7	318.4	318.8	317.6	317.2	314.1	313.4	314.5	317.9	318.7
Total manufactures	302.9	-	303.7	303.4	303.3	304.2	305.2	304.6	304.6	303.6	302.3	304.6	305.4	305.7
Durable	293.9	-	296.2	297.0	298.0	297.6	298.4	298.7	298.7	298.6	298.1	299.7	299.6	299.4
Nondurable	312.3	-	311.4	309.9	308.9	310.8	312.1	311.0	310.6	309.0	306.7	309.4	311.3	312.0
Total raw or slightly processed goods	348.5	-	336.7	338.6	332.2	332.1	329.6	327.3	327.5	320.2	318.5	320.9	327.7	328.8
Durable	258.7	-	258.0	259.2	251.2	252.1	255.4	247.3	247.6	246.7	248.7	248.6	245.9	243.6
Nondurable	361.4	-	341.5	341.4	338.4	338.2	334.3	332.1	332.3	324.4	322.5	323.2	332.7	334.0

- Data not available.

35. Annual data: Producer Price Indexes, by stage of processing

(1967 = 100)

Index	1976	1977	1978	1979	1980	1981	1982	1983	1984
Finished goods:									
Total	170.6	181.7	195.9	217.7	247.0	269.8	280.7	285.2	291.1
Consumer goods	169.7	180.7	194.9	217.9	248.9	271.3	281.0	284.6	290.3
Capital equipment	173.4	184.6	199.2	216.5	239.8	264.3	279.4	287.2	294.0
Intermediate materials, supplies, and components:									
Total	189.1	201.5	215.6	243.2	280.3	306.0	310.4	312.3	320.0
Materials and components for manufacturing	185.4	195.4	209.7	234.4	265.7	286.1	289.8	293.4	301.8
Materials and components for construction	188.4	203.4	224.7	247.4	268.3	287.6	293.7	301.8	310.3
Processed fuels and lubricants	250.1	282.5	295.3	364.8	503.0	595.4	591.7	564.8	566.2
Containers	180.2	189.3	202.8	228.6	254.5	276.1	285.6	286.6	302.3
Supplies	179.0	189.7	199.5	218.2	244.5	263.8	272.1	277.1	283.4
Crude materials for further processing:									
Total	202.7	209.2	234.4	274.3	304.6	329.0	319.5	323.6	330.8
Foodstuffs and feedstuffs	190.2	192.1	216.2	247.9	259.2	257.4	247.8	252.2	259.5
Nonfood materials except fuel	208.7	212.2	233.1	284.5	346.1	413.7	376.8	372.2	380.5
Fuel	305.3	372.1	426.8	507.6	615.0	751.2	886.1	931.5	931.3

36. U.S. export price indexes by Standard International Trade Classification

(June 1977=100, unless otherwise indicated)

Category	1974 SITC	1983				1984				1985		
		Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.
ALL COMMODITIES (9/83=100)		-	-	100.0	99.5	100.2	101.5	99.3	98.1	97.5	97.5	96.5
Food (3/83=100)	0	100.0	105.1	113.1	108.8	106.2	109.6	103.5	96.5	95.8	94.0	90.2
Meat (3/83=100)	01	100.0	100.5	100.8	101.2	108.9	106.7	105.6	104.4	103.9	104.7	106.1
Fish (3/83=100)	03	100.0	96.5	97.7	100.4	99.8	98.7	98.0	98.7	101.0	103.6	102.6
Grain and grain preparations (3/80=100)	04	96.9	103.5	111.5	105.6	102.7	107.4	101.2	92.9	92.4	90.3	82.6
Vegetables and fruit (3/83=100)	05	100.0	105.8	114.8	116.1	116.2	126.8	125.5	114.6	119.4	120.1	126.8
Feed stuffs for animals (3/83=100)	08	100.0	100.6	121.4	117.4	106.9	98.8	83.5	82.4	72.8	68.6	75.7
Misc. food products (3/83=100)	09	100.0	101.1	102.8	101.7	104.9	110.6	109.5	108.4	110.6	109.2	107.6
Beverages and tobacco (6/83=100)	1	-	100.0	100.0	101.5	101.6	101.9	102.8	101.3	99.9	100.1	99.7
Beverages (9/83=100)	11	-	-	100.0	103.3	102.3	102.9	103.3	103.7	104.0	105.3	101.8
Tobacco and tobacco products (6/83=100)	12	-	100.0	100.0	101.4	101.6	101.8	102.7	101.1	99.5	99.6	99.5
Crude materials (6/83=100)	2	-	100.0	114.6	112.2	112.5	118.3	105.2	101.4	97.5	98.8	93.3
Raw hides and skins (6/80=100)	21	101.8	118.2	129.2	135.2	145.6	154.7	153.7	133.6	121.0	126.2	129.0
Oilseeds and oleaginous fruit (9/77=100)	22	70.0	75.0	105.6	96.8	93.9	104.3	79.9	74.8	71.0	71.2	64.2
Crude rubber (including synthetic and reclaimed 9/83=100)	23	-	-	100.0	102.2	103.3	106.0	104.1	104.0	106.4	106.3	107.1
Wood	24	123.2	127.1	128.7	129.8	131.1	129.4	123.8	125.4	128.7	125.7	124.5
Pulp and waste paper (6/83=100)	25	-	100.0	103.5	106.0	112.5	122.1	120.8	114.2	100.5	96.1	93.8
Textile fibers	26	102.6	111.3	117.3	123.1	120.5	125.6	109.4	106.7	102.4	105.8	103.6
Crude fertilizers and minerals	27	145.8	145.0	144.8	144.8	146.6	147.7	163.0	163.2	165.6	167.9	169.4
Metalliferous ores and metal scrap	28	-	-	100.0	96.7	100.2	98.5	93.2	92.4	89.2	82.0	80.1
Mineral fuels	3	-	-	100.0	99.2	99.1	99.7	99.7	99.7	100.1	99.2	97.4
Animal and vegetables oils, fats and waxes	4	-	100.0	125.6	122.0	129.8	164.5	145.7	147.9	142.0	144.5	114.5
Fixed vegetable oils and fats (6/83=100)	42	-	100.0	138.2	129.3	133.2	176.4	159.0	156.7	152.9	164.8	128.8
Chemicals (3/83=100)	5	100.0	96.4	97.0	98.6	101.4	99.7	98.3	97.7	97.0	96.8	97.1
Organic chemicals (12/83=100)	51	-	-	-	100.0	100.2	101.0	97.4	94.7	93.8	96.5	97.1
Fertilizers, manufactured (3/83=100)	56	100.0	86.9	89.8	96.8	108.3	96.9	97.4	94.8	92.5	87.9	89.8
Intermediate manufactured products (9/81=100)	-	99.7	100.4	100.8	100.0	101.0	101.3	102.0	100.4	99.4	99.2	99.2
Leather and furskins (9/79=100)	6	65.5	67.2	70.1	75.8	83.5	81.2	80.8	79.0	82.5	79.2	75.9
Rubber manufactures	61	146.2	144.8	145.0	145.0	146.7	147.5	148.9	148.5	150.2	149.0	148.3
Paper and paperboard products (6/78=100)	62	135.0	135.8	139.7	145.5	150.2	154.7	160.0	159.5	155.0	151.6	149.6
Iron and steel (3/82=100)	64	95.2	95.9	96.6	96.3	95.9	96.1	96.8	96.5	95.5	95.3	95.9
Non-ferrous metals (9/81=100)	-	100.3	102.8	102.3	93.8	94.2	92.9	90.4	82.5	79.7	79.6	79.8
Metal manufactures, n.e.s. (3/82=100)	-	100.9	101.5	101.9	102.1	103.1	104.5	105.1	105.0	105.4	105.2	105.4
Machinery and transport equipment, excluding	67	134.8	135.3	135.9	137.0	138.5	139.4	140.1	141.5	142.3	143.0	143.2
Power generating machinery and equipment (12/78=100)	68	151.7	152.5	152.3	154.4	158.4	156.9	160.6	167.5	165.3	167.4	167.1
Machinery specialized for particular industries (9/78=100)	69	148.9	148.9	149.1	151.1	152.3	152.8	153.7	153.4	155.0	155.7	156.0
Metalworking machinery (6/78=100)	7	147.6	148.4	148.3	148.7	150.8	151.2	151.7	151.9	153.4	155.1	156.3
General industrial machines and parts n.e.s. 9/78=100)	71	144.6	145.0	145.4	145.9	148.6	149.0	149.3	150.2	152.4	152.0	152.4
Office machines and automatic data processing equipment	72	103.3	103.6	103.2	102.5	101.4	101.5	99.8	101.4	100.9	100.0	99.9
Telecommunications, sound recording and reproducing equipment	73	130.5	131.1	132.2	132.1	133.0	132.3	134.4	134.3	133.3	133.3	134.1
Electrical machinery and equipment	74	107.8	108.5	109.4	109.8	110.2	112.6	113.8	114.6	114.9	116.1	115.3
Road vehicles and parts (3/80=100)	75	124.4	125.6	127.5	126.8	130.2	131.2	131.0	131.8	133.1	133.9	134.0
Other transport equipment, excl. military and commercial aviation	76	174.3	175.8	176.4	179.3	183.1	187.7	189.6	191.7	195.5	196.9	199.6
Other manufactured articles	77	-	-	100.0	100.2	100.6	100.4	100.7	99.3	99.5	100.4	100.3
Apparel (9/83=100)	78	-	-	100.0	100.8	101.9	102.1	103.9	103.4	104.7	104.7	105.0
Professional, scientific and controlling instrument and apparatus	79	167.2	169.8	169.0	171.5	171.8	172.0	175.8	171.7	175.5	178.3	178.4
Photographic apparatus and supplies, optical goods, watches and clocks (12/1977=100)	8	128.2	129.8	130.0	132.0	132.0	131.3	132.7	130.3	128.0	129.1	127.5
Miscellaneous manufactured articles, n.e.s.	84	-	100.0	100.0	98.2	98.5	97.9	95.2	94.1	92.4	93.1	93.1
Gold, non-monetary (6/82=100)	971	-	-	-	-	-	-	-	-	-	-	-

- Data not available.

37. U.S. import price indexes by Standard International Trade Classification

(June 1977 = 100, unless otherwise indicated)

Category	1974 SITC	1983		1984				1985		
		Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.
ALL COMMODITIES (9/82 = 100)		96.9	97.3	98.0	98.3	96.7	95.7	93.5	93.0	93.0
Food (9/77 = 100)	0	99.2	100.4	102.5	103.5	102.0	98.1	98.5	96.8	94.9
Meat	01	139.4	134.1	133.4	133.8	135.4	132.3	130.4	118.2	120.6
Dairy products and eggs (6/81 = 100)	02	99.9	98.6	100.8	99.8	98.9	98.4	98.3	97.9	99.1
Fish	03	135.2	136.0	132.7	134.2	134.2	133.9	132.9	129.4	129.7
Bakery goods, pasta products, grain and grain preparations (9/77 = 100)	04	132.3	132.7	136.5	134.8	132.9	132.8	131.8	132.3	136.3
Fruits and vegetables	05	132.3	125.0	136.1	135.8	135.4	117.2	127.1	129.4	120.2
Sugar, sugar preparations and honey (3/82 = 100)	06	118.9	117.9	117.1	120.3	119.0	118.5	118.4	122.6	123.1
Coffee, tea, cocoa	07	54.7	59.6	61.4	62.4	60.3	58.4	57.0	58.0	54.4
Beverages and tobacco	1	153.7	155.4	155.3	156.3	157.1	156.5	156.2	157.1	158.0
Beverages	11	153.5	152.7	152.6	153.6	153.5	152.8	154.2	154.3	156.0
Crude materials	2	100.0	98.6	103.2	102.6	100.6	96.9	94.0	93.6	91.5
Crude rubber (inc. synthetic & reclaimed) (3/84 = 100)	23	-	-	100.0	93.7	90.7	83.8	77.6	76.4	68.9
Wood (9/81 = 100)	24	110.0	107.2	114.8	103.2	99.6	104.0	100.7	106.9	101.6
Pulp and waste paper (12/81 = 100)	25	80.3	80.9	87.6	96.1	96.3	93.2	84.0	80.4	76.8
Crude fertilizers & crude minerals (12/83 = 100)	27	-	100.0	100.0	96.2	98.0	96.6	100.3	101.7	102.7
Metalliferous ores & metal scrap (3/84 = 100)	28	-	-	100.0	102.8	100.1	95.6	90.4	87.6	89.5
Crude vegetable and animal materials, n.e.s.	29	-	-	100.0	100.8	101.1	106.4	104.3	104.9	102.5
Fuels and related products (6/82 = 100)	3	87.7	87.6	88.3	88.0	86.9	85.2	82.9	80.9	80.0
Petroleum and petroleum products (6/82 = 100)	33	88.0	87.6	88.2	88.1	87.0	85.2	83.8	81.6	80.5
Fats and oils (9/83 = 100)	4	100.0	100.4	117.4	141.8	124.4	114.9	89.9	76.7	57.6
Vegetable oils (9/83 = 100)	42	100.0	100.5	118.1	143.1	125.3	115.3	89.5	75.9	56.2
Chemicals (9/82 = 100)	5	97.6	99.5	101.1	100.6	98.8	97.1	95.7	95.0	94.6
Medicinal & pharmaceutical products (3/84 = 100)	54	-	-	100.0	98.5	96.4	94.6	91.6	95.1	95.3
Manufactured fertilizers (3/84 = 100)	56	-	-	100.0	101.7	98.5	92.9	94.2	82.0	80.8
Chemical materials and products, n.e.s. (9/84 = 100)	59	-	-	-	-	100.0	97.5	96.1	95.6	96.9
Intermediate manufactured products (12/77 = 100)	6	137.3	137.3	137.6	139.6	137.2	136.8	133.1	132.4	133.6
Leather and furskins	61	136.6	137.6	141.6	145.3	144.0	140.4	135.3	133.3	137.0
Rubber manufactures, n.e.s.	62	141.0	141.1	141.8	140.8	139.6	140.5	139.5	136.6	137.3
Cork and wood manufactures	63	136.2	134.7	130.1	131.0	126.4	126.1	121.3	121.2	123.4
Paper and paperboard products	64	147.3	147.0	148.0	150.4	156.1	157.5	157.6	157.2	157.8
Textiles	65	127.6	128.5	130.8	130.1	131.6	132.9	130.4	127.5	126.5
Non-metallic mineral manufactures, n.e.s.	66	166.4	166.4	168.4	166.6	156.6	159.4	154.3	151.8	157.6
Iron and steel (9/78 = 100)	67	115.0	119.5	118.5	123.8	124.7	123.7	121.0	120.1	119.1
Non-ferrous metals (12/81 = 100)	68	99.3	94.8	95.0	96.3	90.2	87.3	81.9	82.3	83.7
Metal manufactures, n.e.s.	69	118.0	118.9	119.7	120.5	119.3	119.3	117.4	117.8	119.5
Machinery and transport equipment (6/81 = 100)	7	103.0	104.1	104.0	104.1	102.6	102.9	101.6	102.6	103.5
Machinery specialized for particular industries (9/78 = 100)	72	101.2	100.8	100.4	100.0	98.8	98.0	98.2	97.0	101.4
Metalworking machinery (3/80 = 100)	73	96.0	95.7	94.3	93.8	92.1	89.9	86.3	90.5	94.2
General industrial machinery and parts (6/81 = 100), n.e.s.	74	93.4	93.5	93.7	94.4	92.4	91.3	89.2	91.1	94.4
Office machines and automatic data processing equipment (3/80 = 100)	75	94.0	96.9	97.8	96.7	94.1	92.2	89.6	89.4	90.3
Telecommunications, sound recording and reproducing apparatus (3/80 = 100)	76	96.5	94.9	94.2	94.8	93.6	91.3	90.0	88.8	88.3
Electrical machinery and equipment (12/81 = 100)	77	96.4	95.9	94.2	91.2	87.0	86.4	82.1	83.9	81.4
Road vehicles and parts (6/81 = 100)	78	106.7	109.5	109.0	110.4	109.8	111.3	111.5	112.1	112.7
Misc. manufactured articles (3/80 = 100)	8	100.2	100.0	100.6	101.5	99.7	100.0	97.0	98.0	100.0
Plumbing, heating, and lighting fixtures (6/80 = 100)	81	107.9	108.2	109.5	112.0	110.7	111.6	113.9	114.1	117.6
Furniture and parts (6/80 = 100)	82	96.1	94.7	94.9	96.0	95.4	94.3	92.7	94.4	96.1
Clothing (9/77 = 100)	84	125.6	128.5	130.2	132.5	135.4	138.5	136.7	133.9	136.0
Footwear	85	96.1	94.7	94.9	96.0	95.4	94.3	92.7	94.4	96.1
Professional, scientific, and controlling instruments and apparatus (12/79 = 100)	87	96.8	97.6	96.7	97.8	95.6	92.9	89.2	92.3	96.8
Photographic apparatus and supplies, optical goods, watches, and clocks (3/80 = 100)	88	89.7	90.6	89.6	92.8	91.2	91.3	88.9	89.5	91.2
Misc. manufactured articles, n.e.s. (6/82 = 100)	89	107.5	104.9	105.2	104.0	98.3	96.3	91.2	95.2	96.4
Gold, non-monetary (6/82 = 100)	971	-	-	-	-	-	-	-	-	-

- Data not available.

38. U.S. export price indexes by end-use category

(September 1983 = 100 unless otherwise indicated)

Category	Percentage of 1980 Trade Value	1983		1984				1985		
		Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.
Foods, feeds, and beverages	16.294	100.0	95.0	92.8	98.5	88.8	83.0	81.5	80.9	78.2
Raw materials	30.696	100.0	100.7	102.2	102.5	100.5	99.1	97.6	97.2	96.5
Raw materials, nondurable	21.327	100.0	101.9	103.6	104.4	102.8	101.4	99.6	99.5	98.7
Raw materials, durable	9.368	100.0	97.7	96.8	97.7	95.0	93.3	92.6	91.6	91.1
Capital goods, (12/82 = 100)	30.186	101.1	102.0	103.2	103.9	104.6	105.6	106.2	106.6	106.6
Automotive vehicles parts, and engines (12/82 = 100)	7.483	102.5	103.9	104.5	105.3	106.3	105.7	106.7	106.0	106.1
Consumer goods	7.467	100.0	99.3	100.5	100.3	99.8	99.1	98.5	98.0	99.5
Durables	3.965	100.0	98.5	98.4	98.7	96.9	96.3	94.8	95.3	96.1
Nondurables	3.501	100.0	100.3	101.8	102.1	103.0	102.3	102.7	103.0	103.3

39. U.S. import price indexes by end-use category

(December 1982 = 100)

Category	Percentage of 1980 Trade Value	1983		1984				1985		
		Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.
Food, feeds, and beverages	7.477	103.1	104.0	106.0	107.2	105.6	101.8	102.1	100.4	99.0
Petroleum & products, excl. natural gas	31.108	98.5	87.8	88.3	88.1	87.1	85.1	83.9	82.3	80.9
Raw materials, excluding petroleum	19.205	–	–	–	–	–	–	–	–	–
Raw materials, nondurable	9.391	97.0	99.0	100.7	102.1	101.7	100.7	95.0	93.9	93.6
Raw materials, durable	9.814	106.4	104.7	106.5	106.7	103.3	101.6	97.7	97.8	97.4
Capital goods	13.164	101.2	101.3	100.8	99.8	98.0	97.8	94.8	96.3	97.8
Automotive vehicles parts and engines	11.750	101.3	103.8	103.6	104.9	104.0	105.2	105.4	105.9	106.4
Consumer goods	14.250	99.5	99.7	100.3	100.9	98.9	99.2	97.0	97.3	98.1
Durable	5.507	100.4	99.9	99.9	98.9	96.1	95.6	93.1	93.8	95.6
Nondurable	8.743	98.1	99.5	100.9	102.5	103.0	104.6	103.0	102.5	104.6

– Data not available.

40. U.S. export price indexes by Standard Industrial Classification [1]

Industry group	1983		1984				1985		
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.
Manufacturing:									
Food and kindred products (6/83 = 100)	109.4	108.3	109.0	112.7	105.6	103.3	99.5	99.5	96.6
Tobacco manufactures	–	–	–	–	–	–	–	–	–
Textile mill products	–	–	–	–	–	–	–	–	–
Apparel and related products	–	–	–	–	–	–	–	–	–
Lumber and wood products, except furniture (6/83 = 100)	100.1	101.0	101.5	100.1	97.0	97.9	99.9	99.5	98.3
Furniture and fixtures (9/83 = 100)	100.0	100.9	101.6	103.1	103.5	104.9	106.2	106.5	107.1
Paper and allied products (3/81 = 100)	91.2	94.7	98.6	104.3	106.2	103.6	97.1	94.7	93.2
Printing, publishing, and allied products	–	–	–	–	–	–	–	–	–
Chemicals and allied products (12/84 = 100)	99.7	101.4	103.3	102.3	101.3	100.7	100.3	99.6	99.7
Petroleum and coal products (12/83 = 100)	–	100.0	101.6	102.1	100.7	100.4	101.3	102.7	102.0
Rubber and miscellaneous plastic products	–	–	–	–	–	–	–	–	–
Leather and leather products	–	–	–	–	–	–	–	–	–
Stone, clay, glass, and concrete products	–	–	–	–	–	–	–	–	–
Primary metal products (3/82 = 100)	110.1	105.0	105.1	104.0	100.0	95.6	91.2	92.7	93.6
Fabricated metal products	–	–	–	–	–	–	–	–	–
Machinery, except electrical (9/78 = 100)	135.1	135.6	137.4	137.9	139.0	139.9	140.4	140.5	140.6
Electrical machinery (12/80 = 100)	107.4	107.6	108.0	109.5	110.7	111.1	111.3	112.4	111.9
Transportation equipment (12/78 = 100)	150.6	153.6	155.7	157.2	157.6	158.9	160.5	162.0	162.9
Scientific instruments; optical goods; clocks (6/77 = 100)	150.9	152.8	153.1	153.2	156.0	153.0	154.9	156.6	156.0
Miscellaneous manufactured commodities	–	–	–	–	–	–	–	–	–

[1] SIC - based classification.

– Data not available.

41. U.S. import price indexes by Standard Industrial Classification [1]

Industry group	1983		1984				1985		
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.
Manufacturing:									
Food and kindred products (6/77=100)	121.0	120.6	122.3	126.6	124.1	122.6	118.8	115.2	114.4
Tobacco manufactures	–	–	–	–	–	–	–	–	–
Textile mill products (9/82=100)	99.5	103.3	104.4	103.6	104.3	104.7	102.8	101.0	100.4
Apparel and related products (6/77=100)	123.2	126.5	128.1	129.6	133.9	138.2	135.6	133.0	135.9
Lumber and wood products, except furniture (6/77=100)	128.3	125.0	129.4	121.1	117.3	120.0	116.3	120.6	117.5
Furniture and fixtures (6/80=100)	97.1	95.5	95.7	96.9	96.2	95.6	93.9	96.1	97.7
Paper and allied products (6/77=100)	132.7	132.9	136.5	141.9	148.0	145.5	141.5	139.8	138.7
Printing, publishing, allied products	–	–	–	–	–	–	–	–	–
Chemicals and allied products (9/82=100)	99.2	99.5	101.8	101.6	99.8	98.2	95.3	93.9	93.3
Petroleum and coal products	–	–	–	–	–	–	–	–	–
Rubber and miscellaneous plastic products (12/80=100)	97.5	97.4	98.1	96.5	97.8	98.0	96.9	96.7	96.5
Leather and leather products	–	–	–	–	–	–	–	–	–
Stone, clay, glass, concrete products	–	–	–	–	–	–	–	–	–
Primary metal products (6/81=100)	91.3	90.5	90.1	91.9	88.3	86.6	82.2	83.0	83.4
Fabricated metal products (12/84=100)	–	–	–	–	–	100.0	99.0	99.1	101.1
Machinery, except electrical (3/80=100)	98.0	98.0	97.8	97.1	95.5	94.1	91.8	93.4	96.6
Electrical machinery (9/84=100)	–	–	–	–	100.0	98.6	95.1	95.8	94.5
Transportation equipment (6/81=100)	107.8	110.3	110.6	111.6	110.7	112.9	113.1	114.2	114.8
Scientific instruments optical goods; clocks (12/79=100)	93.5	94.3	94.0	95.5	94.4	93.2	90.7	91.7	94.7
Miscellaneous manufactured commodities (9/82=100)	100.6	99.7	99.8	99.1	95.8	96.4	95.1	95.1	96.6

[1] SIC - based classification.

– Data not available.

42. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

(1977=100)

Item	Annual average	Quarterly indexes										
	1983	1983				1984				1985		
		I	II	III	IV	I	II	III	IV	I	II	III
Business:												
Output per hour of all persons	103.7	102.2	103.6	104.3	104.7	105.7	107.0	107.2	108.0	106.9	107.3	108.3
Compensation per hour	161.7	160.2	161.0	161.8	164.2	166.7	167.5	169.3	171.1	173.1	174.5	176.8
Real compensation per hour	98.4	99.0	98.5	97.9	98.4	98.6	98.2	98.3	98.5	98.9	98.6	99.4
Unit labor costs	156.0	156.8	155.4	155.1	156.8	157.7	156.5	158.0	158.4	161.9	162.6	163.2
Unit nonlabor payments	145.5	139.8	144.6	147.9	149.1	151.6	157.2	156.5	160.2	159.1	159.9	160.5
Implicit price deflator	152.4	151.0	151.7	152.7	154.2	155.6	156.7	158.1	159.0	160.9	161.7	162.3
Nonfarm business:												
Output per hour of all persons	103.4	101.6	103.6	104.1	104.4	105.2	106.6	106.3	106.9	106.0	106.3	106.9
Compensation per hour	162.0	160.1	161.5	162.4	164.0	166.5	168.0	169.5	171.0	173.1	174.6	176.2
Real compensation per hour	98.6	99.0	98.8	98.3	98.3	98.4	98.4	98.4	98.5	98.9	98.7	99.0
Unit labor costs	156.6	157.6	155.9	155.9	157.1	158.3	157.6	159.5	160.0	163.3	164.1	164.8
Unit nonlabor payments	147.0	140.6	146.4	149.4	151.4	152.2	156.8	158.0	160.3	160.3	161.8	163.0
Implicit price deflator	153.4	151.9	152.7	153.8	155.2	156.3	157.3	159.0	160.1	162.3	163.4	164.2
Nonfinancial corporations:												
Output per hour of all employees	106.1	104.0	106.8	107.2	107.2	108.1	108.9	108.2	108.8	108.1	108.1	109.2
Compensation per hour	161.0	159.2	160.6	161.8	162.6	164.8	165.8	167.1	168.7	170.3	171.6	173.0
Real compensation per hour	97.9	98.4	98.2	97.9	97.4	97.5	97.2	97.1	97.1	97.3	97.0	97.2
Total unit costs	155.2	156.7	155.2	154.4	154.7	155.0	156.0	157.5	158.0	160.2	161.6	161.1
Unit labor costs	151.8	153.1	151.7	150.9	151.7	152.5	152.3	154.5	155.0	157.5	158.8	158.3
Unit nonlabor costs	164.9	167.0	165.1	164.4	163.3	162.0	162.8	165.9	166.4	168.1	169.8	168.8
Unit profits	117.2	92.5	111.8	126.6	135.9	143.2	151.1	145.3	150.7	150.4	148.9	160.1
Unit nonlabor payments	149.1	142.3	147.4	151.9	154.2	155.7	158.9	159.1	161.2	162.2	162.9	165.9
Implicit price deflator	150.9	149.4	150.2	151.2	152.6	153.6	154.6	156.1	157.1	159.1	160.2	160.9
Manufacturing:												
Output per hour of all persons	111.6	110.0	110.9	113.0	112.7	114.2	114.8	116.7	116.5	116.7	118.6	119.7
Compensation per hour	163.4	162.7	163.0	163.5	164.6	167.1	168.3	169.9	172.1	174.4	176.5	177.8
Real compensation per hour	99.4	100.6	99.6	98.9	98.6	98.8	98.8	98.7	99.1	99.6	99.7	99.9
Unit labor costs	146.4	147.9	147.0	144.7	146.1	146.3	146.6	145.5	147.7	149.5	148.8	148.6

43. Annual indexes of multifactor productivity and related measures selected years

(1977 = 100)

Item	1950	1960	1970	1973	1975	1976	1978	1979	1980	1981	1982	1983
Private business												
Productivity:												
Output per hour of all persons	49.7	64.8	86.1	94.8	94.5	97.6	100.5	99.3	98.7	100.6	100.8	103.7
Output per unit of capital services	98.5	98.4	98.5	103.0	92.0	96.1	101.8	100.3	95.6	94.1	89.5	92.3
Multifactor productivity	63.6	75.4	90.2	97.5	93.6	97.1	101.0	99.7	97.6	98.3	96.8	99.6
Output	39.5	53.3	78.3	91.8	88.0	93.7	105.5	107.9	106.4	109.2	106.3	111.1
Inputs:												
Hours of all persons	79.4	82.2	90.8	96.8	93.1	95.9	105.0	108.6	107.8	108.5	105.4	107.2
Capital services	40.1	54.1	79.4	89.1	95.7	97.5	103.6	107.5	111.4	116.0	118.8	120.4
Combined units of labor and capital input	62.1	70.7	86.7	94.1	94.0	96.5	104.5	108.2	109.0	111.0	109.9	111.6
Capital per hour or all persons	50.5	65.9	87.4	92.0	102.8	101.6	98.7	98.9	103.3	106.9	112.7	112.3
Private nonfarm business												
Productivity:												
Output per hour of all persons	55.6	68.0	86.8	95.3	94.8	97.8	100.6	99.0	98.2	99.6	99.9	103.5
Output per unit of capital services	98.1	98.4	98.6	103.2	91.7	96.1	101.9	100.1	95.2	93.2	88.7	91.9
Multifactor productivity	68.1	77.8	90.7	97.9	93.6	97.2	101.0	99.4	97.2	97.4	95.9	99.4
Output	38.3	52.3	77.8	91.7	87.6	93.6	105.7	108.0	106.4	108.7	105.9	111.3
Inputs:												
Hours of all persons	69.0	77.0	89.7	96.2	92.4	95.7	105.1	109.1	108.4	109.1	106.0	107.6
Capital services	39.1	53.2	78.9	88.8	95.6	97.4	103.7	107.9	111.7	116.6	119.4	121.1
Combined units of labor and capital input	56.3	67.4	85.9	93.6	93.5	96.3	104.6	106.7	109.5	111.6	110.4	112.0
Capital per hour of all persons	56.6	69.1	88.0	92.4	103.4	101.8	98.7	98.9	103.1	106.8	112.6	112.6
Manufacturing												
Productivity:												
Output per hour of all persons	49.4	60.0	79.2	93.0	93.4	97.6	100.9	101.6	101.7	104.9	107.1	111.6
Output per unit of capital services	94.2	87.9	91.8	106.2	99.4	96.1	101.5	99.5	90.7	89.9	82.9	87.6
Multifactor productivity	59.8	67.0	82.3	96.6	92.2	97.1	101.1	101.0	98.8	100.8	100.3	104.9
Output	38.6	50.7	77.0	95.9	85.4	93.6	105.3	108.2	103.5	106.1	99.3	104.4
Inputs:												
Hours of all persons	78.2	84.4	97.3	103.1	91.4	95.9	104.4	106.5	101.7	101.1	92.7	93.5
Capital services	41.0	57.6	83.9	88.6	95.5	97.4	103.8	108.8	114.1	118.0	119.8	119.2
Combined units of labor and capital inputs	64.6	75.6	93.5	99.0	92.6	96.3	104.2	107.1	104.8	105.2	99.0	99.5
Capital per hour of all persons	52.5	68.3	86.2	85.9	104.5	101.6	99.4	102.1	112.2	116.7	129.2	127.5

44. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years

(1977=100)

Item	1950	1960	1970	1973	1975	1976	1978	1979	1980	1981	1982	1983	1984
Business:													
Output per hour of all persons	50.4	65.2	86.2	94.8	94.6	97.6	100.5	99.3	98.8	100.7	100.9	103.7	107.0
Compensation per hour	20.0	33.9	58.2	71.4	85.6	92.9	108.5	118.7	131.1	143.4	155.0	161.7	168.6
Real compensation per hour	50.5	69.5	90.8	97.3	96.4	98.9	100.8	99.1	96.4	95.5	97.3	98.4	98.4
Unit labor costs	39.8	52.1	67.5	75.3	90.5	95.1	108.0	119.5	132.6	142.4	153.6	156.0	157.6
Unit nonlabor payments	43.4	50.6	63.2	75.2	90.4	94.0	106.7	112.8	119.3	136.7	136.8	145.5	157.0
Implicit price deflator	41.0	51.6	66.0	75.3	90.4	94.7	107.5	117.2	128.1	140.4	147.9	152.4	157.4
Nonfarm business:													
Output per hour of all persons	56.3	68.3	86.8	95.3	94.8	97.8	100.6	99.0	98.3	99.8	100.0	103.4	106.2
Compensation per hour	21.9	35.7	58.7	71.8	86.1	93.0	108.6	118.4	130.6	143.1	154.5	162.0	168.7
Real compensation per hour	55.1	73.1	91.5	97.9	98.9	99.0	100.8	98.8	96.0	95.3	97.0	98.6	98.4
Unit labor costs	38.8	52.3	67.6	75.3	90.8	95.1	108.0	119.6	132.8	143.5	154.5	156.6	158.8
Unit nonlabor payments	42.7	50.4	63.8	71.6	88.5	93.5	105.3	110.4	118.6	135.0	136.9	147.0	156.9
Implicit price deflator	40.1	51.6	66.3	74.0	90.0	94.6	107.1	116.5	128.1	140.6	148.6	153.4	158.2
Nonfinancial corporations:													
Output per hour of all employees	-	68.0	87.4	96.4	95.5	98.2	100.8	100.6	99.7	101.6	102.6	106.1	108.5
Compensation per hour	-	37.0	59.4	71.9	86.1	92.9	108.4	118.6	130.8	143.1	154.6	161.0	166.6
Real compensation per hour	-	75.8	92.7	98.0	97.0	96.9	100.7	99.0	96.2	95.3	97.0	97.9	97.2
Unit labor costs	-	54.4	66.0	74.5	90.2	94.6	107.5	117.8	131.2	140.9	150.6	151.8	153.6
Unit nonlabor payments	-	54.6	63.1	70.6	90.8	95.0	104.2	106.9	117.4	135.1	138.1	149.1	158.8
Implicit price deflator	-	54.5	66.3	73.2	90.4	94.7	106.4	114.1	126.4	138.9	146.3	150.9	155.4
Manufacturing:													
Output per hour of all persons	49.4	60.0	79.2	93.0	93.4	97.6	100.9	101.6	101.7	104.9	107.1	111.6	115.6
Compensation per hour	21.5	36.7	57.6	69.0	85.5	92.3	108.3	118.8	132.7	145.2	158.0	163.4	169.4
Real compensation per hour	54.0	75.1	89.8	94.1	96.2	98.3	100.6	99.2	97.6	96.8	99.2	99.4	98.8
Unit labor costs	43.4	61.1	72.7	74.2	91.5	94.6	107.3	117.0	130.5	138.4	147.6	146.4	146.5
Unit nonlabor payments	54.3	61.1	65.1	70.7	87.3	93.9	102.7	99.9	97.9	111.6	110.5	128.8	140.3
Implicit price deflator	46.6	61.1	70.5	73.2	90.3	94.4	106.0	112.0	120.9	130.6	136.7	141.2	144.7

- Data not available.

45. Unemployment rates in nine countries, quarterly data seasonally adjusted

Country	Annual average		1984				1985		
	1983	1984	I	II	III	IV	I	II	III
Total labor force basis									
United States	-	-	-	-	-	-	-	-	-
Canada	-	-	11.4	11.3	11.2	11.1	11.1	10.5	10.2
Australia	-	-	9.3	9.1	8.8	8.5	8.5	8.4	8.1
Japan	-	-	2.7	2.7	2.8	2.7	2.6	2.6	2.5
France	-	-	9.4	9.8	10.0	10.2	10.3	10.2	10.2
Germany	-	-	7.6	7.7	7.8	7.7	7.8	7.8	7.8
Great Britain	-	-	12.7	12.8	13.1	12.9	13.0	13.1	13.3
Italy [1], [2]	-	-	5.9	5.9	5.7	5.7	5.8	5.8	6.0
Sweden	-	-	-	-	-	-	-	-	-
Civilian labor force basis									
United States	-	-	7.9	7.5	7.4	7.2	7.3	7.3	7.2
Canada	-	-	11.5	11.2	11.6	11.2	11.1	10.6	10.3
Australia	-	-	9.4	9.2	8.8	8.6	8.5	8.5	8.2
Japan	-	-	2.8	2.7	2.8	2.7	2.6	2.6	2.5
France	-	-	9.6	10.1	10.3	10.4	10.5	10.5	10.5
Germany	-	-	7.7	7.9	8.0	7.8	7.9	8.0	7.9
Great Britain	-	-	12.6	12.9	13.2	13.0	13.1	13.3	13.5
Italy	-	-	6.0	6.0	5.8	5.8	5.9	5.9	6.2
Sweden	-	-	-	-	-	-	-	-	-

[1] Quarterly rates are for the first month of the quarter.

[2] Major changes in the Italian labor force survey, introduced in 1977, resulted in a large increase in persons enumerated as unemployed. However, many persons reported that they had not actively sought work in the past 30 days, and they have been provisionally excluded for comparability with U.S. concepts. Inclusion of such persons would more than double the Italian unemployment rate shown.

- Data not available.

NOTE: Quarterly and monthly figures for France, Germany, and Great Britain are calculated by applying annual adjustment factors to current published data and therefore should be viewed as less precise indicators of unemployment under U.S. concepts than the annual figures.

46. Annual data: Employment status of the civilian working-age population, ten countries

(Numbers in thousands)

Employment status and country	1975	1976	1977	1978	1979	1980	1981	1982	1983
Labor force									
United States	93,775	96,158	99,009	102,251	104,962	106,940	108,670	110,204	111,550
Canada	9,974	10,203	10,500	10,895	11,231	11,573	11,904	11,958	12,183
Australia	6,169	6,244	6,358	6,443	6,519	6,693	6,810	6,910	6,997
Japan	52,530	53,100	53,820	54,610	55,210	55,740	56,320	56,980	58,110
France	21,600	21,840	22,100	22,290	22,470	22,570	22,640	22,900	22,800
Germany	26,130	25,900	25,870	26,000	26,240	26,500	26,610	26,640	26,640
Great Britain	25,130	25,290	25,430	25,620	25,710	25,870	25,870	25,880	25,980
Italy	20,080	20,300	20,530	20,630	20,910	21,210	21,410	21,450	21,610
Netherlands	4,820	4,890	4,950	5,010	5,100	5,290	5,500	5,560	5,720
Sweden	4,123	4,149	4,168	4,203	4,262	4,312	4,326	4,350	4,369
Participation rate									
United States	61.2	61.6	62.3	63.2	63.7	63.8	63.9	64.0	64.0
Canada	61.1	61.1	61.6	62.7	63.4	64.1	64.8	64.1	64.4
Australia	63.2	62.7	62.7	62.0	61.7	62.2	62.0	61.8	61.5
Japan	62.4	62.4	62.5	62.8	62.7	62.6	62.6	62.7	63.1
France	56.7	56.9	57.0	57.1	57.0	56.7	56.5	56.7	56.1
Germany	54.4	53.8	53.4	53.3	53.3	53.2	52.9	52.5	52.8
Great Britain	63.1	63.2	63.2	63.3	63.2	63.2	62.2	61.9	62.2
Italy	47.5	47.8	48.0	47.7	47.8	48.0	48.0	47.4	47.2
Netherlands	49.2	49.1	49.0	48.8	49.0	50.0	51.3	51.2	52.4
Sweden	65.9	66.0	65.9	66.1	66.6	67.0	66.8	66.8	66.9
Employed									
United States	85,846	88,752	92,017	96,048	98,824	99,303	100,397	99,526	100,834
Canada	9,284	9,477	9,651	9,987	10,395	10,708	11,006	10,644	10,734
Australia	5,866	5,946	6,000	6,038	6,111	6,284	6,416	6,415	6,300
Japan	51,530	52,020	52,720	53,370	54,040	54,600	55,060	55,620	56,550
France	20,700	20,850	21,030	21,110	21,110	21,120	20,950	20,980	20,840
Germany	25,230	25,010	24,970	25,130	25,460	25,730	25,520	25,060	24,650
Great Britain	24,000	23,810	23,840	24,040	24,360	24,100	23,190	22,820	22,650
Italy	19,480	19,600	19,800	19,870	20,100	20,380	20,480	20,430	20,470
Netherlands	4,570	4,630	4,700	4,750	4,830	4,960	4,990	4,930	4,890
Sweden	4,056	4,063	4,093	4,109	4,174	4,226	4,218	4,213	4,218
Employment-population ratio									
United States	56.1	56.8	57.9	59.3	59.9	59.2	59.0	57.8	57.9
Canada	56.9	56.7	56.6	57.5	58.7	59.3	59.9	57.0	56.7
Australia	60.1	59.7	59.2	58.1	57.9	58.4	58.4	57.3	55.4
Japan	61.2	61.1	61.2	61.3	61.4	61.3	61.2	61.2	61.4
France	54.3	54.3	54.3	54.1	53.6	53.1	52.3	51.9	51.3
Germany	52.5	52.0	51.6	51.5	51.7	51.6	50.7	49.4	48.8
Great Britain	60.3	59.5	59.3	59.4	59.8	58.9	55.8	54.6	54.2
Italy	46.1	46.1	46.3	45.9	45.9	46.1	45.9	45.2	44.7
Netherlands	46.6	46.5	46.5	46.3	46.4	46.9	46.5	45.4	44.8
Sweden	64.8	64.9	64.8	64.6	65.3	65.6	65.1	64.7	64.4
Unemployed									
United States	7,929	7,406	6,991	6,202	6,137	7,637	8,273	10,678	10,717
Canada	690	726	849	908	836	865	898	1,314	1,448
Australia	302	298	358	405	408	409	394	495	697
Japan	1,000	1,080	1,100	1,240	1,170	1,140	1,260	1,360	1,560
France	900	990	1,070	1,180	1,360	1,450	1,690	1,920	1,960
Germany	890	890	900	870	780	770	1,090	1,580	1,990
Great Britain	1,130	1,480	1,590	1,580	1,350	1,770	2,680	3,060	3,330
Italy	610	700	740	760	810	830	920	1,020	1,140
Netherlands	250	260	250	260	270	330	510	630	830
Sweden	67	86	75	94	88	86	108	137	151
Unemployment rate									
United States	8.5	7.7	7.1	6.1	5.8	7.1	7.6	9.7	9.6
Canada	6.9	7.1	8.1	8.3	7.4	7.5	7.5	11.0	11.9
Australia	4.9	4.8	5.6	6.3	6.3	6.1	5.8	7.2	10.0
Japan	1.9	2.0	2.0	2.3	2.1	2.0	2.2	2.4	2.7
France	4.2	4.5	4.8	5.3	6.1	6.4	7.5	8.4	8.6
Germany	3.4	3.4	3.5	3.4	3.0	2.9	4.1	5.9	7.5
Great Britain	4.5	5.9	6.3	6.2	5.3	6.9	10.4	11.8	12.8
Italy	3.0	3.4	3.6	3.7	3.9	3.9	4.3	4.8	5.3
Netherlands	5.2	5.3	5.0	5.2	5.3	6.2	9.3	11.3	14.5
Sweden	1.6	1.6	1.8	2.2	2.1	2.0	2.5	3.1	3.5

47. Annual indexes of productivity and related measures, twelve countries

(1977 = 100)

Item and country	1960	1970	1973	1975	1976	1978	1979	1980	1981	1982	1983	1984
Output per hour												
United States	60.0	79.2	93.0	93.4	97.6	100.9	101.6	101.7	104.9	107.1	111.6	115.6
Canada	50.3	76.8	91.3	91.0	96.2	101.4	104.2	101.9	104.0	101.1	107.8	111.9
Japan	22.0	61.4	80.2	86.3	93.3	107.9	117.4	128.6	135.7	146.4	152.8	167.4
Belgium	32.8	59.9	78.3	86.0	96.0	106.4	112.0	119.7	126.5	128.6	137.0	-
Denmark	38.4	65.3	82.8	94.4	96.0	102.4	108.3	114.3	116.2	115.3	118.8	123.6
France	36.3	69.3	82.0	86.4	94.9	105.9	110.6	112.4	116.0	123.5	128.8	136.2
Germany	39.8	70.9	83.4	89.8	96.2	102.5	107.4	108.4	110.3	111.6	116.8	122.3
Italy	36.5	72.7	90.8	91.1	99.9	103.0	110.5	116.9	121.0	123.4	126.4	134.4
Netherlands	31.7	63.0	80.1	85.1	96.1	106.6	112.1	114.6	118.7	121.8	130.4	-
Norway	54.6	81.7	94.7	96.8	99.7	101.8	107.2	109.3	109.7	112.7	119.4	121.4
Sweden	42.3	80.7	94.8	100.2	101.7	102.8	110.9	112.7	113.2	116.5	126.4	134.9
United Kingdom	53.8	77.6	93.1	94.5	99.4	101.6	102.1	99.9	106.1	110.9	118.3	123.0
Output												
United States	50.7	77.0	95.9	86.4	93.6	105.3	108.2	103.5	106.1	99.3	104.4	115.3
Canada	41.5	75.1	94.6	92.3	98.1	104.9	110.9	107.7	108.8	98.4	102.2	110.6
Japan	17.9	66.3	87.4	82.2	93.2	107.3	118.0	130.7	139.0	148.6	160.1	180.3
Belgium	41.6	78.0	95.7	92.1	99.4	101.6	104.2	107.3	104.8	104.8	106.2	-
Denmark	48.2	81.7	95.4	94.8	99.4	100.7	107.2	112.1	108.5	108.2	115.0	123.6
France	35.4	73.3	88.6	90.0	98.1	103.4	108.1	106.6	104.9	105.1	106.4	106.0
Germany	49.2	86.0	95.2	90.4	97.6	101.3	106.1	106.6	104.6	101.4	102.5	106.5
Italy	37.4	78.0	90.5	86.9	97.9	101.8	108.6	115.4	114.3	111.6	109.0	113.1
Netherlands	44.1	82.7	94.2	91.7	99.1	102.6	105.5	107.3	107.3	105.2	106.3	-
Norway	55.1	87.0	99.5	101.0	101.4	98.2	100.3	101.3	100.1	99.9	98.7	101.2
Sweden	52.6	92.5	100.3	106.1	106.1	97.3	103.6	104.0	100.6	100.1	106.0	113.2
United Kingdom	71.0	94.6	104.6	96.1	98.1	100.6	100.6	91.6	86.2	86.8	89.0	92.0
Total hours												
United States	84.4	97.3	103.1	91.4	95.9	104.4	106.5	101.7	101.1	92.7	93.5	99.8
Canada	82.6	97.7	103.6	101.4	102.0	103.4	106.4	105.7	104.6	95.4	94.9	98.9
Japan	81.5	108.4	109.0	95.4	99.9	99.5	100.5	101.6	102.4	102.2	104.8	107.7
Belgium	127.1	130.2	122.3	107.1	104.6	95.6	93.0	89.7	82.8	81.6	77.5	-
Denmark	132.4	125.1	115.2	100.4	101.4	98.3	99.0	98.0	93.4	93.9	96.8	99.9
France	97.6	105.7	108.0	101.9	101.3	97.6	95.9	94.8	90.4	85.0	82.6	79.9
Germany	123.6	121.3	114.2	100.6	101.5	98.8	98.8	98.4	94.8	90.8	87.7	87.0
Italy	102.3	107.4	99.6	95.4	99.0	98.8	98.2	98.7	94.5	90.5	86.2	84.2
Netherlands	139.1	131.1	117.7	107.8	103.1	96.4	94.1	93.7	90.4	86.5	81.5	-
Norway	101.0	106.4	105.1	104.3	101.7	96.5	93.6	92.6	91.3	88.6	82.7	83.4
Sweden	124.4	114.6	105.7	105.9	104.3	94.6	93.4	92.3	88.9	85.9	83.9	83.9
United Kingdom	131.6	121.9	112.4	101.7	98.7	99.0	98.6	91.9	81.3	78.2	75.2	74.8
Compensation per hour												
United States	36.7	57.6	69.0	85.5	92.3	108.3	118.6	132.7	145.2	156.0	163.4	169.4
Canada	27.1	46.5	59.2	78.2	89.9	106.7	118.3	130.6	151.5	167.2	178.5	181.4
Japan	8.9	33.9	55.7	86.4	91.1	105.9	112.6	121.2	130.2	136.9	141.5	146.0
Belgium	13.9	34.7	53.6	79.0	89.4	107.9	117.5	130.2	144.7	152.0	164.9	-
Denmark	12.6	36.3	56.1	81.0	90.4	110.2	123.2	135.9	149.7	165.4	172.6	182.8
France	15.1	36.5	52.1	76.6	88.8	113.7	129.7	148.1	171.3	202.7	227.4	247.5
Germany	18.8	48.1	67.8	84.8	91.4	107.7	115.4	125.0	133.6	140.9	146.7	152.1
Italy	8.3	26.1	43.7	70.2	84.1	114.5	134.7	160.2	197.1	237.3	277.0	306.0
Netherlands	12.2	36.5	60.1	81.9	92.1	108.7	117.3	123.5	130.3	139.4	147.3	-
Norway	15.6	37.9	54.6	77.2	88.9	110.0	116.0	128.0	142.8	158.1	173.8	185.8
Sweden	14.7	36.5	54.2	77.3	91.5	111.4	120.1	133.6	148.1	158.9	173.2	192.0
United Kingdom	14.9	30.9	45.0	75.1	88.9	116.8	137.1	162.8	185.6	201.8	218.2	233.4
Unit labor costs: National currency basis:												
United States	61.1	72.7	74.2	91.5	94.6	107.3	117.0	130.5	138.4	147.6	146.4	146.5
Canada	53.9	60.6	64.8	86.0	93.5	105.3	113.5	128.1	145.7	165.4	165.9	162.1
Japan	40.5	55.2	69.4	100.1	97.7	98.2	96.1	94.2	95.9	94.1	92.6	87.2
Belgium	42.4	57.9	68.5	91.9	94.1	101.4	104.9	108.9	114.4	118.3	120.4	-
Denmark	34.5	55.6	67.8	85.8	92.3	107.6	113.7	118.9	128.8	143.5	145.3	147.8
France	41.6	52.6	63.6	86.7	93.6	107.4	117.3	131.7	147.7	164.1	176.5	183.1
Germany	47.3	67.9	81.0	94.4	95.0	105.0	107.5	115.3	121.3	126.2	125.6	124.3
Italy	22.8	36.0	48.1	77.1	85.1	111.2	121.9	137.0	162.9	192.4	219.2	227.7
Netherlands	38.3	61.1	75.1	96.2	95.9	101.9	104.7	107.8	109.8	114.6	113.0	-
Norway	29.0	46.4	57.6	79.7	89.1	108.1	108.2	117.0	130.2	138.5	145.6	152.9
Sweden	34.8	47.7	57.2	77.1	90.0	108.4	108.3	118.6	130.9	136.3	137.1	142.3
United Kingdom	27.6	39.8	48.3	79.4	89.5	114.9	134.3	163.0	174.9	181.9	182.8	189.8
Unit labor costs: U.S. dollar basis:												
United States	61.1	72.7	74.2	91.5	94.6	107.3	117.0	130.5	138.4	147.6	146.4	146.5
Canada	59.0	61.7	66.6	86.8	100.7	96.1	103.0	116.4	129.1	142.3	143.1	133.0
Japan	30.2	41.3	66.6	90.4	98.2	126.2	117.9	111.8	116.4	101.2	104.4	98.4
Belgium	30.4	41.8	63.2	89.8	87.4	115.6	128.1	133.6	110.7	92.6	84.4	-
Denmark	30.1	44.5	67.6	89.8	91.7	117.3	120.7	126.8	108.4	103.2	95.3	85.7
France	41.7	46.8	70.4	99.5	96.3	117.3	135.5	153.4	133.4	122.6	113.9	103.0
Germany	26.3	43.2	71.0	89.2	87.6	121.6	136.2	147.5	124.9	120.7	114.1	101.4
Italy	32.5	50.6	73.1	104.3	90.5	115.6	129.5	141.4	126.3	125.4	127.4	114.5
Netherlands	24.9	41.4	66.3	93.6	89.0	115.7	126.1	133.2	108.2	105.2	97.2	-
Norway	21.7	34.5	52.4	81.4	86.9	109.7	113.8	126.2	120.6	114.1	108.2	99.7
Sweden	30.1	41.1	58.7	83.2	92.3	107.2	112.9	125.3	115.4	96.9	79.8	76.9
United Kingdom	44.5	54.6	67.9	101.1	92.6	126.4	163.4	217.2	202.9	182.2	158.8	145.4

- Data not available.

48. Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]								
	1976	1977	1978	1979	1980	1981	1982	1983	1984
PRIVATE SECTOR[3]									
Total cases	–	–	–	–	–	8.3	7.7	7.6	8.0
Lost workday cases	–	–	–	–	–	3.8	3.5	3.4	3.7
Lost workdays	–	–	–	–	–	61.7	58.7	58.5	63.4
Agriculture, forestry, and fishing[3]									
Total cases	–	–	–	–	–	12.3	11.8	11.9	12.0
Lost workday cases	–	–	–	–	–	5.9	5.9	6.1	6.1
Lost workdays	–	–	–	–	–	82.8	86.0	90.8	90.7
Mining									
Total cases	–	–	–	–	–	11.6	10.5	8.4	9.7
Lost workday cases	–	–	–	–	–	6.2	5.4	4.5	5.3
Lost workdays	–	–	–	–	–	146.4	137.3	125.1	160.2
Construction									
Total cases	–	–	–	–	–	15.1	14.6	14.8	15.5
Lost workday cases	–	–	–	–	–	6.3	6.0	6.3	6.9
Lost workdays	–	–	–	–	–	113.1	115.7	118.2	128.1
General building contractors:									
Total cases	–	–	–	–	–	15.1	14.1	14.4	15.4
Lost workday cases	–	–	–	–	–	6.1	5.9	6.2	6.9
Lost workdays	–	–	–	–	–	107.1	112.0	113.0	121.3
Heavy construction contractors:									
Total cases	–	–	–	–	–	14.9	15.1	15.4	14.9
Lost workday cases	–	–	–	–	–	6.0	5.6	6.2	6.4
Lost workdays	–	–	–	–	–	106.0	113.1	122.4	131.7
Special trade contractors:									
Total cases	–	–	–	–	–	15.2	14.7	14.8	15.8
Lost workday cases	–	–	–	–	–	6.6	6.2	6.4	7.1
Lost workdays	–	–	–	–	–	119.3	118.6	119.0	130.1
Manufacturing									
Total cases	–	–	–	–	–	11.5	10.2	10.0	10.6
Lost workday cases	–	–	–	–	–	5.1	4.4	4.3	4.7
Lost workdays	–	–	–	–	–	82.0	75.0	73.5	77.9
Durable goods									
Lumber and wood products:									
Total cases	–	–	–	–	–	17.6	16.9	18.3	19.6
Lost workday cases	–	–	–	–	–	9.0	8.3	9.2	9.9
Lost workdays	–	–	–	–	–	158.4	153.3	163.5	172.0
Furniture and fixtures:									
Total cases	–	–	–	–	–	15.1	13.9	14.1	15.3
Lost workday cases	–	–	–	–	–	6.2	5.5	5.7	6.4
Lost workdays	–	–	–	–	–	91.9	85.6	83.0	101.5
Stone, clay, and glass products:									
Total cases	–	–	–	–	–	14.1	13.0	13.1	13.6
Lost workday cases	–	–	–	–	–	6.9	6.1	6.0	6.6
Lost workdays	–	–	–	–	–	122.2	112.2	112.0	120.8
Primary metal industries:									
Total cases	–	–	–	–	–	14.4	12.4	12.4	13.3
Lost workday cases	–	–	–	–	–	6.7	5.4	5.4	6.1
Lost workdays	–	–	–	–	–	121.3	101.6	103.4	115.3
Fabricated metal products:									
Total cases	–	–	–	–	–	17.5	15.3	15.1	16.1
Lost workday cases	–	–	–	–	–	7.5	6.4	6.1	6.7
Lost workdays	–	–	–	–	–	109.9	102.5	96.5	104.9
Machinery, except electrical:									
Total cases	–	–	–	–	–	12.9	10.7	9.8	10.7
Lost workday cases	–	–	–	–	–	5.1	4.2	3.6	4.1
Lost workdays	–	–	–	–	–	74.9	66.0	58.1	65.8
Electric and electronic equipment:									
Total cases	–	–	–	–	–	7.4	6.5	6.3	6.8
Lost workday cases	–	–	–	–	–	3.1	2.7	2.6	2.8
Lost workdays	–	–	–	–	–	46.4	42.2	41.4	45.0
Transportation equipment:									
Total cases	–	–	–	–	–	9.8	9.2	8.4	9.3
Lost workday cases	–	–	–	–	–	4.6	4.0	3.6	4.2
Lost workdays	–	–	–	–	–	76.1	72.2	64.5	68.8
Instruments and related products:									
Total cases	–	–	–	–	–	6.5	5.6	5.2	5.4
Lost workday cases	–	–	–	–	–	2.7	2.3	2.1	2.2
Lost workdays	–	–	–	–	–	39.2	37.0	35.6	37.5
Miscellaneous manufacturing industries:									
Total cases	–	–	–	–	–	10.7	9.9	9.9	10.5
Lost workday cases	–	–	–	–	–	4.4	4.1	4.0	4.3
Lost workdays	–	–	–	–	–	68.3	69.9	66.3	70.2

See footnotes at end of table.

48. —Continued Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]								
	1976	1977	1978	1979	1980	1981	1982	1983	1984
Nondurable goods									
Food and kindred products:									
Total cases	–	–	–	–	–	17.8	16.7	16.5	16.7
Lost workday cases	–	–	–	–	–	8.6	8.0	7.9	8.1
Lost workdays	–	–	–	–	–	130.7	129.3	131.2	131.6
Tobacco manufacturing:									
Total cases	–	–	–	–	–	8.2	7.2	6.5	7.7
Lost workday cases	–	–	–	–	–	3.9	3.2	3.0	3.2
Lost workdays	–	–	–	–	–	56.8	44.6	42.8	51.7
Textile mill products:									
Total cases	–	–	–	–	–	8.8	7.6	7.4	8.0
Lost workday cases	–	–	–	–	–	3.2	2.8	2.8	3.0
Lost workdays	–	–	–	–	–	59.2	53.8	51.4	54.0
Apparel and other textile products:									
Total cases	–	–	–	–	–	6.3	6.0	6.4	6.7
Lost workday cases	–	–	–	–	–	2.2	2.1	2.4	2.5
Lost workdays	–	–	–	–	–	35.0	36.4	40.6	40.9
Paper and allied products:									
Total cases	–	–	–	–	–	11.6	10.6	10.0	10.4
Lost workday cases	–	–	–	–	–	5.4	4.9	4.5	4.7
Lost workdays	–	–	–	–	–	103.6	99.1	90.3	93.8
Printing and publishing:									
Total cases	–	–	–	–	–	6.7	6.6	6.6	6.5
Lost workday cases	–	–	–	–	–	3.0	2.8	2.9	2.9
Lost workdays	–	–	–	–	–	47.4	45.7	44.6	46.0
Chemicals and allied products:									
Total cases	–	–	–	–	–	6.6	5.7	5.5	5.3
Lost workday cases	–	–	–	–	–	3.0	2.5	2.5	2.4
Lost workdays	–	–	–	–	–	48.1	39.4	42.3	40.8
Petroleum and coal products:									
Total cases	–	–	–	–	–	6.7	5.3	5.5	5.1
Lost workday cases	–	–	–	–	–	2.9	2.5	2.4	2.4
Lost workdays	–	–	–	–	–	51.2	46.4	48.8	53.5
Rubber and miscellaneous plastics products:									
Total cases	–	–	–	–	–	14.6	12.7	13.0	13.6
Lost workday cases	–	–	–	–	–	7.2	6.0	6.2	6.4
Lost workdays	–	–	–	–	–	117.4	100.9	101.4	104.3
Leather and leather products:									
Total cases	–	–	–	–	–	11.5	9.9	10.0	10.5
Lost workday cases	–	–	–	–	–	5.1	4.5	4.4	4.7
Lost workdays	–	–	–	–	–	82.6	86.5	87.3	94.4
Transportation and public utilities									
Total cases	–	–	–	–	–	9.0	8.5	8.2	8.8
Lost workday cases	–	–	–	–	–	5.3	4.9	4.7	5.2
Lost workdays	–	–	–	–	–	100.6	96.7	94.9	105.1
Wholesale and retail trade									
Total cases	–	–	–	–	–	7.3	7.2	7.2	7.4
Lost workday cases	–	–	–	–	–	3.1	3.1	3.1	3.3
Lost workdays	–	–	–	–	–	45.3	45.5	47.8	50.5
Wholesale trade:									
Total cases	–	–	–	–	–	7.7	7.1	7.0	7.2
Lost workday cases	–	–	–	–	–	3.6	3.4	3.2	3.5
Lost workdays	–	–	–	–	–	54.7	52.1	50.6	55.5
Retail trade:									
Total cases	–	–	–	–	–	7.1	7.2	7.3	7.5
Lost workday cases	–	–	–	–	–	2.9	2.9	3.0	3.2
Lost workdays	–	–	–	–	–	41.1	42.6	46.7	48.4
Finance, insurance, and real estate									
Total cases	–	–	–	–	–	1.9	2.0	2.0	1.9
Lost workday cases	–	–	–	–	–	.8	.9	.9	.9
Lost workdays	–	–	–	–	–	11.6	13.2	12.8	13.6
Services									
Total cases	–	–	–	–	–	5.0	4.9	5.1	5.2
Lost workday cases	–	–	–	–	–	2.3	2.3	2.4	2.5
Lost workdays	–	–	–	–	–	35.9	35.8	37.0	41.1

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[1] Total cases include fatalities.

[2] The incidence rates represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as:
(N/EH) X 200,000, where:
N = number of injuries and illnesses or lost workdays.
EH = total hours worked by all employees during calendar year.
200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year.)

[3] Excludes farms with fewer than 11 employees since 1976.

– Data not available.

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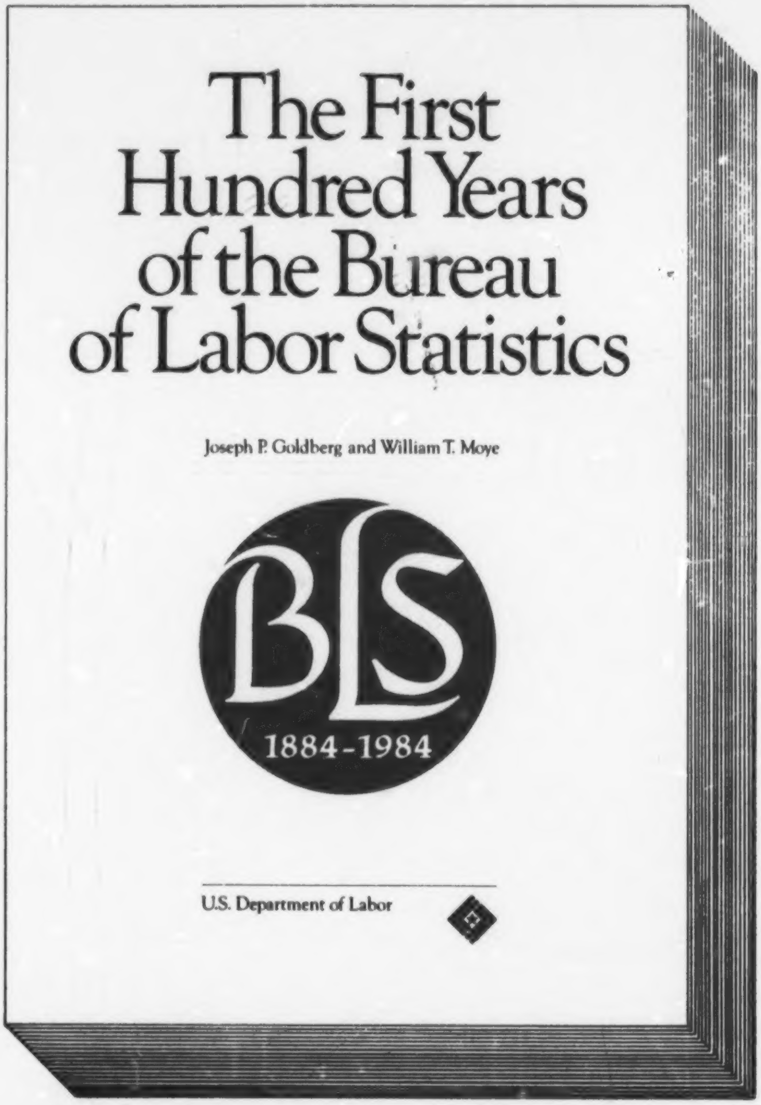

The First Hundred Years of the Bureau of Labor Statistics

Joseph P. Goldberg and William T. Moye

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March 1986

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including reports
on output per hour
in 12 industrial nations,
and in beauty
and barber shops.

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Labor Month In Review

IMMIGRATION EFFECTS. In its report for 1986, the President's Council of Economic Advisers, drawing on various studies, reported on the impact of immigration on the labor market. Here are excerpts:

No displacement. Studies that take a broad view of the labor market have found no significant evidence of unemployment among native-born workers attributable to immigration. Any direct effects of immigration on domestic employment have either been too small to measure or have been quickly dissipated.

Although existing studies may not be conclusive, the evidence currently available does not suggest that native-born American workers experience significant labor market difficulties in areas that have attracted immigrants. Several studies, moreover, have shown that the presence of immigrants in labor markets is associated with increased job opportunities overall, including job opportunities for native-born minority groups.

Some studies of the effects of immigration on wage levels have revealed evidence of adverse wage effects. For example, one study concluded that real wages were 8 to 10 percent lower on average in cities near the Mexican border. Several studies found a reduction in the wages of unskilled workers in areas with high concentrations of unskilled immigrant workers.

Other studies, however, have shown that greater concentrations of aliens in labor markets are associated with higher earnings of native-born workers. Increased wages have been found both for broad groups of workers and also for native-born minority groups with whom immigrants might compete directly for jobs.

The experience of the Los Angeles labor market in adjusting to a growing concentration of unskilled immigrant labor is instructive. One study estimated that more than a million foreign-born persons settled in Los Angeles County between 1970 and 1983. During the early 1980's, the foreign-born in Los Angeles County represented close to a third of the total population. Job growth in the area was strong, and the new immigrants were quickly absorbed into the labor market. New immigrant workers accounted for some 70 percent of the new growth in employment in the 1970s. This study also showed that the unemployment rate in Los Angeles, which had exceeded the national average in 1970, fell below the average by the early 1980s. These results were not, of course, the consequence of international migration alone, but they suggest a smooth labor market adjustment to the inflow of migrants.

Illegal aliens. Although aliens who are eligible to hold jobs in the United States are clearly distinct from those who are not, researchers have not been able to isolate separate economic effects of illegal alien workers.

Illegal aliens have a higher proportion of males than legal aliens, are younger, and are less likely to bring family members with them. Illegal migrants are likely to remain in the United States for shorter periods of time than legal migrants. Illegal migrants also tend to have lower levels of education and to work in jobs requiring lower skill levels. Illegal aliens may have less incentive to invest in schooling or other activities that are specifically useful in the U.S. labor market.

Nevertheless, a recent study of apprehended illegal aliens in Chicago showed that they use market opportunities to improve their economic status. The subjects of the study were able to benefit from a competitive labor market, with opportunities for skill improvement and upward job mobility. These illegal aliens were apparently able to work their way up from entry-level jobs. Only 16 percent of those in the Chicago study had wage rates below the Federal minimum of $3.35 per hour, and some of these were in sectors not covered by the minimum wage. The average hourly wage of these illegal aliens at the time of their apprehension, in 1983, was $4.50.

Entrepreneurs. Many immigrants are entrepreneurs. One study found that foreign-born males are significantly more likely to be self-employed than native-born males with similar skills. Self-employed workers, both foreign- and native-born, had higher annual incomes than salaried workers. Returns on capital owned by self-employed workers may partially explain these differences in incomes. Self-employment also provides greater potential for high work effort. The self-employed work more hours per week than do wage-and-salary workers.

One reason for the successful absorption of immigrants into the U.S. labor market is that overall migrant inflows have been low relative to the size of the population, to labor force growth, and to domestic migration. International migrant flows, moreover, historically respond to labor market demands. Before legal restrictions were imposed, immigration increased when the demand for labor was relatively high and decreased when labor demand was relatively low.

The full report of the Council of Economic Advisers appears in the *Economic Report of the President*, available from the Superintendent of Documents, Washington 20402. Price: $8.50.

Productivity and labor costs trends in manufacturing, 12 countries

Output and output per hour in manufacturing rose in the United States and 11 other countries in 1984; U.S. unit labor costs increased 7 percent, relative to the costs of foreign competitors, after adjustment for the dollar's appreciation

EDWIN DEAN, HARRY BOISSEVAIN,
AND JAMES THOMAS

Manufacturing productivity, as measured by output per hour, rose in 1984 in the United States and 11 other industrial countries studied. The United States had a substantial increase of 5 percent, but this was exceeded by five of the other countries—Japan, France, Italy, the Netherlands, and Sweden. Belgium, West Germany,[1] and the United Kingdom about matched the U.S. gain; Canada, Denmark, and Norway had smaller increases.

Manufacturing output grew in all 12 countries in 1984, for the first time since 1973. The U.S. and Japanese output growth rates of more than 11 percent were the largest, and the French increase of 2 percent was the lowest. Productivity rose in the United States, Canada, Japan, Denmark, Norway and Sweden because output rose at a greater rate than hours.[2] The productivity increases for the other countries resulted from a combination of output gains coupled with decreased hours.

Unit labor costs, which reflect changes in productivity and hourly compensation, fell in the United States, Canada, Japan, Germany, and the Netherlands; and rose in the other European countries. However, unit labor costs measured in U.S. dollars were again significantly influenced by changes in currency exchange rates, as they have been since 1980. The dollar remained stable with the Japanese yen, but appreciated 5 percent against the Canadian dollar and 7 to 14 percent against the European currencies. Consequently, unit labor costs fell in each of the 11 foreign countries when measured in U.S. dollars, with the falloffs ranging from 3 to 15 percent—compared with a 1-percent decline in the United States.

Since 1980, U.S. manufacturing unit labor costs have risen at a 7-percent average annual rate relative to a trade-weighted average for the 11 rival industrial countries, re-

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Edwin Dean, formerly an economist in the Division of Foreign Labor Statistics, Bureau of Labor Statistics, is now chief of the Bureau's Division of Productivity Research. Harry Boissevain and James Thomas are economists in the Division of Foreign Labor Statistics.

versing the gains in comparative unit labor costs that U.S. manufacturers experienced during most of the 1970's. All of the 1980–84 relative increase, however, resulted from the appreciation of the U.S. dollar. Measured on a national currency basis, U.S. unit labor costs decreased at a 1-percent average annual rate relative to the trade-weighted average for the other 11 countries. Along with the rapid rise in U.S. relative unit labor costs in this period, the U.S. merchandise trade deficit increased fourfold.

This article examines 1984 developments in manufacturing labor productivity, hourly compensation, and unit labor costs in the United States and 11 countries, and compares unit labor cost trends measured in U.S. dollars prior to 1980 with the trends of the last 4 years. The indexes for 1984 are preliminary, while those for other recent years reflect some revised underlying statistics for most countries.[3]

The U.S. figures reflect the recent comprehensive benchmark revision of the U.S. national accounts, including the shift in the base period for the calculation of constant dollar estimates from 1972 to 1982. The effect is to reduce U.S. manufacturing output growth, and productivity, by about two-tenths of a percentage point in the pre-1973 period, but to have virtually no overall effect on the post-1973 period. Japan also rebenchmarked its national accounts, from 1975 to 1980, resulting in about a 1.5-percentage point reduction in output and productivity growth rates since 1973. In addition, a new average hours series has been introduced for Germany,[4] as well as new output series for the Netherlands[5] and the United Kingdom[6] since the previous *Monthly Labor Review* article in 1984.[7] The new series for Germany affects the year-to-year movements in output per hour and hourly compensation, but has no effect on the unit labor cost measures.

Productivity trends

As noted earlier, 1984 manufacturing productivity[8] increased for all the countries studied. (See table 1.) The Netherlands had the largest gain—more than 10 percent—followed by Japan, France, Italy, and Sweden, with gains of about 6 to 7 percent. Output per hour rose about 5 percent in the United States, Belgium, Germany, and the United Kingdom, and 1 to 4 percent in Canada, Denmark, and Norway.

Productivity researchers have found that a marked slowdown in manufacturing productivity growth occurred in most developed countries beginning about 1973. All 12 countries studied here had slower productivity gains in the 1973–84 period than in the 1960–73 period.

Another study reports that this slowdown in total manufacturing productivity was reflected in specific manufacturing industries in the United States, France, Germany, and the United Kingdom—after 1973, productivity growth declined in each of 13 manufacturing industry groups, in these four countries, with only one exception.[9]

For all but three of the 12 countries—Belgium, Denmark, and Norway—the 1984 increases in total manufacturing productivity were much larger than the average trend for the 1973–84 period. Moreover, the United States, the Netherlands, and the United Kingdom had 1984 gains that exceeded their average rates of increase over the 1960–73 period.

Output. In all 12 countries, output gains influenced the 1984 productivity increases. (See table 2.) Output (gross product originating in manufacturing at constant prices) rose most rapidly in the three non-European countries, with growth between 8 and 12 percent. The percentage increases were the largest since 1973 for Canada and Japan, and since the 1950's for the United States.

The European countries output increases exceeded their performance of the previous year. Denmark, the Netherlands, and Sweden had strong gains of between 5 and 7 percent; Germany, Italy, and the United Kingdom grew by 4 percent; and Belgium, France, and Norway had more modest expansions of less than 3 percent. Output gains were the largest since 1976 for the Netherlands, and since 1973 or 1974 for Norway, Sweden, and the United Kingdom. Although the British output increase was larger than in recent years, the level of output was still 12 percent below that of 1973. Canada, Italy, and Norway were the only other

Table 1. Annual percent changes in manufacturing productivity, 12 countries, 1960–84

Year	United States	Canada	Japan	France	Germany	Italy	United Kingdom	Belgium	Denmark	Netherlands	Norway	Sweden	Eleven foreign countries (weighted)[1]
Output per hour:													
1960–84	2.4	3.4	8.3	5.7	4.9	5.5	3.5	7.1	5.6	6.6	3.6	4.7	5.5
1960–73	2.8	4.5	10.6	6.7	5.9	6.9	4.4	7.0	6.4	7.8	4.5	6.6	6.9
1973–84	2.1	1.6	5.9	4.6	3.4	3.8	2.3	6.2	3.5	4.6	2.3	2.8	3.8
1973–80	1.7	2.0	5.9	4.9	3.9	3.5	1.2	6.4	4.5	5.2	2.0	2.2	3.9
1981	2.2	2.0	3.7	3.9	2.1	3.5	6.2	6.9	1.8	2.7	.4	.4	3.4
1982	2.2	−2.8	6.1	6.1	1.6	2.0	4.5	4.7	−.7	2.4	2.7	3.0	2.8
1983	6.6	6.4	5.4	4.2	6.1	2.4	7.3	6.8	3.5	5.3	5.6	7.7	5.7
1984	4.9	3.7	7.0	5.7	4.6	6.6	4.7	4.6	.8	10.5	2.0	5.7	5.5

[1] A trade-weighted average of the 11 foreign countries. See description of weights in text.

NOTE: Rates of change computed from the least squares trend of the logarithms of the index numbers. Index numbers for the underlying data series are available from the authors.

Table 2. Annual percent changes in manufacturing output, 12 countries, 1960–84

Year	United States	Canada	Japan	France	Germany	Italy	United Kingdom	Belgium	Denmark	Netherlands	Norway	Sweden
Output:												
1960–84	3.0	4.1	8.9	5.0	3.3	4.8	1.1	4.5	3.7	4.0	2.7	2.8
1960–73	4.4	6.3	12.9	7.3	5.2	6.8	3.0	6.5	5.2	6.4	4.8	5.0
1973–84	1.8	1.1	5.9	2.0	1.2	2.3	−1.5	1.6	2.1	1.2	−.1	.3
1973–80	2.5	2.3	4.7	3.0	2.0	3.4	−1.1	1.6	2.2	1.6	−.2	−.2
1981	1.6	1.0	4.5	−.7	−1.5	−.9	−6.0	−1.2	−3.2	.1	−1.1	−3.3
1982	−6.1	−11.4	5.8	.1	−2.4	−2.4	.2	3.0	1.6	−1.5	−.2	−.5
1983	7.3	5.5	8.0	1.3	1.0	−2.4	2.9	1.5	3.6	.3	−1.2	5.1
1984	11.7	8.2	11.4	2.1	3.9	3.8	3.9	1.8	5.7	5.2	2.5	6.8

NOTE: Rates of change computed from the least squares trend of the logarithms of the index numbers. Index numbers for the underlying data series are available from the authors.

countries in which manufacturing output had not yet recovered to previous peak levels.

Employment and hours

In the three non-European countries and Denmark, total hours of input in manufacturing rose between 4 and 7 percent in 1984, with the United States recording the largest gain. (See table 3.) Total hours rose modestly in Norway and Sweden and fell in the remaining 6 countries; except for France, the declines in total hours were smaller than in the previous year.

All of the European countries have experienced long-term declines in aggregate hours over the 1973–84 period, ranging from an annual average rate of about 1.5 percent in Denmark and Italy to around 4 percent in Belgium and the United Kingdom. In Japan, Canada, and the United States, there has been little overall change in total hours over the 1973–84 period.

The 1984 expansions in aggregate hours in the United States and Japan were the result of substantial increases in employment and small percentage increases in average hours. In Canada, a large increase in employment was accompanied by a slight drop in average hours. The 1984 employment increases in the United States, Canada, and Japan were the largest since 1973. Nonetheless, the levels of manufacturing employment in the United States and Canada in 1984 were between 5 and 8 percent below the peaks of the late 1970's, while in Japan, 1984 was about 1 percent below the previous peak reached in 1974.

Among the European countries, Belgium, Germany, the Netherlands, the United Kingdom, and the three Scandinavian countries all recorded either a rise or a lower rate of decrease in 1984 employment, compared with 1983. These countries also had higher rates of employment growth or smaller rates of decline in 1984 than they experienced, on average, during the 1973–84 period. In contrast, employment in France and Italy declined at a more rapid rate in 1984 than the average for the 1973–84 period.

The long-term trend in manufacturing employment has been downward in the European countries. Most countries had employment peaks in the 1960's or 1970's that were more than 15 percent above 1984 levels. The contrast, in this respect, to the three non-European countries is marked, and essentially unaltered by the favorable employment developments in 1984 in seven of the nine European countries.

In most of the European countries, the 1984 changes in aggregate hours took place mainly as a result of changes in employment rather than in average hours per employee. Changes in average hours had substantial effects on aggregate hours only in Belgium and the Netherlands, where average hours declined by 2 to 3 percent.

The declines in Belgium and the Netherlands occurred as employers, unions, and government took measures, beginning in 1982 and continuing through 1984, to reduce average hours worked, hoping that this would retard the rapid rate of decline in employment. A key element in these efforts has been a reduction in average hours through reorganization of work time negotiated at the company, industry, and sectoral levels. The negotiations in both countries produced a variety of reorganization schemes, but the most common provided for reduced annual hours by granting additional days of vacation or free shifts. The Netherlands Central Bureau of Statistics reported that by the end of 1984, hours reductions had affected 63 percent of firms and 86 percent of employees in Dutch manufacturing. In both countries—despite the concerted efforts of government and collective bargaining agents—employment continued to fall in 1984, but the rate of decline was substantially less than in the preceeding 2 years.[10]

Over the 1973–84 period, average hours per employee declined in nine of the countries studied. In the remaining three countries—the United States, Japan, and Denmark—average hours were essentially unchanged. Only two countries, Belgium and the Netherlands, had 1984 reductions in average hours that exceeded the long-term trend.

Hourly compensation

For all countries, hourly compensation costs—which include wages and salaries, supplements, and employer payments for social security and other employee benefit programs—rose at a lower rate in 1984 than the average for the years since 1973. (See table 4.) Canada had the lowest rise, less than 2 percent, followed by Japan, the United States, and Germany, each with less than 4 percent increases. Belgium, Denmark, France, the Netherlands, Norway, and the United Kingdom recorded increases of 5 to 9 percent. Italy and Sweden had the highest rates, about 10 to 11 percent.

The Netherlands and Sweden were the only countries to show a markedly more rapid rise in hourly compensation in 1984 than in 1983. For Sweden, 1984 was the second consecutive year of progressively larger increases. In Denmark, the 1984 compensation increase was the lowest since the 1950's, which may be attributed, in part, to the fact that in late 1982 the government imposed a 2-year freeze on pay indexation and restricted local-level collective bargaining.[11]

Unit labor costs

Productivity increases in 1984 more than offset the rises in hourly compensation costs in the United States, Canada, Japan, Germany, and the Netherlands; consequently, unit labor costs fell 1 to 4 percent. This marked the third consecutive year in which unit labor costs fell in Japan and the second consecutive year of declines for the United States, Germany, and the Netherlands. Unit labor costs rose between 2 and 5 percent in the other countries. Italy had one of the largest increases (4 percent), but this represented a sharp deceleration from Italy's 1983 increase (14 percent).

As noted earlier, the 1984 increases in hourly compensation were below the 1973–84 trend rates in all 12 countries, and the 1984 increases in output per hour were well above the 1973–84 trend in 9 countries. Therefore, it is not surprising that the 1984 performance in unit labor costs was favorable, compared to 1973–84 trends, because unit labor costs represent the ratio of hourly compensation to output per hour.

In U.S. dollars. Because labor costs are a principal component of the costs of manufactured goods, unit labor costs play a major role in conjunction with the exchange rates among currencies in determining the relative prices of goods offered for sale on the world market.

During 1984, changes in currency exchange rates had a significant effect on relative changes in unit labor costs measured in U.S. dollars. The U.S. dollar appreciated relative to the currencies of 10 of the countries studied and remained unchanged relative to the Japanese yen. In each year of the 1980–84 period, the dollar appreciated strongly relative to each of the European countries' currencies. It appreciated much more moderately relative to the Canadian dollar in 3 of the years. The dollar rose relative to the yen only in 1982. However, as of 1984, the yen had not regained its 1980 currency exchange value.

In 1984, unit labor costs measured in U.S. dollars fell in the 11 foreign countries. The decreases were 15 percent for the Netherlands; 10 to 11 percent for Belgium, France, Germany, Italy, and the United Kingdom; 6 to 8 percent for Canada, Denmark, and Norway; and less than 4 percent for Japan and Sweden. The 1984 changes were more damaging

Table 3. Annual percent changes in manufacturing employment and hours, 12 countries, 1960–84

Year	United States	Canada	Japan	France	Germany	Italy	United Kingdom	Belgium	Denmark	Netherlands	Norway	Sweden
Aggregate hours:												
1960–84	0.8	0.7	0.5	−0.6	−1.5	−0.6	−2.4	−2.5	−1.8	−2.4	−0.8	−1.8
1960–73	1.6	1.7	2.1	.6	−.6	−.1	−1.3	−.5	−1.1	−1.1	.2	−1.5
1973–84	−.2	−.5	.0	−2.5	−2.1	−1.4	−3.8	−4.4	−1.3	−3.2	−2.3	−2.5
1973–80	.7	.3	−1.1	−1.8	−1.9	−.1	−2.3	−4.5	−2.2	−3.4	−2.1	−2.4
1981	−.6	−1.0	.8	−4.4	−3.6	−4.3	−11.5	−7.6	−4.7	−2.6	−1.5	−3.7
1982	−8.1	−8.8	−.3	−5.6	−4.0	−4.3	−4.1	−1.6	2.4	−3.9	−2.9	−3.4
1983	.6	−.8	2.5	−2.8	−4.8	−4.7	−4.1	−4.9	.0	−4.8	−6.4	−2.3
1984	6.5	4.4	4.1	−3.4	−.7	−2.7	−.7	−2.6	4.8	−4.7	.5	1.1
Employment:												
1960–84	.6	1.0	1.2	.2	−.6	.7	−1.6	−1.2	−.7	−1.4	.3	−.5
1960–73	1.5	1.9	3.0	1.1	.3	1.4	−.6	.5	.2	.0	1.2	−.2
1973–84	−.1	−.2	−.2	−1.5	−1.5	−.7	−3.3	−3.5	−1.2	−2.7	−1.3	−1.5
1973–80	.8	.6	−1.2	−1.1	−1.2	.1	−1.7	−3.6	−1.7	−2.4	−.4	−.9
1981	−.5	.2	1.4	−3.3	−2.4	−1.9	−10.4	−5.4	−3.5	−3.2	−1.4	−3.1
1982	−6.7	−7.8	−.1	−1.4	−3.7	−2.2	−5.2	−3.8	−.2	−4.5	−2.8	−4.1
1983	−1.7	−1.8	1.9	−2.2	−4.1	−3.2	−5.0	−2.7	−.2	−4.8	−6.4	−2.6
1984	5.1	4.4	2.9	−3.0	−1.0	−4.0	−1.6	−.9	5.1	−2.0	−.6	.2
Average hours:												
1960–84	−.1	−.3	−.7	−.8	−.9	−1.4	−.7	−1.3	−1.1	−1.1	−1.1	−1.3
1960–73	.1	−.2	−.9	−.5	−.9	−1.5	−.7	−1.0	−1.4	−1.1	−1.0	−1.3
1973–84	−.1	−.4	.2	−1.0	−.7	−.6	−.4	−.8	−.2	−.5	−1.0	−1.0
1973–80	−.1	−.3	.1	−.8	−.7	−.2	−.6	−.9	−.6	−1.0	−1.7	−1.5
1981	.0	−1.1	−.6	−1.2	−1.2	−2.4	−1.2	−2.3	−1.2	.8	−.1	−.8
1982	−1.5	−1.1	−.2	−4.3	−.3	−2.1	1.2	2.3	2.6	.6	−.1	.7
1983	2.4	1.0	.6	−.6	−.8	−1.5	.9	−2.3	.2	0.0	.0	.3
1984	1.3	−.1	1.2	−.5	.3	1.4	.9	−1.7	−.3	−2.8	1.1	.9

NOTE: Rates of change computed from the least squares trend of the logarithms of the index numbers. Index numbers for the underlying data series are available from the authors.

Table 4. Annual percent changes in hourly compensation and unit labor costs in manufacturing, 12 countries, 1960–84

Year	United States	Canada	Japan	France	Germany	Italy	United Kingdom	Belgium	Denmark	Netherlands	Norway	Sweden	Eleven foreign countries (weighted)[1]
Hourly compensation:													
1960–84	7.2	9.2	13.6	12.7	9.7	16.8	13.6	12.3	12.8	12.0	11.6	11.8	12.1
1960–73	5.0	8.4	14.5	9.5	9.8	12.3	8.6	10.7	11.8	12.6	9.8	10.3	10.5
1973–84	8.9	11.0	8.2	14.9	7.7	19.3	16.0	10.7	11.0	8.2	11.3	11.5	11.1
1973–80	9.5	11.7	10.7	15.7	8.9	19.9	19.4	12.9	12.9	10.4	12.8	13.5	12.8
1981	9.6	16.0	7.6	15.4	7.0	23.1	13.5	11.1	10.1	4.5	11.6	10.9	11.6
1982	6.5	10.3	5.2	17.9	5.0	20.4	9.8	5.0	7.7	6.9	9.3	7.3	8.8
1983	3.6	7.3	3.0	12.1	5.7	16.7	7.5	8.1	8.2	4.9	11.1	9.1	6.8
1984	3.7	1.4	2.9	8.4	3.7	10.8	7.2	6.4	5.5	5.6	7.0	10.1	4.6
Unit labor costs:													
1960–84	4.7	5.6	4.9	8.7	4.6	10.7	9.6	4.8	6.8	5.0	7.7	6.8	6.2
1960–73	2.2	1.8	3.6	2.6	3.7	5.1	4.1	3.4	5.1	4.7	5.1	3.5	3.3
1973–84	6.6	9.2	2.2	9.8	4.2	15.0	13.4	4.3	7.3	3.4	8.8	8.5	7.0
1973–80	7.6	9.5	4.5	10.2	4.6	15.9	17.9	6.2	8.0	5.0	10.7	11.1	8.6
1981	7.3	13.7	3.7	11.1	4.8	18.9	6.9	3.9	8.3	1.8	11.2	10.4	7.9
1982	6.2	13.5	−.8	11.2	3.3	18.1	4.6	.3	8.5	4.3	6.4	4.2	5.8
1983	−2.8	.8	−2.3	7.6	−.4	14.0	.2	1.2	4.5	−.4	5.2	1.3	1.0
1984	−1.2	−2.2	−3.9	2.6	−.8	3.0	2.4	1.7	4.6	−4.4	5.0	4.1	−.8
Unit labor costs in U.S. dollars:													
1960–84	4.7	4.9	7.5	5.7	8.1	7.0	7.0	6.1	6.6	7.3	8.8	6.4	6.7
1960–73	2.2	1.9	5.0	2.4	6.1	5.4	2.6	4.5	5.0	6.0	6.0	4.3	4.0
1973–84	6.6	6.3	4.5	4.3	4.4	4.8	9.2	1.6	2.6	2.9	5.9	2.8	5.3
1973–80	7.6	6.4	9.5	11.3	11.3	9.5	16.1	11.3	9.7	10.8	12.7	11.2	10.3
1981	7.3	10.9	6.1	−13.8	−15.6	−10.7	−6.9	−18.0	−14.5	−18.8	−4.4	−7.9	−3.3
1982	6.2	10.2	−12.1	−8.1	−4.1	−.7	−9.7	−18.9	−7.3	−2.9	−5.4	−16.0	−5.4
1983	−2.8	1.0	2.5	−7.1	−5.3	1.6	−13.1	−9.3	−4.7	6.8	−7.0	−17.0	−3.3
1984	−1.2	−7.0	−3.8	−10.5	−11.0	−10.1	−9.7	−9.9	−7.6	−15.0	−6.1	−3.4	−7.9

[1] A trade-weighted average of the 11 foreign countries. See description of weights in text.

NOTE: Rates of change computed from the least squares trend of the logarithms of the index numbers. Index numbers for the underlying data series are available from the authors.

to the competitive position of the United States than the shifts of the previous year. In 1983, when U.S. unit labor costs decreased by about 3 percent, they decreased by larger proportions in eight countries, but increased in three countries, including Canada and Japan, two of the most important trading partners of the United States.

The appreciation of the dollar after 1980 has had a dramatic effect on U.S. unit labor costs relative to other countries. The following tabulation shows the average annual percentage change between 1980 and 1984 in unit labor costs measured in national currencies and in U.S. dollars:

	National currency	*U.S. dollars*
United States	2.1	2.1
Canada	6.4	3.9
Japan	−1.0	−2.7
Italy	14.0	−4.1
Norway	6.7	−5.8
Denmark	6.5	−8.1
Germany	1.7	−8.2
France	8.3	−9.5
Netherlands	.6	−9.9
United Kingdom	3.3	−10.2
Sweden	4.5	−12.3
Belgium	1.6	−14.2

Expressed in national currencies, seven countries had greater increases in unit labor costs than the United States. Taking into account the appreciation of the dollar after 1980, only one country, Canada, experienced a greater increase.

Relative productivity and labor cost trends

Following is a discussion of changes in the trends of each country's manufacturing productivity and labor costs relative to a trade-weighted average for its major international competitors.[12] The indexes were constructed by taking ratios of each country's indexes to weighted geometric averages of the corresponding indexes for the other 11 countries. The weights used to combine the other 11 countries' indexes into an average "competitors" index reflect the relative importance of each country as a manufacturing trade competitor as of 1980. Prior to this article, 1975 trade weights were used. The most significant change affecting U.S. "competitors" indexes was an increase in the relative weight given to Japan, from 17 to more than 27 percent. The weights for Canada and the United Kingdom rose about 1 percent each; the weights for all other countries fell.

Annual percent changes in the ratio of each country's productivity and labor cost indexes to the trade-weighted averages of the 11 rival nations' indexes were calculated for 1960 to 1984. (See table 5.) These percent changes indicate the annual movements in each country's productivity and labor costs relative to its competitors' productivity and costs.

Relative productivity changes. The United States has experienced a long-term relative decline in productivity, compared with the trade-weighted average of the other countries—amounting to 4.0 percent per year in the 1960–73 period and 1.7 percent per year in the 1973–84 period. Norway and the United Kingdom were the only other countries to experience significant relative declines. Japan had by far the most rapid increases in relative productivity growth in both periods—6.0 percent in the 1960–73 period and 3 percent per year since 1973—followed by the Netherlands in the earlier period (1.5 percent) and by Belgium in the latter (2.5 percent). The relatively poor performance of the U.S. manufacturing sector reflects, in part, a "catching-up" by other countries.

While the United States has had a long-term relative decline in productivity, U.S. productivity growth since 1981 has equalled the trade-weighted average of the 11 foreign countries. This reflects the large U.S. productivity increase of 1983 followed by the further substantial increase of 1984.

Relative compensation. The largest 1984 relative increases in manufacturing hourly compensation, relative to changes in competitor countries, took place in France, Italy, and Sweden. The largest relative decreases were in the three non-European countries and Germany. In the years since 1973, the largest decreases occurred in Germany, at an annual rate of more than 3 percent, and in the United States, Japan and the Netherlands, at 2- to 3-percent annual rates. Italy (at 8 percent), the United Kingdom (at 5 percent), and France (at 3 percent) recorded the largest increases.

Relative unit labor costs. In 1984, the largest increases in relative unit labor costs, measured in national currencies, were recorded by Denmark, France, Italy, Norway, Sweden, and the United Kingdom. The largest relative decreases were in Japan and the Netherlands. The United States, with a relative decrease of 0.4 percent, occupied an intermediate position. The 1984 decrease in relative U.S. unit labor costs, matched the trend for the period since 1973.

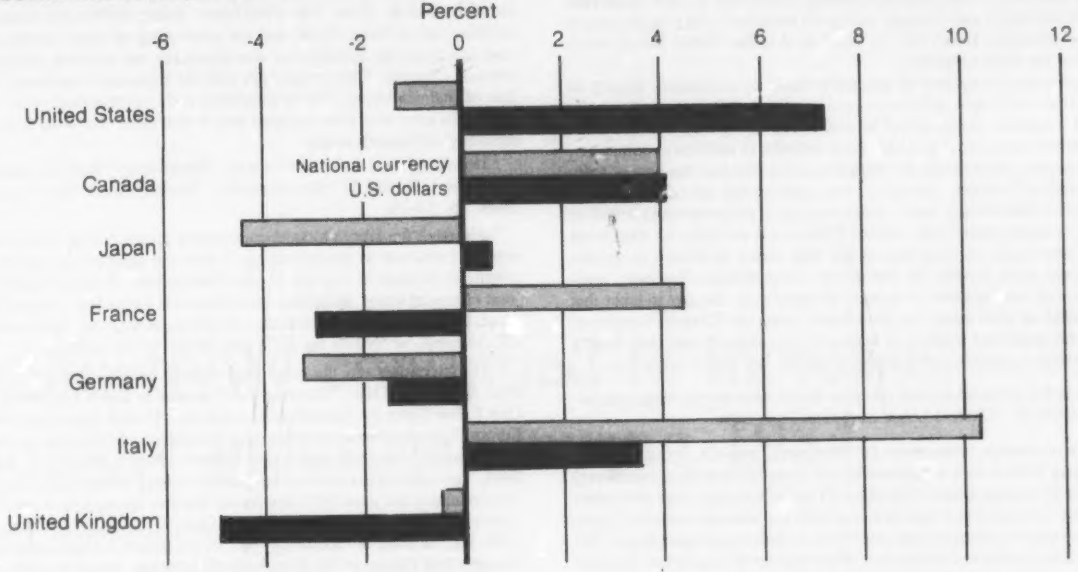
After adjustment for relative changes in foreign exchange rates, U.S. unit labor costs rose 7 percent in 1984 relative to competitors, far exceeding the 0.4-percent rise of the previous year. The 1984 U.S. increase also far exceeded the increases recorded by Japan and the three Scandinavian countries, the only other countries to have increases in relative unit labor costs in U.S. dollars. The Netherlands and

Table 5. Relative annual percent changes in output per hour, hourly compensation, and unit labor costs in manufacturing, 12 countries, 1960–84

	United States	Canada	Japan	France	Germany	Italy	United Kingdom	Belgium	Denmark	Netherlands	Norway	Sweden
Output per hour:												
1960–84	−3.0	0.1	4.5	0.6	−0.4	0.5	−1.4	2.0	0.8	1.5	−1.3	−0.1
1960–73	−3.9	.6	5.9	.7	−.3	.9	−1.5	.9	.5	1.5	−1.5	.7
1973–84	−1.7	−.9	3.0	1.0	−.5	.0	−1.3	2.5	.1	.8	−1.1	−.7
1973–80	−2.1	−.3	3.2	1.3	.1	−.3	−2.5	2.5	1.2	1.4	−1.3	−1.2
1981	−1.2	−.5	.9	.5	−1.5	.2	3.2	3.7	−1.1	−.8	−2.5	−2.6
1982	−.6	−5.4	3.5	3.3	−2.1	−1.5	1.5	1.3	−3.7	−.7	−.3	.1
1983	.8	.1	−.7	−1.4	.8	−3.2	1.6	1.2	−2.4	−.5	−.4	1.9
1984	−.5	−1.4	1.9	.2	−1.2	1.3	−.8	−1.0	−4.2	5.2	−3.1	.8
Hourly compensation:												
1960–84	−4.4	.6	3.6	.9	−2.4	5.2	2.4	.6	1.3	.5	−.1	.3
1960–73	−4.9	−.2	6.5	−.4	−.2	2.6	−.8	.8	1.9	2.7	−.1	.6
1973–84	−2.0	1.4	−2.2	3.4	−4.4	7.7	5.0	−.6	.0	−2.7	.1	.4
1973–80	−3.0	1.2	−.9	2.6	−4.7	6.9	6.8	.1	.2	−2.0	−.1	.8
1981	−1.8	5.6	−3.0	3.8	−5.0	11.5	2.5	.1	−.4	−6.0	.9	.1
1982	−.3	1.6	−3.7	8.6	−5.6	10.4	.1	−4.7	−.7	−1.8	.9	−1.4
1983	−3.1	2.8	−3.0	4.2	−2.6	9.0	.4	.2	.6	−2.5	3.5	1.6
1984	−.9	−2.6	−2.0	2.5	−2.8	5.0	1.7	.4	−.6	−.2	.7	4.3
Unit labor costs in national currency:												
1960–84	−1.4	.5	−.8	.3	−2.1	4.7	3.8	−1.3	.4	−1.0	1.3	.5
1960–73	−1.1	−.8	.6	−1.1	.1	1.7	.7	−.1	1.4	1.2	1.4	−.2
1973–84	−.3	2.4	−5.0	2.4	−4.0	7.7	6.4	−3.0	−.2	−3.5	1.2	1.1
1973–80	−.9	1.5	−3.9	1.4	−4.8	7.2	9.5	−2.4	−1.0	−3.3	1.2	2.0
1981	−.6	6.2	−3.8	3.3	−3.6	11.3	−.6	−3.4	.7	−5.2	3.4	2.8
1982	.4	7.4	−6.9	5.1	−3.6	12.1	−1.4	−5.9	3.1	−1.1	1.1	−1.5
1983	−3.8	2.7	−2.3	5.8	−3.3	12.6	−1.2	−1.0	3.1	−2.1	4.0	−.2
1984	−.4	−1.3	−3.8	2.3	−1.6	3.7	2.5	1.5	3.7	−5.1	4.0	3.5
Unit labor costs in U.S. dollars:												
1960–84	−1.9	−.4	1.6	−1.2	1.6	.3	.5	−.6	−.3	.4	2.0	−.5
1960–73	−1.7	−.8	1.6	−2.2	2.3	1.3	−1.5	.3	.5	1.6	1.7	−.1
1973–84	1.3	.1	−1.3	−.6	−.5	−.1	4.4	−3.3	−2.3	−1.9	1.1	−2.3
1973–80	−2.4	−1.9	−.2	.5	.5	−1.4	5.6	.2	−1.4	−.5	1.4	.1
1981	10.9	7.0	9.4	−4.8	−8.4	−.9	.3	−8.1	−6.0	−9.4	4.3	.7
1982	12.2	7.8	−11.9	−3.0	2.3	5.6	−5.8	−14.7	−.4	4.0	2.5	−11.5
1983	.4	4.5	7.8	−2.2	.4	8.3	−9.1	−3.7	3.1	−.7	1.0	−12.2
1984	7.2	−4.1	2.2	−1.9	−3.0	−1.4	−2.3	−.4	.6	−6.7	1.6	5.5

NOTE: Rates of change computed from the least squares trend of the logarithms of a ratio of 2 index numbers. The ratio is the index of the reference country divided by a trade-weighted average index for the other 11 countries.

Chart 1. Average annual percentage changes in relative unit labor costs in manufacturing, seven countries, 1980-84



NOTE: Average annual percentages changes are computed from the least squares trend of the logarithms of a ratio of two index numbers. The ratio is the index of the reference country divided by a trade-weighted average index for the other 11 countries.

Canada recorded the largest decreases in relative unit labor costs in U.S. dollars, at 7 and 4 percent.

During the 1980–84 period of rapid appreciation of the U.S. dollar relative to most foreign currencies, the United States experienced a 1-percent per year decrease in relative unit labor costs in national currency terms, but a 7-percent per year increase after adjustment for the relative change in the foreign exchange value of the dollar.

Chart 1 shows the effect of adjusting relative unit labor cost changes for relative changes in foreign exchange rates over the 1980–84 period for the seven largest countries (United States, Canada, Japan, France, Germany, Italy, and the United Kingdom). Japan was the only country other than the United States to experience a much larger increase in relative unit labor costs after adjustment for changes in the exchange rate—a 4-percent per year decrease in relative unit costs before adjustment and a 1-percent per year increase after. Japan and the United States were the only two countries to record large average annual appreciations of their currencies relative to trade-weighted averages of the currencies of their competitors. (Canada, Germany, and the Netherlands registered small increases.) The relative appreciations were 9 percent for the United States and 5 percent for Japan.

The difference between the United States' annual average increase of 7 percent in relative unit labor costs in U.S. dollars and the 1-percent increase for Japan was due partly to the greater currency appreciation experienced by the United States over the 1980–84 period. It was also due partly to the greater decrease in relative unit labor costs in national currency recorded for Japan, about 4 percent annually, compared with 1 percent for the United States. The average Japanese decrease of about 4 percent per year in relative unit labor costs in national currency units was due to a 1.4-percent increase in productivity and a 3-percent decrease in hourly compensation. The U.S. decrease of 1 percent per year in relative unit labor costs was the net result of a 1.5-percent decrease in compensation and a small decrease in relative productivity.

The effect of relative exchange rate changes on relative U.S. unit labor costs in 1980–84 contrasts sharply with the U.S. experience in 1973–80. In the earlier period, a gradual relative depreciation of the dollar converted a 1-percent average annual decline in relative unit labor costs, in national currency units, into an average annual decrease of 2.5 percent.

As the dollar appreciated from 1980 to 1984, the U.S. merchandise trade deficit steadily increased, from $25 billion in 1980 to $36 billion in 1982 and $108 billion in 1984. This deficit is computed for all U.S. trading partners, not just the 11 partners examined in this study. ☐

FOOTNOTES

[1] The Federal Republic, including West Berlin.

[2] The data relate to all employed persons, including the self-employed, in the United States and Canada, and to all wage and salary employees in the other countries. Hours refer to hours paid in the United States; hours worked in the other countries.

Compensation comprises all payments made by employers directly to their employees (before deductions) and employer contributions to legally required insurance programs and to contractual and private welfare plans for the benefit of employees. Labor costs include, in addition to compensation, employer expenditures for recruitment and training; the cost of cafeterias, medical facilities, and other plant facilities and services; and taxes (other than social security taxes, which are part of compensation) levied on payrolls or employment rolls. Annual data are not available for total labor costs. Labor costs, as measured in the data series used for this article, approximate more closely the concept of compensation. However, compensation has been adjusted to include all significant changes in taxes that are regarded as labor costs. For the United States and Canada, compensation of self-employed workers is measured by assuming that their hourly compensation is equal to the average for wage and salary employees.

[3] This article includes revised statistics which have not yet been incorporated in table 47, "Current Labor Statistics," this issue.

[4] The new average hours series for Germany, 1960–83, is computed by the German Institut fuer Arbeitsmarkt-und Berufsforschung (Nuremberg) and refers to average hours worked by all manufacturing wage and salary employees. It is consistent with and used with the national accounts figures on the number of manufacturing employees to derive aggregate hours. The previous hours series was the product of the number of employees, from the national accounts, and average annual hours per wage worker only, from a monthly industrial survey conducted by the German Federal Statistical Office. The industrial survey data were used for the preliminary 1984 figure.

[5] The new output series for the years beginning with 1969 is value added from the Netherlands national accounts. The figures include petroleum refining from 1977, but exclude petroleum refining over the 1969–77 period. The series previously used for these years was the index of industrial production for manufacturing prepared by the Central Bureau of Statistics. This measure was used because the previous national accounts figures for manufacturing included natural gas and petroleum extraction.

[6] The new output series for the United Kingdom, for the years beginning with 1976, is the index of output in manufacturing at constant factor cost, with separate manufacturing industries combined using weights proportional to the distribution of net output in 1980, that is published with the national accounts. The series previously used for these years was the 1975-based index of manufacturing production; this series is still used for the years before 1976. The 1980-based series, unlike the earlier one, excludes the refining of oil and the processing of other energy-related materials from the definition of manufacturing and includes extraction of non-fuel minerals. This corresponds with the European Community definition of manufacturing. The employment and compensation series beginning 1976 have also been replaced with series consistent with this revised definition of manufacturing.

[7] Donato Alvarez and Brian Cooper, "Productivity trends in manufacturing in the U.S. and 11 other countries," *Monthly Labor Review*, January 1984, pp. 52–58.

[8] Although the labor productivity measure relates output to the hours of persons employed in manufacturing, it does not measure the specific contributions of labor as a single factor of production. Rather, it reflects the joint effects of many influences, including new technology, capital investment, the level of output, capacity utilization, energy use, and managerial effectiveness, as well as the skills and efforts of the work force.

[9] The exception was the paper and printing industry in France. Arthur Neef and Edwin Dean, "Comparative Changes in Labor Productivity and Unit Labor Costs by Manufacturing Industry: United States and Western Europe," presented at a conference on Interindustry Differences in Productivity Growth, American Enterprise Institute, Washington, D.C., October 1984. This paper also examines the possible role of industry-specific events in determining the post-1973 slowdown. See also Irving Kravis and Robert Lipsey, "The Diffusion of Economic Growth in the World Economy, 1950–80," in John W. Kendrick, ed., *International Comparisons of Productivity and Causes of the Slowdown* (Cambridge, MA, Ballinger, 1984).

[10] Incomes Data Services Ltd., *IDS International Report* (London), May 1983, June 1983, March 1984, October 1984, and July 23, 1985.

[11] Incomes Data Services Ltd., *IDS International Report* (London), October 1984.

[12] The trade weights were adapted from weights developed by the International Monetary Fund (IMF). The original IMF weights cover 17 countries; the 11 foreign countries covered by this article account for 94 percent of the U.S. competitors' total trade weight. For more information about the relative indexes of manufacturing productivity and costs, see Patricia Capdevielle, Donato Alvarez, and Brian Cooper, "International trends in productivity and labor costs," *Monthly Labor Review*, December 1982, pp. 3–14. The weights are available from the authors, as are the relative indexes for each country and the underlying "own country" and "competitor countries" indexes used to compute the relative indexes. Indexes of trade-weighted exchange rates are also available from the authors.

Publications Awards

The *Monthly Labor Review* was one of five Bureau of Labor Statistics publications honored in the annual competition sponsored by the Washington chapter of the Society for Technical Communication. The competition was open to publications produced in 1985 by trade associations, private research and educational institutions, corporations, and government agencies. Contest criteria included audience definition, writing, editing, and graphics.

In addition to the *Review*, BLS publications honored were *The First Hundred Years of the Bureau of Labor Statistics*, *Trends in Manufacturing: A Chartbook*, *New from BLS*, and the *Occupational Outlook Quarterly*.

Productivity continued to increase in many industries during 1984

Among industries with large increases in output per employee hour were steel, coal and iron mining, and several transportation and utilities industries; changes were mixed in trade and service

ARTHUR S. HERMAN

Productivity, as measured by output per employee hour, grew in 1984 in about three quarters of the industries for which the Bureau of Labor Statistics regularly publishes data. Productivity increases were large in many industries. In a significant number, these gains followed major productivity growth in 1983. The expansion in industry productivity is consistent with the situation in the nonfarm business sector of the economy in which output per hour increased 1.6 percent between 1983 and 1984, after gaining 3.4 percent in 1982–83. Table 1 shows productivity trends in industries measured by the Bureau and includes new measures introduced for additional industries: barber and beauty shops; metal doors, sash and trim; metal stampings; and oilfield machinery.[1]

Changes in manufacturing

Among important manufacturing industries, productivity in the steel industry grew 13.0 percent in 1984. This large gain was in addition to the record productivity advance of 28.5 percent in 1983. Steel output increased more than 13 percent in 1984, due in part to continued demand from such key markets as motor vehicles, appliances, and construction. Employee hours rose only slightly and employment continued to decline, as the industry continued restructuring and the closing of inefficient facilities. The motor vehicles industry had an above average productivity gain of 4.6 percent, in addition to an unusually large gain in the previous year (13.1 percent). Output in this industry was up more than 21 percent in 1984, as demand for all types of motor vehicles expanded, while hours increased almost 16 percent.

Other important manufacturing industries with large gains included steel foundries with a productivity increase of more than 11 percent, while gray iron foundries attained an increase of more than 9 percent in 1984. Output in these industries rose in 1984 as demand from the automobile, construction, and railroad industries expanded. The tire industry posted an 11.3-percent productivity gain in 1984, following a 6.2-percent gain in 1983. Output grew by 14.3 percent in 1984 as demand was up for both original equipment and replacement tires, while hours rose only slightly. In petroleum refining, productivity moved up 10.9 percent in 1984, after gaining 3.0 percent in 1983. Refinery output increased for the first time since 1978, while hours declined, as small refineries contined to close.

Arthur S. Herman is an economist in the Office of Productivity and Technology, Bureau of Labor Statistics.

Other significant manufacturing industries with large productivity gains included malt beverages (10.5 percent), metal cans and primary aluminum (both 10.1 percent), and household cooking equipment (9.7 percent).

A few manufacturing industries registered productivity declines in 1984. These included pharmaceutical preparations (−5.2 percent), hardwood veneer and plywood (−4.8 percent), structural clay products (−3.9 percent), and folding paperboard boxes (−2.6 percent). Although output was up in all of these industries, except for pharmaceuticals where it fell slightly, employee hours rose even more, resulting in the productivity falloff.

Mining

All of the mining industries experienced productivity gains in 1984. Coal mining, the largest mining industry, posted a gain of 10.1 percent in 1984, on top of a 14.2-percent rise in 1983. Coal output was up 14.4 percent in 1984 in anticipation of a strike which did not occur, while hours rose 3.9 percent. Productivity in iron mining (usable ore) increased 25.3 percent, compared with a 41.1-percent gain the previous year. Output was up 36.9 percent in 1984 as demand increased from the steel industry, while hours rose 9.3 percent. Copper mining (recoverable metal) had a productivity gain of 17.6 percent, after a 12.7-percent increase in 1983. Output was up only 5.1 percent in 1984, because of low copper prices, while hours dropped 10.6 percent, as only the most efficient mines were operating. The nonmetallic minerals industry registered a productivity gain of 1.9 percent. Output grew 8.7 percent in this industry, owing to the expansion of construction activity, while hours were up 6.6 percent.

Transportation and utilities

Most transportation and utility industries also recorded 1984 productivity gains. In railroads (revenue traffic), productivity was up 7.5 percent following a 22.5-percent rise in 1983. Railroad output grew 9.2 percent in 1984 as shipments of coal, motor vehicles, construction materials, and chemicals were up significantly, while hours increased 1.5 percent. Productivity grew 3.3 percent in air transportation, compared with a 9.9-percent gain in the previous year. Air traffic increased significantly in 1984, resulting in a 7.9-percent gain in output. In petroleum pipelines, productivity grew 11.1 percent, as output rose and hours continued to fall. Electric utility productivity was up 3.5 percent, as output increased 5.3 percent, and hours were up 1.8 percent. The gas utilities industry registered its first productivity gain since 1979 (3.2 percent), with output increasing 2.5 percent, and hours dropping 0.7 percent.

Trade and services

Productivity changes were mixed among trade and service industries. The hotel and motel industry registered the highest gain, at 7.7 percent. Output was up 15.2 percent in this industry owing to the continuation of the business recovery, as well as a strong summer vacation period, while employee hours grew 7.0 percent. Apparel and accessory stores also registered a good productivity increase, up 6.0 percent. Output increased 9.6 percent in 1984, as favorable economic and credit conditions aided clothing sales, while hours rose 3.4 percent. In laundries and cleaning services, productivity grew 3.3 percent, based on a gain in output of 8.2 percent and an increase in hours of 4.8 percent. Productivity gains were recorded in drugstores (1.8 percent) and gasoline stations (0.4 percent). However, there were productivity declines in several of the service industries. The beauty and barber shop industry had a substantial 8.4-percent decline. Productivity also fell 2.1 percent in eating and drinking places. While output in the restaurant industry was up 3.8 percent in 1984, hours increased even more, resulting in the productivity falloff. Productivity dropped 1.0 percent in retail food stores. New car dealers had a small productivity decline of 0.1 percent. Output was up significantly at 10.8 percent. However, hours rose slightly more, resulting in the productivity decline.

Trends among industries

Almost all of the industries studied recorded average annual gains in productivity over the long term (1947–84 for many of the industries). A few industries experienced long-term declines, however. These included metal stampings, metal forming machine tools, farm machinery, and bus carriers.

Over the most recent 5-year period (1979–84), most of the industries registered a growth in productivity. Slightly more than one-fourth had productivity declines. In addition, almost two-thirds of the industries recorded lower rates of productivity growth from 1979–84 than in the preceding long-term period. The falloff in productivity growth in a majority of the industries is in line with the trend in the nonfarm business sector of the economy, where productivity grew at an annual rate of 1.0 percent from 1979 to 1984, compared with a 2.2-percent rate for 1947–79.

Gains, 1979–84. The highest rate of productivity increase over the 5-year period was recorded by the radio and television sets industry (14.5 percent per year). Productivity growth in this highly competitive industry was aided by widespread use of automatic production techniques and equipment and the closing of less efficient plants. Copper mining (recoverable metal) had the second highest rate of productivity gain, at 10.5 percent. However, this reflected both an output decline and a very sharp decline in hours. More advanced mining methods were introduced and less efficient mines were shut down in an effort to compete with low-priced foreign ore, resulting in the productivity gain. The wet corn milling industry had the third highest rate of gain at 9.7 percent. Here output rose, while employee hours

Table 1. Indexes of output per employee hour in selected industries, 1979–84, and percent changes, 1983–84 and 1979–84
[1977 = 100]

sic Code[1]	Industry	1979	1980	1981	1982	1983	1984[2]	Percent change, 1983–84	Average annual percent change, 1979–84
	Mining								
1011	Iron mining, crude ore	122.7	124.7	132.8	100.9	139.0	175.2	26.0	5.4
1011	Iron mining, usable ore	122.8	123.2	130.6	98.2	138.6	173.6	25.3	5.3
1021	Copper mining, crude ore	109.1	99.5	102.0	106.4	129.9	140.3	8.0	6.2
1021	Copper mining, recoverable metal	98.2	91.6	97.7	116.2	130.9	153.9	17.6	10.5
111,21	Coal mining	99.4	112.5	122.2	119.2	136.1	149.9	10.1	7.7
121	Bituminous coal and lignite mining	99.6	112.6	122.7	120.0	136.9	151.1	10.4	7.9
14	Nonmetallic minerals, except fuels	102.7	96.5	94.7	89.3	98.1	100.0	1.9	− 0.4
142	Crushed and broken stone	106.9	101.3	96.7	94.1	103.9	106.6	2.6	0.1
	Manufacturing								
2011,13	Red meat products	101.7	107.0	107.9	112.3	116.2	115.1	− 0.9	2.6
2011	Meatpacking plants	104.6	108.9	113.9	119.5	124.0	123.4	− 0.5	3.7
2013	Sausages and other prepared meats	95.0	102.3	95.0	96.5	99.8	98.3	− 1.5	0.3
2026	Fluid milk	117.3	126.5	131.6	140.0	147.1	(3)	(3)	[4]5.7
203	Preserved fruits and vegetables	98.9	100.8	99.2	107.9	110.4	(3)	(3)	[4]2.9
2033	Canned fruits and vegetables	101.9	101.4	100.7	106.6	112.2	(3)	(3)	[4]2.6
204	Grain mill products	101.0	105.3	110.9	121.0	125.3	(3)	(3)	[4]5.9
2041,45	Flour, including flour mixes and other grains	95.1	98.1	99.1	112.3	118.8	(3)	(3)	[4]6.0
2041	Flour and other grain mill products	97.3	94.8	96.7	104.1	111.5	112.5	0.9	3.7
2043	Cereal breakfast foods	107.3	105.9	109.3	115.0	118.7	(3)	(3)	[4]2.9
2044	Rice milling	96.3	111.8	117.9	104.5	101.5	(3)	(3)	[4]0.4
2046	Wet corn milling	105.7	121.0	137.5	138.8	156.6	(3)	(3)	[4]9.7
2047,48	Prepared feeds for animals and fowls	101.2	105.0	110.7	124.9	126.9	(3)	(3)	[4]6.5
205	Bakery products	95.0	93.7	96.2	103.2	106.6	(3)	(3)	[4]3.3
2061,62,63	Sugar	103.1	100.1	98.8	90.4	98.6	105.2	6.7	− 0.1
2061,62	Raw and refined cane sugar	101.5	99.3	98.8	87.6	100.0	99.1	− 0.9	− 0.6
2063	Beet sugar	104.6	102.1	98.7	94.8	94.6	117.4	24.1	0.9
2082	Malt beverages	109.9	116.0	118.3	122.6	131.3	145.1	10.5	5.3
2086	Bottled and canned soft drinks	105.6	109.8	114.3	118.3	127.0	138.0	8.7	5.3
2111,21,31	Total, tobacco	102.1	102.1	100.5	100.7	105.1	106.1	1.0	0.8
2111,31	Cigarettes, chewing and smoking tobacco	102.4	101.8	99.6	99.5	104.1	105.1	1.0	0.6
2121	Cigars	101.4	106.4	107.3	111.4	112.3	114.8	2.2	2.4
2251,52	Hosiery	107.9	107.4	122.0	114.2	118.0	123.4	4.6	2.6
2281	Nonwool yarn mills	103.8	99.7	103.1	118.2	127.9	134.6	5.2	6.4
2421	Sawmills and planing mills, general	98.3	104.2	107.9	115.1	125.0	125.6	0.5	5.4
2431	Millwork	92.2	93.6	96.4	86.1	86.3	(3)	(3)	[4] − 2.1
2434	Wood kitchen cabinets	92.1	98.2	94.8	98.1	93.5	(3)	(3)	[4]0.1
2435,36	Veneer and plywood	94.5	102.8	106.9	114.4	120.3	120.3	[5]	5.1
2435	Hardwood, veneer and plywood	97.8	104.1	100.3	101.4	107.2	102.1	− 4.8	0.9
2436	Softwood, veneer and plywood	93.4	102.7	111.8	122.1	127.9	131.3	2.7	7.2
251	Household furniture	101.5	99.9	103.0	104.7	109.9	115.2	4.8	2.7
2511,17	Wood household furniture	101.7	97.3	97.4	98.3	104.1	(3)	(3)	[4]0.6
2512	Upholstered household furniture	105.1	102.3	110.5	115.9	121.4	(3)	(3)	[4]4.2
2514	Metal household furniture	90.2	93.6	98.7	107.5	108.4	(3)	(3)	[4]5.2
2515	Mattresses and bedsprings	102.8	112.1	114.0	104.3	108.3	(3)	(3)	[4]0.3
252	Office furniture	107.2	112.1	108.8	107.4	110.6	(3)	(3)	[4]0.2
2521	Wood office furniture	110.8	109.2	92.9	90.3	92.9	(3)	(3)	[4] −5.3
2522	Metal office furniture	104.5	113.9	114.0	116.6	120.2	(3)	(3)	[4]3.1
2611,21,31,61	Paper, paperboard and pulp mills	105.4	105.2	104.4	111.3	120.0	123.9	3.2	3.7
2643	Paper and plastic bags	98.0	94.6	92.3	95.3	102.2	(3)	(3)	[4]0.9
2651	Folding paperboard boxes	104.3	101.3	104.4	104.2	105.1	102.4	−2.6	(5)
2653	Corrugated and solid fiber board boxes	106.9	111.0	109.8	111.9	114.0	116.9	2.5	1.6
2823,24	Synthetic fibers	115.0	115.7	120.9	103.6	125.7	125.4	−0.2	1.5
2834	Pharmaceutical preparations	105.3	106.0	104.2	107.0	114.4	108.4	−5.2	1.2
2841	Soaps and detergents	104.8	109.6	107.4	100.9	98.2	(3)	(3)	[4] −2.1
2844	Cosmetics and other toiletries	94.0	83.6	76.1	84.0	86.0	(3)	(3)	[4] −1.7
2851	Paints and allied products	104.8	100.8	99.8	106.5	116.5	126.6	8.7	4.2
2911	Petroleum refining	94.9	94.2	83.7	79.4	81.8	90.7	10.9	−2.0
301	Tires and inner tubes	107.3	102.4	118.1	128.2	136.1	151.5	11.3	7.9
3079	Miscellaneous plastics products	94.8	95.7	98.5	110.1	107.1	(3)	(3)	[4]3.9
314	Footwear	100.2	99.1	95.6	108.3	103.9	101.8	−2.0	0.9
3221	Glass containers	102.4	105.2	110.1	105.8	108.5	115.6	6.5	1.9
3241	Hydraulic cement	96.0	87.0	91.1	94.0	108.4	123.2	13.7	5.7
325	Structural clay products	95.9	97.6	100.7	102.6	104.0	99.9	−3.9	1.2
3251,53,59	Clay construction products	91.6	94.0	97.3	103.3	100.4	97.1	−3.3	1.6

Table 1. Continued—Indexes of output per employee hour in selected industries, 1979–84, and percent changes, 1983–84 and 1979–84

[1977 = 100]

sic Code[1]	Industry	1979	1980	1981	1982	1983	1984[2]	Percent change, 1983–84	Average annual percent change, 1979–84
3251	Brick and structural clay tile	85.4	84.9	84.3	88.6	84.9	82.4	−2.9	−0.4
3253	Ceramic wall and floor tile	111.6	119.8	125.9	128.1	125.5	(3)	(3)	[4] 3.1
3255	Clay refractories	110.2	109.6	111.1	100.0	119.9	110.2	−8.1	0.5
3271,72	Concrete products	92.7	90.4	88.5	92.4	96.7	(3)	(3)	[4] 1.1
3273	Ready-mixed concrete	99.9	93.1	95.4	90.6	95.7	(3)	(3)	[4] −1.1
331	Steel	106.9	102.9	112.0	90.9	116.8	132.0	13.0	3.6
3321	Gray iron foundries	96.8	90.8	92.7	93.7	98.9	108.0	9.2	2.4
3324,25	Steel foundries	100.6	99.8	91.6	89.0	90.6	100.9	11.4	−0.9
3331,32,33	Primary copper, lead, and zinc	106.5	103.7	118.6	128.0	141.8	152.6	7.6	8.4
3331	Primary copper	113.3	105.3	124.4	128.5	138.3	156.9	13.4	7.3
3334	Primary aluminum	99.7	100.0	103.8	103.0	111.5	122.8	10.1	4.0
3351	Copper rolling and drawing	98.1	94.1	97.9	106.0	121.1	127.5	5.3	6.3
3353,54,55	Aluminum rolling and drawing	100.3	100.0	95.8	99.2	110.4	110.6	0.2	2.3
3411	Metal cans	103.6	102.6	108.1	112.2	121.2	133.5	10.1	5.3
3423	Hand and edge tools	103.9	98.4	95.2	92.8	90.5	(3)	(3)	[4] −3.3
3441	Fabricated structural metal	102.1	102.1	98.5	98.4	103.3	(3)	(3)	[4] −0.1
3442	Metal doors, sash, and trim	92.8	90.6	90.4	96.0	98.9	(3)	(3)	[4] 1.9
3465,66,69	Metal stampings	102.3	99.9	101.4	98.1	104.0	(3)	(3)	[4] 0.1
3465	Automotive stampings	102.9	101.6	105.0	106.7	121.5	(3)	(3)	[4] 3.9
3469	Metal stampings, n.e.c.	101.5	98.1	98.0	89.3	88.6	(3)	(3)	[4] −3.6
3494	Valves and pipe fittings	105.3	102.8	105.4	101.3	104.6	(3)	(3)	[4] −0.3
3598	Fabricated pipe and fittings	90.2	90.1	93.5	89.5	89.6	(3)	(3)	[4] −0.2
3519	Internal combustion engines, n.e.c.	98.2	94.3	93.2	82.0	89.0	(3)	(3)	[4] −3.3
352	Farm and garden machinery	100.5	93.3	95.1	94.9	95.0	98.7	3.9	−0.1
3523	Farm machinery	98.3	91.3	94.1	92.6	92.1	95.4	3.6	−0.4
3524	Lawn and garden equipment	113.5	106.5	101.0	106.9	108.7	115.0	5.8	0.5
3531	Construction machinery and equipment	100.3	97.4	96.1	88.9	95.3	103.0	8.1	(5)
3533	Oilfield machinery and equipment	105.6	104.0	104.7	98.4	100.7	(3)	(3)	[4] −1.5
3541,42	Machine tools	102.0	98.8	96.5	88.1	86.8	86.9	0.1	−3.6
3541	Metal-cutting machine tools	103.0	100.6	98.9	89.4	85.0	85.9	1.1	−4.2
3542	Metal-forming machine tools	99.2	93.5	89.4	85.0	91.6	89.7	−2.1	−1.7
3545	Machine tool accessories	100.8	99.2	102.0	89.1	85.4	(3)	(3)	[4] −4.3
3561,63	Pumps and compressors	102.9	100.2	102.4	95.5	101.8	(3)	(3)	[4] −0.7
3561	Pumps and pumping equipment	101.2	97.7	101.7	92.7	99.6	(3)	(3)	[4] −0.8
3562	Ball and roller bearings	105.8	95.4	94.3	83.3	87.2	89.0	2.1	−3.5
3563	Air and gas compressors	106.0	105.5	106.8	101.7	106.1	(3)	(3)	[4] −0.3
3585	Refrigeration and heating equipment	101.4	93.8	99.[illegible]	100.1	101.2	(3)	(3)	[4] 0.6
3612	Transformers	108.4	110.6	106.9	99.6	100.7	101.4	0.7	−1.9
3613	Switchgear and switchboard apparatus	102.8	103.2	99.5	101.3	105.0	(3)	(3)	[4] −0.2
3621	Motors and generators	99.6	100.1	102.3	108.3	107.5	107.4	−0.1	1.9
3631,32,33,39	Major household appliances	108.7	105.8	107.6	108.6	116.2	122.2	5.2	2.5
3631	Household cooking equipment	108.9	103.9	105.7	112.6	115.6	126.8	9.7	3.3
3632	Household refrigerators and freezers	112.3	114.4	117.4	116.1	128.4	135.9	5.8	3.8
3633	Household laundry equipment	108.1	102.1	103.9	105.4	112.0	111.6	−0.4	1.3
3639	Household appliances, n.e.c.	102.6	99.1	100.4	94.7	103.2	105.9	2.6	0.6
3641	Electric lamps	105.2	103.2	106.9	108.4	124.7	132.0	5.9	5.0
3645,46,47,48	Lighting fixtures	94.6	93.3	88.7	91.0	94.7	97.6	3.1	0.6
3651	Radio and television receiving sets	118.5	116.9	133.6	163.9	196.7	(3)	(3)	[4] 14.5
371	Motor vehicles and equipment	97.8	90.8	93.1	96.9	109.6	114.6	4.6	4.1
3825	Instruments to measure electricity	100.2	108.4	111.9	118.8	120.2	(3)	(3)	[4] 4.7
	Other								
401	Railroad transportation-revenue traffic	104.7	107.3	111.5	115.8	141.9	152.6	7.5	8.2
401	Railroad transportation-car miles	102.9	107.9	107.6	110.1	128.9	137.7	6.8	5.9
4111,31,414	Class I bus carriers	98.3	100.8	90.9	90.0	84.8	(3)	(3)	[4] −4.0
4213 PT	Intercity trucking[6]	98.6	94.3	98.7	93.3	101.0	(3)	(3)	[4] 0.4
4213 PT	Intercity trucking-general freight[6]	96.6	87.9	92.5	86.8	92.5	(3)	(3)	[4] −1.0
4511,4521 PT	Air transportation[6]	113.1	106.2	104.9	114.7	126.0	130.1	3.3	3.8
4612,13	Petroleum pipelines	101.7	93.0	86.0	89.2	93.9	104.3	11.1	0.5
4811	Telephone communications	110.8	118.1	124.4	129.1	146.0	(3)	(3)	[4] 6.8
491,92,93	Gas and electric utilities	97.6	98.2	94.4	89.3	88.1	91.2	3.5	−1.9
491,493 PT	Electric utilities	95.4	94.0	93.0	89.5	90.9	94.1	3.5	−0.8
492,493 PT	Gas utilities	103.4	102.1	98.1	89.0	81.1	83.7	3.2	−5.1
54	Retail food stores[7]	97.3	99.7	98.8	95.2	96.9	95.9	−1.0	−0.5
5511	Franchised new car dealers	94.6	99.5	98.8	97.4	106.2	106.1	−0.1	2.2
5541	Gasoline service stations[7]	106.9	104.3	105.8	110.7	118.5	119.0	0.4	2.8
56	Apparel and accessory stores[7]	114.4	120.1	127.1	130.9	138.1	146.4	6.0	4.9

Table 1. Continued—Indexes of output per employee hour in selected industries, 1979–84, and percent changes, 1983–84 and 1979–84

SIC Code[1]	Industry	1979	1980	1981	1982	1983	1984[2]	Percent change, 1983–84	Average annual percent change, 1979–84
5611	Men's and boys' clothing stores[7]	108.2	106.4	115.6	115.7	120.2	127.0	5.7	3.4
5621	Women's ready-to-wear stores[7]	120.7	125.5	139.0	158.2	169.0	184.1	8.9	9.4
5651	Family clothing stores[7]	107.7	122.6	131.4	139.6	149.3	155.0	3.8	7.3
5661	Shoe stores[7]	112.2	109.3	113.0	108.9	109.9	116.3	5.8	0.5
58	Eating and drinking places[7]	99.1	99.2	96.5	95.9	96.4	94.4	−2.1	−1.0
5912	Drug and proprietary stores[7]	103.1	106.0	106.2	106.1	107.9	109.8	1.8	1.1
602	Commercial banking	99.3	92.7	90.5	93.2	102.7	(3)	(3)	[4]0.7
7011	Hotels, motels, and tourist courts[7]	102.4	98.6	96.2	94.5	95.5	102.9	7.7	−0.3
721	Laundry and cleaning services[7]	97.6	90.7	88.2	90.4	90.3	93.3	3.3	−0.6
723,724	Beauty and barber shops[7]	107.4	102.9	109.2	108.3	114.1	104.5	−8.4	0.5
723	Beauty shops[7]	108.0	106.2	114.7	113.1	120.0	111.7	−6.9	1.5

[1] As defined in the *Standard Industrial Classification Manual*, 1972, published by the Office of Management and Budget.

[2] Preliminary data.

[3] Not available.

[4] Percent change, 1979–83.

[5] Rate of change is less than 0.05 percent.

[6] Output per employee.

[7] Output per hour of all persons.

NOTE: Although the output per employee-hour measures relate output to the hours of all employees engaged in each industry, they do not measure the specific contribution of labor, capital, or any other single factor of production. Rather, they reflect the joint effects of many influences, including new technology, capital investment, the level of output, capacity utilization, energy use, and managerial skills, as well as the skills and efforts of the work force. Some of these measures use a labor input series that is based on hours paid, and some use a labor input series that is based on plant hours.

n.e.c. = not elsewhere classified.

fell. Demand continued strong for high fructose corn syrup, a key product of this industry, which is used as a sweetener, especially by soft drink manufacturers. The industry has made substantial capital investment in highly automated plants, allowing for output expansion at the same time as employment was being reduced. Other industries with high rates of gain from 1979 to 1984 include: women's clothing stores (9.4 percent), primary copper, lead and zinc (8.4 percent), railroad transportation (revenue traffic) (8.2 percent), tires (7.9 percent), coal mining (7.7 percent), family clothing stores (7.3 percent), and softwood veneer and plywood (7.2 percent).

Declines, 1979–84. Among the industries with declines, the wood office furniture industry had the greatest falloff in output per hour, dropping at a rate of 5.3 percent from 1979 to 1983. (The 1984 data are not as yet available.) Output decreased at a 4.1-percent rate, while employee hours grew at a 1.3-percent rate. This industry was severely affected by the two recessions which occurred within this period and suffered sharp drops in output and associated declines in productivity. The industry with the second largest falloff was gas utilities, registering an average annual decline of 5.1 percent from 1979 to 1984. Output fell at a rate of 3.8 percent owing to a drop in average use per customer, while the number of customers increased, leading to growth in employee hours at a rate of 1.4 percent. Among other industries with substantial declines were: Machine tool accessories (−4.3 percent, 1979–83), bus carriers (−4.0 percent), machine tools (−3.6 percent), metal stampings (−3.6 percent, 1979–83), ball and roller bearings (−3.5 percent), as well as internal combustion engines and hand and edge tools (both −3.3 percent, 1979–83). ☐

—— FOOTNOTE ——

[1] For a detailed report on these industries, see Brian L. Friedman and Arthur S. Herman, "Productivity growth low in the oilfield machinery industry," *Monthly Labor Review*, December 1985, pp. 34–38; Horst Brand and Ziaul Z. Ahmed, "Beauty and barber shops: the trend of labor productivity," pp. 21-26), this issue; and Elmer S. Persigehl and John G. Olsen, "Productivity in the metal doors, sash, and trim industry," pp. 27–31, this issue. An article on the metal stampings industry will appear in a forthcoming issue of the *Review*.

The contribution of R&D to productivity growth

Results of a BLS study suggest that the direct contribution of research and development to postwar productivity growth was between 0.1 and 0.2 percent annually in the nonfarm business sector; R&D had no substantial effect on the post-1973 productivity slowdown

LEO SVEIKAUSKAS

Many observers believe that research and development (R&D) conducted in U.S. industry is an important ingredient in the Nation's productivity improvement.[1] The Bureau of Labor Statistics has recently conducted work aimed at establishing the contribution of R&D to productivity growth.[2] The study proceeded along much the same lines as prior BLS analysis of the contribution of the physical capital stock to productivity.[3] This work calculated real annual investment in research and development and estimated the R&D stock to determine the annual and long-term productivity effects of research spending in the private nonfarm business sector. This article summarizes the main conclusions which have emerged from that analysis.

Between 1948 and 1982, U.S. multifactor productivity growth—the increase in output beyond the contribution of labor and capital inputs—was 1.2 percent per year. However, the long-term productivity trend for the postwar period reflects very different developments during two distinct subperiods. Multifactor productivity increased at an annual rate of 1.7 percent from 1948 to 1973, but then decreased by 0.2 percent per year through 1982. The results reported below indicate that the R&D stock contributed 0.1–0.2 percent annually to 1948–82 productivity growth, but had no substantial effect on the 1973–82 productivity slowdown.

Research and development provides both *direct* productivity benefits to industries conducting research, such as computer or aircraft manufacturers, and *indirect* benefits to industries further along the chain of production, as occurs when banks take advantage of new computer technology or commercial airlines realize gains from the purchase of better aircraft. This study deals only with the direct productivity benefits accruing to industries actually conducting the research. The reader should realize that, on balance, the indirect benefits gained as new technology spreads to other parts of the economy are likely to be greater than the direct contribution of research. Future Bureau work will attempt to determine the magnitude of these indirect effects.

Main elements of the analysis

At least eight distinct issues have to be considered in developing an estimate of the R&D stock and determining its influence on productivity growth. The following discussion summarizes the decisions that the Bureau reached on each of these matters. In several instances, economic understanding is at present not sufficient to support a definite judgment concerning the proper treatment of an issue. In these cases, an assumption which appears reasonable in light of prior

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Leo Sveikauskas is an economist in the Division of Productivity Research, Bureau of Labor Statistics.

analysis was selected for use in the "preferred" model. However, sensitivity analyses also examined the effect of other plausible assumptions on conclusions about the relationship between R&D and productivity growth.

Defining the R&D stock. The first and main issue is determination of the components of research that should be included in the R&D stock, which establishes the central framework for the study. BLS measures of productivity in the major economic sectors rely upon data published in the national income accounts. Therefore, the components of research that should properly be included in the R&D stock are those that *directly* affect productivity growth as measured within the context of the national income accounts. Most analyses of R&D indicate that only privately financed research directly affects typical measures of productivity.[4] However, there is also some evidence that government-financed research conducted in industry affects measured productivity, although less strongly.[5]

In view of this information, the preferred measure of the R&D stock selected for this study includes only privately financed research conducted in industry and the relatively small, privately financed projects conducted in colleges and universities or nonprofit institutions, which are assumed to be similar in nature. However, the sensitivity analyses discussed below also consider an alternative measure that includes government-financed research conducted in industry, weighted at 20 cents on the dollar.

The Bureau's definition of the R&D stock includes both product and process research, and both basic and applied research, although separate accounts are kept for the latter two categories to permit differential treatment of lag and depreciation issues. The R&D stock is here limited to research conducted by U.S. industry. Detailed specification of the influence of foreign research on the U.S. economy remains an important topic for future empirical investigation.

Locating appropriate data. Once the relevant definition of R&D was decided, it was necessary to obtain data on annual expenditures for the categories of research included. Annual publications of the National Science Foundation provide the necessary information from 1953 onwards.[6] Nestor Terleckyj has prepared similar consistent annual data on private R&D expenditures for the years 1921–52.[7] The alternative measure of the research stock, which includes government-financed research conducted in industry, relies on data developed by David Blank and George Stigler.[8]

Converting to constant dollars. The third step in the analysis requires selection of an appropriate R&D deflator to convert annual research spending into constant-dollar terms. The National Science Foundation uses the GNP deflator for this purpose, although it is widely recognized that this series provides only a very rough approximation. Zvi Griliches has suggested an alternative deflator that weights the output price deflator for nonfinancial corporations at 0.51 and the unit compensation index for the same sector at 0.49.[9] The BLS study adopts the Griliches deflator, suitably modified to adjust research expenditures occurring before 1958, the first year for which nonfinancial corporations data are available.

Determining the appropriate lag time. Once real annual research expenditures are estimated, the lag between the time research is conducted and the time it affects productivity must be considered. On the basis of a review of the relevant literature, a 2-year lag was selected for applied research and a 5-year lag was chosen for basic research. One-year and 3-year lags for applied research were examined in the sensitivity analyses.

Treating depreciation. A fifth crucial issue is whether the R&D stock depreciates over time, in the sense of contributing less to output. If so, what is the time path and pattern of this depreciation? The literature contains a broad range of conclusions on this topic, from some which suggest that R&D investments do not depreciate at all to others which indicate rapid depreciation of research expenditures.[10]

For this study, a depreciation pattern known as 0.1 geometric decay, which implies that 10 percent of the research stock depreciates each year, was selected as the preferred choice for applied research. Basic research was assumed not to depreciate. The sensitivity analyses also examine the effects of alternatively assuming zero or 0.2 geometric decay for applied research. As the discussion of the findings shows, the choice of a rate of depreciation has a substantial impact on conclusions concerning the effect of R&D on productivity growth. Unfortunately, not much is definitively known about depreciation of the R&D stock.

Calculating the R&D stock. The research stock was calculated using standard perpetual inventory methods which determine each year's net change in the stock by allowing for new investment and for depreciation.

Deciding on a rate of return. The seventh matter to be considered is the appropriate rate of return to apply to the research stock to determine its contribution to productivity growth. On the basis of a broad range of empirical studies, a 30-percent real rate of return was selected for use in the preferred measure.[11] On the basis of a review of the relevant literature, it was assumed that there has been no decline in the rate of return over time.[12] However, the sensitivity analyses also examined the impact on productivity growth if there has been a substantial decline in the rate of return to R&D over time.

Determining the impact of R&D. In the final step, information on the R&D stock and its assumed rate of return was combined to estimate the impact of research on productivity. This was determined by calculating the research share of output in the private nonfarm business sector and multiplying this share by the growth rate of the research stock. Such a procedure is standard in analyzing the contribution of inputs to economic growth.

In these calculations, the research stock is first multiplied by the assumed real rate of return (.30) to determine annual-real research income. Research income is then divided by real output in the private nonfarm business sector to obtain the research share in the sector. Finally, the research share is multiplied by the annual percentage increase in the R&D stock to determine the contribution to productivity growth.[13]

Empirical results

Table 1 presents the preferred estimates of the impact of R&D on productivity growth. All results are for the private nonfarm business sector for the 1948–82 period.

Column 1 shows the R&D stock of the sector in 1972 dollars. Over the 1948–82 period, the research stock grew at an average annual rate of 6.8 percent. From 1948 to 1973, growth was 7.8 percent a year, but the pace slowed considerably—to 4.3 percent—during the 1973–82 period.

Estimates of year-to-year change in column 2 also indicate that the growth of the R&D stock slowed substantially in the 1970's. By that time, however, the research share of sector income (column 5) was considerably greater than it had been in the immediate postwar years because of the consistent substantial growth in the R&D stock. The weight of research in the economy was therefore greater in recent years, and each percentage-point increase in the R&D stock made more of a contribution to output growth. Consequently, the overall contribution of R&D held up better in the 1970's than the slowing growth rate of the research stock itself would suggest.

Estimates for the subperiods 1948–73 and 1973–82 indicate that R&D had no substantial impact on the post-1973 productivity slowdown. From 1948 to 1982, R&D contributed 0.14 percent a year to multifactor productivity growth. Subperiod rates were essentially the same: 0.14 percent from 1948 to 1973, and 0.13 percent from 1973 to 1982.[14]

The annual productivity contributions shown in column 6 provide a more detailed view of the impact of R&D on productivity. The annual productivity contribution ranged between 0.16 and 0.18 in the 1960's, but declined to about 0.11 to 0.12 in the late 1970's. However, by the early 1980's, the productivity contribution of R&D had essentially returned to the magnitudes reached in the 1960's.

Other major sectors. The analysis so far has concentrated on the impact of the research stock in the nonfarm business sector. It is difficult to obtain a reliable time series for direct private research investment in the farm sector, and that sector is therefore not examined here. The heavy expenditures by Federal and State governments on agriculture can probably best be viewed as indirect research provided to the farm sector by other industries, and therefore are also not considered in this report.

In addition, it is difficult to establish a reliable basis on which to divide nonfarm business research between its manufacturing and nonmanufacturing components. Tentative estimates suggest that research and development may have contributed as much as 0.41 percent per year to 1948–82 productivity growth in manufacturing, but only 0.01 percent to direct productivity growth in the nonmanufacturing sector. These very different effects of the direct impact of research arise because an extremely large proportion of direct research spending takes place in manufacturing.

Table 1. Central variables and results from analysis of the effects of research and development on productivity growth, private nonfarm business sector, 1948–82

[In billions of 1972 dollars, unless otherwise indicated]

Year	R&D stock		Output of private nonfarm business[1] (3)	Real R&D income[2] (4)	R&D share of total output[3] (in percent) (5)	R&D contribution to productivity growth[4] (in percent) (6)
	Level (1)	Annual growth rate (in percent) (2)				
1948 . . .	$13.5	—	$364.5	$4.0	—	—
1949 . . .	14.6	8.8	357.5	4.4	1.2	0.10
1950 . . .	15.8	8.0	392.2	4.7	1.2	.09
1951 . . .	16.5	4.6	418.0	5.0	1.2	.05
1952 . . .	17.5	6.1	432.2	5.3	1.2	.07
1953 . . .	18.5	5.7	451.0	5.6	1.2	.07
1954 . . .	20.1	8.3	442.0	6.0	1.3	.10
1955 . . .	22.4	11.4	479.1	6.7	1.4	.15
1956 . . .	24.6	9.9	492.7	7.4	1.4	.14
1957 . . .	26.7	8.9	498.6	8.0	1.6	.13
1958 . . .	29.9	11.8	488.9	9.0	1.7	.19
1959 . . .	32.8	9.6	528.2	9.8	1.8	.17
1960 . . .	35.6	8.4	535.5	10.7	1.9	.16
1961 . . .	38.6	8.5	545.2	11.6	2.1	.17
1962 . . .	41.9	8.5	577.3	12.6	2.1	.17
1963 . . .	45.1	7.7	602.8	13.5	2.2	.16
1964 . . .	48.4	7.3	641.2	14.5	2.3	.16
1965 . . .	51.9	7.1	685.8	15.6	2.3	.16
1966 . . .	55.5	6.9	726.5	16.6	2.3	.15
1967 . . .	59.5	7.3	741.9	17.9	2.3	.17
1968 . . .	63.9	7.4	782.2	19.2	2.4	.17
1969 . . .	68.7	7.4	805.0	20.6	2.5	.18
1970 . . .	73.6	7.1	796.6	22.1	2.7	.18
1971 . . .	78.7	7.0	819.9	23.6	2.8	.19
1972 . . .	83.3	5.8	877.7	25.0	2.9	.16
1973 . . .	87.4	4.9	938.1	26.2	2.8	.13
1974 . . .	91.5	4.7	917.9	27.5	2.9	.13
1975 . . .	96.2	5.0	896.3	28.8	3.1	.15
1976 . . .	100.6	4.6	957.9	30.2	3.2	.14
1977 . . .	104.1	3.5	1023.3	31.2	3.1	.11
1978 . . .	108.0	3.8	1081.7	32.4	3.0	.11
1979 . . .	112.1	3.8	1105.0	33.6	3.0	.11
1980 . . .	116.7	4.1	1088.7	35.0	3.1	.12
1981 . . .	121.8	4.4	1112.3	36.5	3.3	.14
1982 . . .	127.7	4.8	1083.4	38.3	3.4	.16

[1] Constant-dollar output of the sector. All calculations were conducted prior to the January 1985 GNP revisions.

[2] Column (1) × 0.30, under the assumption of a 30-percent rate of return on the research stock.

[3] Column (4) divided by column (3).

[4] To illustrate the methodology adopted to generate these estimates, the 1948–49 growth in the research stock, .088 (or 8.8 percent), is multiplied by the research share, .012 (or 1.2 percent), to determine the productivity contribution, which is .0010, or 0.10 percentage points. Text footnote 13 describes the actual method used, which tends to result in slightly lower contributions.

Sensitivity analyses

The preferred results summarized above are based on a 2-year lag between applied research and its effect on productivity, 0.1 geometric depreciation, use of the Griliches deflator to convert research expenditures into real terms, inclusion of only privately financed research, and a constant rate of return to the research stock over time. But, as indicated earlier, these assumptions are subject to some uncertainty because much remains to be known about the economics of R&D. Therefore, a sensitivity analysis was conducted to determine how other plausible assumptions affect the central conclusions concerning the influence of R&D. The first line of table 2 lists the productivity impacts with the preferred assumptions. These figures provide the base-case framework, which is used as the standard of reference for examining the effects of using alternative assumptions in the model.

Changes in the lag before applied research influences production have little effect on long-term productivity growth. If a 1-year lag is adopted, the R&D impact is slightly greater (line 2), essentially because the research stock is then somewhat larger. However, there is no substantial change in the effect of R&D on productivity. If a 3-year lag is assumed instead (line 3), there is no change at all in the implied influence of R&D on productivity growth.

In contrast, changes in the assumed rate of depreciation have a major impact on the implied influence of R&D. If there is zero depreciation, the research stock increases more rapidly and is larger at every given time, both of which suggest that R&D contributes more to productivity. With zero depreciation (line 4), research contributes 0.33 percent to 1948–82 productivity growth; the 1948–73 contribution of 0.31 percent increases to 0.40 percent in 1973–82 as the R&D stock continues to grow.

Table 2. The effect of alternative assumptions on the implied influence of the research and development stock on productivity growth, 1948–82 and two subperiods

Alternative assumption	R&D contribution to productivity growth[1] (in percent)		
	1948–82	1948–73	1973–82
1) Preferred estimate	0.14	0.14	0.13
2) 1-year lag for applied research	.15	.15	.14
3) 3-year lag for applied research	.14	.14	.13
4) Zero depreciation of applied research	.33	.31	.40
5) 0.2 geometric depreciation of applied research	.09	.10	.08
6) GNP deflator used to deflate research expenditures	.14	.14	.14
7) Two-tenths of Federally funded research conducted in industry counted in the research stock	.16	.17	.13
8) The real rate of return to research declines over time[2]	.13	.14	.10

[1] See footnote 4, table 1.

[2] Assumes a linear decline from 30 percent in 1967 to 20 percent in 1982.

Conversely, if 0.2 geometric decay is assumed for applied research (line 5), the R&D stock grows more slowly and is smaller, so that R&D contributes only 0.09 percent to 1948–82 productivity growth, 0.10 percent in 1948–73 and 0.08 percent in 1973–82. These amounts are moderately less than in the preferred case. Because the depreciation of R&D has important implications for the role of the research stock in productivity growth, further study of this issue would be highly useful.

If the GNP deflator is used instead of the Griliches deflator (line 6), the original results are not greatly changed. However, if two-tenths of the Federal expenditures for research conducted in industry are included (line 7), the 1948–82 productivity contribution is 0.16 percent, reflecting the greater research stock. In addition, R&D plays a greater role in the productivity slowdown, with its contribution declining from 0.17 percent in 1948–73 to 0.13 percent in 1973–82. This reflects the fact that the growth of Federally financed research conducted in industry slowed more during the 1970's than did privately financed research spending. Nevertheless, even if the Federal funds are included, the implied R&D effects on productivity growth (and the productivity slowdown) are not very great.

Finally, line 8 presents the case in which the rate of return declines linearly from 30 percent in 1967 to 20 percent in 1982. The productivity contribution of R&D is slightly lower for 1948–82 as well as for 1973–82. However, once again the contribution to the productivity slowdown is less than one-tenth of a percentage point.

In summary, the preferred estimates of the impact of R&D on productivity growth are fairly robust with respect to changes in the central assumptions used in constructing them. The exception is the rate of depreciation: under the zero depreciation assumption, the effect of R&D on productivity is substantially greater.[15]

THE CONCLUSIONS drawn here must be qualified because they deal only with the *direct* return to research and development. The indirect effects of research are likely to be greater, but because they take longer to appear, the slowdown in research spending in the late 1960's and the 1970's is probably not yet fully reflected in productivity measures. The Bureau of Labor Statistics plans further study of the indirect effects of R&D.

More generally, although R&D has received much attention, it represents only a portion of the many social and individual activities relevant to technical progress. Managerial and organizational quality, the integration of the industrial relations system with effective technological change, and technological achievements by individual inventors or entrepreneurs all are important facets of technical change. These aspects of innovation are also likely to have had a substantial impact on productivity growth but are, regrettably, extremely difficult to quantify on a comprehensive national basis. □

FOOTNOTES

[1] A National Academy of Sciences report which suggested improvements in the Nation's productivity statistics paid substantial attention to the role of research and development in productivity growth. See *Measurement and Interpretation of Productivity* (Washington, National Academy of Sciences, 1979). John W. Kendrick and Elliot S. Grossman find research and development to be the most important factor affecting interindustry differences in productivity growth. See *Productivity in the United States: Trends and Cycles* (Baltimore, MD, The Johns Hopkins Press, 1980). See also Zvi Griliches, "Issues in Assessing the Contribution of Research and Development to Productivity Growth," *Bell Journal of Economics*, Spring 1979, pp. 92–116.

[2] Recent BLS work on this topic is summarized in *Research and Development and Productivity Growth* (Bureau of Labor Statistics, forthcoming).

[3] The Bureau's work on the influence of physical capital on productivity is summarized in Jerome A. Mark and William H. Waldorf, "Multifactor productivity: a new BLS measure," *Monthly Labor Review*, December 1983, pp. 3–15. A detailed discussion of the effect of capital on productivity is contained in *Trends in Multifactor Productivity, 1948–1981*, Bulletin 2178 (Bureau of Labor Statistics, September 1983).

[4] William N. Leonard, "Research and Development in Industrial Growth," *Journal of Political Economy*, March 1971, pp. 232–56; and Nestor E. Terleckyj, "Research and Development and U.S. Industrial Productivity in the 1970's," in Devendra Sahel, ed., *The Transfer and Utilization of Technical Knowledge* (Lexington, MA, Lexington Books, 1982), pp. 63–99.

[5] David M. Levy, and Nestor E. Terleckyj, "Effects of Government Research and Development on Private R and D Investment and Productivity: A Macroeconomic Analysis," *Bell Journal of Economics*, August 1983, pp. 551–61; Zvi Griliches, "Returns to Research and Development Expenditures in the Private Sector," in John W. Kendrick and Beatrice N. Vaccara, eds., *New Developments in Productivity Measurement and Analysis* (Cambridge, MA, National Bureau of Economic Research, 1980), pp. 419–54; and Zvi Griliches, "Productivity, R and D and Basic Research at the Firm Level in the 1970's," Discussion Paper 1124 (Cambridge, MA, Harvard Institute of Economic Research, 1985).

[6] National Science Foundation, *Research and Development in Industry*, various issues; and National Science Foundation, *National Patterns of Science and Technology Resources*, various issues.

[7] Nestor E. Terleckyj, "R and D as a Source of Growth of Productivity and Income," Working Paper (Washington, National Planning Association, May 18, 1982).

[8] David B. Blank and George J. Stigler, *The Demand and Supply of Scientific Personnel* (New York, National Bureau of Economic Research, 1967).

[9] Zvi Griliches, "Comment (on Mansfield)," in Zvi Griliches, ed., *R and D, Patents and Productivity* (Chicago, University of Chicago Press, 1984), pp. 148–49.

[10] Ariel Pakes and Mark Schankerman, "The Rate of Obsolescence of Patents, Research Gestation Lags and the Private Rate of Return to Research Resources," in Griliches, ed., *R and D, Patents and Productivity*, pp. 73–88; Terleckyj, "Research and Development and U.S. Industrial Productivity in the 1970's"; and Zvi Griliches and Frank Lichtenberg, "Research and Development and Productivity at the Industry Level: Is There Still a Relationship?" in Griliches, ed., *R and D, Patents and Productivity*, pp. 465–96.

[11] There are two types of studies which provide evidence on the rate of return to research and development: regression studies of industry or firm productivity growth and studies of returns to specific representative R&D projects. Regression evidence is subject to many well-known qualifications, such as omission of relevant variables. Therefore, it is important to emphasize that the studies of the returns to specific research projects suggest conclusions broadly comparable with the evidence from the regression analysis of productivity. The consistency between these two different strands of evidence greatly increases the confidence which can be placed in the implied relationship between R&D and productivity growth.

Important regression studies include Zvi Griliches, "Research Expenditures and Growth Accounting," in B.R. Williams, ed., *Science and Technology in Economic Growth* (New York, Macmillian Co., 1973), pp. 59–95; Nestor E. Terleckyj, *Effect of Research and Development on the Productivity Growth of Industries: An Exploratory Study* (Washington, National Planning Association, 1976); Zvi Griliches, "Returns to Research and Development Expenditures in the Private Sector"; Leo A. Sveikauskas, "Technology Inputs and Multifactor Productivity Growth," *Review of Economics and Statistics*, May 1981, pp. 275–82; Frederic M. Scherer, "Interindustry Technology Flows and Productivity Growth," *Review of Economics and Statistics*, November 1982, pp. 627–34; and Zvi Griliches and Frank Lichtenberg, "Interindustry Technology Flows and Productivity Growth: A Reexamination," *Review of Economics and Statistics*, May 1984, pp. 324–29.

The most important studies of the returns to representative projects are Edwin Mansfield, John Rapoport and others, "Social and Private Rates of Return from Industrial Innovations," *Quarterly Journal of Economics*, May 1977, pp. 221–40; and J. G. Tewksbury and others, "Measuring the Societal Impact of Innovations," *Science*, Aug. 8, 1980, pp. 658–62, including the further references cited there.

Many regression studies of the impact of research and development on productivity growth measure the increase in the research stock as observed research spending. If research investments depreciate, these regression studies may substantially underestimate the true return to research. In this context, the Mansfield case-study evidence was especially helpful in ensuring that the return to research selected for the present study is realistic.

[12] Studies which find no substantial change in the rate of return to R&D over time includes Zvi Griliches and Frank Lichtenberg, "Interindustry Technology Flows"; Kim Clark and Zvi Griliches, "Productivity Growth and R and D at the Business Level: Results from the PIMS Data Base," in Griliches, ed., *R and D, Patents and Productivity*, pp. 393–416; and Griliches, "Productivity, R and D and Basic Research at the Firm Level in the 1970's."

A somewhat earlier study presents evidence indicating the rate of return to research may have declined and considers some of the reasons why such a declining return is plausible. See Edwin Mansfield, "How Research Pays Off in Productivity," *EPRI Journal*, October 1979, pp. 25–28.

[13] The share of research and development in any year can be calculated by multiplying the research stock times the assumed real rate of return (.30) to obtain implied real research income, and dividing the result by real output.

The research share indicated for each year in table 1 is obtained by calculating S_{t-1}, the research share for the first year of any binary comparison, and S_t, the corresponding research share in the second year. The share used, S_t^*, is then calculated as $S_{t-1} + S_t)/2.0$, or the average share for the two years in question. The contribution to productivity growth is then obtained from $S_t^* (logR_t - logR_{t-1})$, where R_t and R_{t-1} are the values of the research stock in the two years under consideration. The logarithmic form here indicates that growth rates are measured in continuous rather than discrete terms. Appendix A of the forthcoming BLS Bulletin *Research and Development and Productivity Growth* provides more complete information on the procedures used here.

The bulletin also includes a more detailed discussion of the various ways in which economists have examined the impact of R&D and the many complex issues which must be addressed in developing quantitative measures. Current understanding in this area leaves several important matters unresolved. In particular, the possibility of quality improvement in the R&D sector and the interactions between basic and applied research deserve further attention.

[14] The average annual productivity contribution for each of the periods considered was calculated as the geometric mean of the relevant annual contributions listed in column 6 of table 1.

[15] However, with the zero depreciation assumption, the contribution of R&D increases about one-tenth of a percentage point from 1948–73 to 1973–82; R&D not only does not contribute to the productivity slowdown, but is a positive force which tends to offset some of the slowdown occurring for other reasons.

Beauty and barber shops: the trend of labor productivity

Output per hour of persons employed in these shops rose at an annual rate of 0.8 percent between 1972 and 1984, in line with the productivity trend for other personal service industries

HORST BRAND AND ZIAUL Z. AHMED

Output per hour of persons employed in the beauty and barber shop industries rose at an average annual rate of 0.8 percent between 1972 and 1984.[1] Other industries with a high personal service component show roughly comparable trend rates, including the hotel and motel industry.

Output of beauty and barber shops remained virtually unchanged between 1972 and 1984, while hours dipped 0.6 percent a year. (See table 1.) The comparative weakness in output and hours was linked to sharp contractions in the number of barber shops. Beauty shops recorded some gains in output and a small long-term rise in hours.[2]

The output-per-hour trend rates for the two industries combined, as well as for beauty shops separately, mask pronounced year-to-year fluctuations. These, in part, reflected short-term volatility in the productivity mainly of beauty shops. Such volatility has probably been linked with lags in the adjustment of labor inputs to output changes—accounting for a relatively tight supply of labor in relation to output in "good" years, and for excess supply in "off" years. In beauty shops, productivity fluctuated between a rise of 8 percent (in 1984) and a drop of 6 percent (in 1976). The gains were associated with output rising more than hours (or with hours declining)—except in 1981 when productivity increased because of a decline in output that was less than a decline in hours. Losses were all linked with a decrease in output accompanied by additional hours.

A change in the productivity trend in the two industries occurred after 1976. Between 1972 and 1976, output per hour fell in both industries; in beauty shops, it decreased at an average annual rate of nearly 4 percent. Subsequently, it rose 2.4 percent a year. The productivity drop during the 1972–76 period was to some extent associated with a strong increase in the service capacity of beauty shops, as indicated by expanding self-employment—accompanied by a change in hair styling fashions that *reduced* certain styling service requirements. The productivity rise after 1976 was linked with declining self-employment, and with fashion changes that called for more styling services.

Demand and output

Beauty shops render up to 12 distinct types of services; barber shops up to eight. Workers in both industries mainly cut hair; many establishments confine their service to hair cutting. In addition to haircuts, full-service beauty shops offer permanents, coloring, conditioning, and manicures; a few offer pedicures. A limited number of shops also perform facials and other cosmetical skin treatments. They also fit

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Horst Brand And Ziaul Z. Ahmed are economists in the Division of Industry Productivity and Technology Studies, Bureau of Labor Statistics.

and service wigs. Their patrons often include men. The range of barber shop services is generally narrower, although styling and shampooing of men's hair have increased somewhat in importance. Women are also served.

Service output of beauty shops did not display a notably strong long-term trend, rising at an average annual rate of 1.4 percent between 1972 and 1984. Service output of barber shops declined at a rate of 4.8 percent a year during that period. The decline in barber shop output was somewhat erratic. The long-term uptrend in beauty shop service output obscures a rather sharp falloff between 1972 and 1976 that was subsequently reversed. Until 1976, beauty shop service output dipped 3.3 percent a year; thereafter it rose 2.6 percent a year. Neither the output of total consumer services nor of the consumer service industries for which the Bureau of Labor Statistics computes pertinent measures so strongly reversed trend during the decade (average annual rates, in percent):[3]

	1972–84	*1972–76*	*1976–84*
All services, except government	4.7	3.7	5.2
All consumer services	3.6	3.5	3.3
Beauty shops	1.4	−3.3	2.6
Barber shops	−4.8	−4.5	−5.6
Hotels, motels	3.9	3.0	3.5
Eating and drinking	2.7	3.1	2.2
Laundry and drycleaning	−2.8	−6.6	−1.9

Among reasons is that beauty shops are subject to changes in hair styling fashions, and these were quite far-reaching during the 1970's. Such changes have often shifted some elements of hair care from beauty and barber shops to the home (do-it-yourself), and vice versa.

Trade publications data and interviews with industry representatives confirm that the mix of services offered by beauty shops changed significantly between 1972 and 1984, as styles changed. In the late 1960's and early 1970's, long hair became popular and required more attention by hair stylists than the fashions that followed. Bouffant hairdos, which entail much back-combing ("teasing") and setting, hence additional labor, were still popular.[4] After about 1972, shorter hair and the "natural look," requiring less styling and setting, came to be preferred, somewhat diminishing the need for professional styling.[5] Women now tended to visit beauty shops chiefly for trimming of their hair, often washing it themselves. This reduced the time needed for such services as shampooing and setting of the hair.[6] Hair coloring, which had been popular during the early 1970's, declined in relative importance as the "natural look" gained favor. The demand for "wash and wear" permanenting rose strongly throughout the 1970's, because it permitted minimum maintenance of hair style and lessened visits to beauty shops.[7]

Moreover, longer hair among men came into fashion, and men who preferred to have their hair professionally groomed increasingly visited beauty shops.[8] "Unisex" salons, usually featuring limited services common to the hair styling needs of both sexes (hair cut, permanent wave, and shampoo), spread. The expansion of unisex salons, with their emphasis on walk-in, no-wait service (no appointments), represented a basic marketing shift; and has been a factor in the persistent decline in the number of barber shops.[9]

Table 1. Productivity and related variables in the beauty and barber shop industries 1972–84
[1977=100]

Year	Beauty shops[1]			Beauty and barber shops[2]		
	Productivity	Output	All person hours	Productivity	Output	All person hours
1972	110.1	103.9	94.4	105.0	108.6	103.4
1973	106.2	102.1	96.1	100.7	106.8	106.0
1974	106.2	99.6	93.8	101.4	101.5	100.1
1975	100.1	94.5	94.4	98.7	97.6	98.9
1976	94.3	91.3	96.8	95.0	94.4	99.4
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.7	106.2	101.4	103.6	105.3	101.6
1979	108.0	108.4	100.4	107.4	105.6	98.3
1980	106.2	107.2	100.9	102.9	103.6	100.7
1981	114.7	105.1	91.6	109.2	99.9	91.5
1982	113.1	103.6	91.9	108.3	97.8	90.3
1983	120.0	119.4	99.5	114.1	109.8	96.2
1984	111.7	119.7	107.2	104.5	108.5	103.8
Average annual percent change:						
1972–84	0.9	1.4	0.5	0.8	0.2	−0.6
1979–84	1.5	2.3	0.8	0.5	0.8	0.3

[1] Standard Industrial Code 723.

[2] SIC 723 and 724 combined.

The change in fashions and the resultant shift in the services performed by beauty and barber shops apparently did not much affect labor requirements. The proportion of labor costs in beauty salons' total operating costs averaged around 60 percent throughout the period. While permanenting gained and hair coloring lost in relative importance, the two together have evidently accounted for roughly one half of the work performed in beauty shops. The relative importance of shampooing, conditioning, and trimming of hair seems to have changed little over the period.[10] The range of barber shop services generally remained narrow, with haircuts outranking their other services. However, hair styling has increasingly added to the quality of barbers' hair cutting service.[11]

The fashion changes that occurred in the early 1970's loosened the traditional relation between beauty shop services, household incomes, and changes in the age composition of the female population.[12] The age distribution of employed women age 35 to 54 changed little, and this group, according to an industry survey, has the greatest probability of visiting beauty shops and the highest frequency in doing so. The proportion of employed women in this age group declined from 38 percent in 1972 to 34 percent in 1977, then rose to 37 percent in 1984.[13] Overall, employment of women rose at an average annual rate of

3.3 percent between 1972 and 1984, and median income (in current dollars) of women working full time increased at an estimated rate of 8 percent a year. The rise in women's employment and income proved paradoxical. It often meant that less time was available for visits to beauty shops, and more hair care was performed at home. Moreover, many women apparently preferred unisex salons, offering no-frills service. However, women could afford to patronize full-service salons more frequently.[14] In general, according to the survey, the frequency of beauty salon visits rises with income. Yet, pressure of time may reduce the services requested or desired by the client.

Despite the increase in the output of beauty shops since the mid-1970's, constant-dollar receipts of both beauty and barber shops declined steadily as a proportion of total personal consumption expenditures for services, falling from 1.2 percent in 1972 to 0.7 percent in 1982.

Employment and industry structure

Employment in beauty and barber shops, including payroll as well as self-employment, totaled 692,000 persons in 1984. It did not, on balance, change significantly over the 1972–84 span. Hours declined at an average annual rate of 0.6 percent, partly reflecting a continual shift to part-time schedules.

Annual employment and hours data for barbershops are of but limited validity.[15] However, pertinent data collected by the Bureau of the Census for census years show that the number of barber shops declined 25 percent between 1972 and 1977. The number of paid employees dropped 17 percent over that period, with a further 25-percent decrease indicated for the 1977–83 span. Self-employment, as indicated by the number of proprietorships and partnerships, dropped by just over one-third between 1972 and 1983.[16]

Census data show that the great majority of barber shops do not employ wage or salary workers. The one-sixth which do account for close to one-half of receipts. Of barber shops with payrolls, one-fifth employs half of the payroll employees in the industry. Most of the others engage one or two paid workers, with the owner or owners also working.

Employment in beauty shops, which totaled about 591,400 persons in 1984, rose at a rate of 1.1 percent a year over the 12-year period. It increased even in years of declining service output, except in 1981 when it dropped sharply, and in 1974 when it remained unchanged from the previous year. Hours responded somewhat more closely to movements in output, rising at a rate of 0.5 percent between 1972 and 1984. For 1982, the BLS estimates that nonsupervisory beauty shop workers averaged 29.6 hours per week, reflecting a high part-time component, and that part-time schedules accounted for 39 percent of employed workers.[17] This represents a far higher proportion than for employed workers generally, of whom only 13 percent were on voluntary part time (in 1984); or for service workers (other than in private households), of whom 18 percent worked part time.

While two-fifths of all beauty shops employ wage or salary workers, they account for four-fifths of the industry's total receipts. On average, beauty shops with payrolls employ four workers. However, 60 percent of the payroll employees work in only 30 percent of all beauty shops, averaging eight workers per shop. In addition, the owner or owners also perform beauty services (industry sources believe 90 percent do so).

Self-employment in barber shops dropped much more sharply over the 1972–83 period (35 percent) than payroll employment (25 percent); and it rose a bit more in beauty shops (15 percent) than payroll employment (14 percent). It was mainly the small beauty shop with one or two paid employees whose numbers dwindled. It is of interest to note that *self-employment* in beauty shops attained a peak in 1980 that was 19 percent above the previous high, reached in 1972. But in 1983, self-employment was 4 percent below the 1980 mark. The leveling off in beauty shops' *payroll employment* was much more moderate.

While total employment (all persons) in beauty and barber shops combined did not change significantly between 1972 and 1984, employment in industries with a large personal service component generally rose rapidly. In general, in industries that may be defined as consumer-oriented services with a high personal-service component, employment increased at an average annual rate of 3.8 percent between 1972 and 1984, or by 53 percent.[18]

Both barbers and hair stylists—often referred to as cosmetologists—are skilled workers, and are required to obtain up to 1,800 hours of training in most States, as well as to be licensed. While hourly earnings do not compare favorably with the average for private nonfarm industries or for service industries generally, comparisons are not entirely valid because beauty and barber shop workers receive tips, and are generally paid on a commission basis.[19] However, there is a large reserve pool of licensed but inactive hair stylists, estimated by industry observers at several times the number actually working. The potential competition tends to constrain pay increases.[20]

Efficiency and tools of the trade

No official data on the capital expenditures of the beauty and barber shop industries are available. However, the Bureau of the Census reports the value of shipments by manufacturers of barber and beauty chairs, other furniture, and equipment (including hair clippers) for the two industries. The value of such shipments amounted to $47.5 million in 1982; this represented a decline from both 1977 and 1972 when the pertinent figures are adjusted for price changes. Beauty and barber shop personnel, of course, use many kinds of tools manufactured in a broad variety of industries, so that the above figure for the heavier types of equipment understates the two industries' total equipment outlays. Trade sources indicate beauty shop expenditures of $46.4 million in 1982 for appliances, such as hand dryers, and for such durable sundries as shears and scissors.[21] That would suggest total equipment expenditures of close to $100 million in 1982 by the two industries. (No reliable estimate for outlays for structures and structural fixtures can be offered.)

Barbers and hair stylists use a variety of powered and unpowered handtools, often in conjunction with small electrical appliances (such as heat lamps), as well as shampoos, tints, and conditioning solutions in performing their work. There have been and continue to be improvements in both the equipment they use and the solutions they apply. These improvements, however, are designed primarily to facilitate adaptation to changing hair styles, rather than to reduce labor requirements per patron served for the same hair style or category of service.

The use of cordless, rechargeable clippers and trimmers allows the operator greater freedom of movement. It is debatable whether these devices have lessened unit labor requirements. Industry observers in the barbering trade, where the electric clipper was introduced long ago, doubt that this device has significantly reduced the time needed for men's or boys' haircuts, although it is much less laborious to use than the unpowered clipper, which it replaced. Similarly, shampoo machines, introduced in barber shops 15 to 20 years ago with the expectation that they would save time, do not significantly lessen the time needed for the average haircut, although the machines may make the service more agreeable to the customer.[22]

Electric blowers have tended to replace dryers. They are easier to manipulate in conjunction with blow drying or styling. Blowing is thought to be less quick than heat drying but conforms more readily with so-called "wash-and-wear" hair styling and the "casual" hair styles in fashion among both women and men. More than a decade ago, formalized hair-setting practices required operators to use setting lotion, pins or rollers, and dryers. The practice, and the fashion that gave rise to it, are no longer popular, thereby reducing labor requirements. However, some establishments (and patrons) continue to prefer the more formalized hair styling practices and dryers.[23]

Combs made of better plastics are now more pliable and run more easily through the hair, and last longer. Brushes are now easier on the scalp, more specialized to type of hairdo, and also last longer. Shears are shorter to give the operator greater control in trimming hair; they also are made of better metals, require less frequent sharpening, and produce a cleaner cut. Easier to use curling irons have also been introduced.[24] Industry observers generally agree that these developments have not significantly reduced unit labor requirements, although operator effort has been eased by them.[25]

This also holds generally for the solutions applied in washing, setting, conditioning, and tinting of hair. Thus, shampoos clean the hair, but they also tend to dry it out. Additives have been developed which inhibit this drying process. Permanent wave solutions and tints are more gentle and do less damage to the hair's molecular structure.[26] Tints are now manufactured in the form of creams rather than liquids, which tends to improve the hair's appearance. But the hair stylist must still divide the hair every 16th of an inch for proper tinting to reach the roots. The improved tint has not materially shortened the time required for the work.[27]

Permanent-wave solutions have been developed that time permanents automatically and permit the hair stylist to remove the curling rods without testing the curl for proper setting. In principle, this shortens labor requirements for this particular service. However, because of the variance in hair texture, the stylist may be reluctant to follow the manufacturer's instructions to the letter. She or he may be guided by, but not entirely rely upon, the automatic setting prescribed by the manufacturer. The stylist will generally be less concerned with saving time than with the quality of the service rendered to the patron, although in busy beauty shops there may be conflicting pressures.

Technological changes occurred during the decades prior to the period studied here that led to the expansion of the beauty shop industry and the contraction of barber shops.[28] Thus, the advent of the permanent-wave machine in the 1920's shifted women's hairstyling from the home to the market. The "cold wave," a chemical means of curling hair in conjunction with curlers, accelerated the shift in the late 1940's and 1950's. By contrast, the invention of the safety razor, and its diffusion when its price dropped after the patent had expired, shifted shaving from the barber shop to the home; the electric razor, widely marketed first during the 1930's, completed the shift. Thereafter, the work of barber shops was by and large confined to hair cutting. Beauty shops have almost always been under competitive pressure from hairstyling products for home use, but generally they have been able to overcome this pressure by improving quality of service and of the service environment.

Outlook

It appears likely that the basic skills of hair stylists and barbers will continue to resist, as they have in the past, the kinds of technological change that incorporate them in mechanical devices. Industry observers do not foresee technological innovations on the scale of the permanenting machine, discussed earlier, which fed the expansion of the beauty shop industry prior to the 1972–84 period. Industry observers also believe that hair styling and barbering, being highly personalized services, should not be surrounded by impersonal technologies and "gadgetry." Hand-held tools of the beauty and barber trades will probably continue to become better adapted to hair styling and trimming tasks, and the chemical applications required for setting, conditioning, and coloring of hair should continue to become more serviceable.[29] But it is not clear that they will be more labor-saving than tools currently in use.

Certain organizational (or structural) changes in both industries have occurred (and should continue to occur), which tend to standardize operational practices and set models of managerial efficiency. Thus, as of 1983, 19 firms listed by the U.S. Department of Commerce franchised (or operated) more than 2,000 beauty and barber shops. In addition, training services were offered as part of exclusive product-sales franchises to more than 5,000 shops.[30]

Consulting services are now available to assist in setting up and equipping salons. They offer a variety of services, such as architectural and interior design, advertising programs, and managerial and financial advice.[31] Salon management systems have been widely accepted by the larger shops. Their originators provide computer software and advice in its use. The business and financial side of salon management may thus increasingly come to be handled by outside firms under contract with the salon owner. In turn, performance standards of employees more in line with operating costs may be more readily formulated and may improve operational efficiency in both industries, as the standards diffuse.[32] □

FOOTNOTES

[1] The two industries for which productivity is discussed here have been designated as SIC 723 (beauty shops) and SIC 724 (barber shops) in the Office of Management and Budget's *Standard Industrial Classification Manual, 1972*. Beauty shops are primarily engaged in beauty services; barber shops are primarily engaged in furnishing barber and men's hair styling services. Combination beauty and barber shops are classified as SIC 723. Beauty schools and barber schools are included in the respective industries.

A separate productivity measure for barber shops has not been published because of the limited reliability of employment data.

Average annual rates of change are based on the linear least squares trends of the logarithms of the index numbers. The measures of productivity will be updated and included in the annual BLS bulletin, *Productivity Measures for Selected Industries*.

[2] For an earlier study of productivity in beauty and barber shops, see Jean Alexander Wilburn, "A Contrast in Productivity Trends Within Personal Services: The Beauty and Barber Shop Industries," in Victor R. Fuchs and Jean Alexander Wilburn, *Productivity Differences Within the Service Sector* (New York, National Bureau of Economic Research, 1967). pp. 55–109. The study covered the 1939–63 period, but used census-year rather than annual data. The Wilburn study and BLS findings compare average annual rates of change, in percent, for 1939–63 and 1972–82 as follows:

	Barber Shops		*Beauty Shops*	
	1939–63	*1972–84*	*1939–63*	*1972–84*
Current dollar receipts	5.7	1.5	7.8	9.3
Price	5.2	7.0	3.8	7.5
Real output	0.5	−4.8	4.0	1.4
Employment	−0.1	−3.5	2.5	1.1
Real output per person	0.6	−1.3	1.5	0.2

[3] The rates of change are derived from constant-dollar personal consumption expenditures for services published by the Office of Business Economics, U.S. Department of Commerce. The figures for consumer services are derived from constant-dollar personal consumption expenditures for services, Office of Business Economics, U.S. Department of Commerce. Also see footnote 18.

[4] *Modern Beauty Shop*, February 1972, p. 45

[5] *Modern Beauty Shop*, January 1973, p. 40 ff.

[6] Industry information. According to an advertisement by the Wella Corporation (*Modern Beauty Shop*, February 1974, p. 84), "no fuss, wash and wear" hair styling was becoming popular. There was also a demand for changeable styling and associated paraphernalia, such as hot combs and hot rollers. Because of a greater chance of hair becoming damaged, a trend toward conditioning of hair developed to regain and retain its normal appearance and protect it from damage.

[7] Information from National Hairdressers and Cosmetologists Association, St. Louis, MO.

[8] Information from the Beauty and Barber Supply Institutes, Englewood, NJ. See also *The Wall Street Journal*, May 1978, p. 40.

[9] Beauty and Barber Supply Institute.

[10] See the annual surveys of the professional salon market in *Modern Salon* and its predecessor publication, *Modern Beauty Shop Magazine*. The market surveys show beauty shop suppliers' purchases from manufacturers, by product classification. The publisher confirms that the surveys are indicative of the volume of beauty shop services to which the product classification pertains. The proportions (in percent) of distributor purchases of key products (here excluding cosmetics, of which a large part is sold at retail by beauty shops, as well as furniture and equipment) changed as follows over the 1972–82 period:

	1972	*1976*	*1982*
Total	100	100	100
Permanents	17	20	34
Hair color	35	28	22
Shampoo	15	18	18
Conditioners	13	16	17
Hair goods and accessories	11	3	1
Held-held electrical appliances	10	15	9

[11] In a recent pricing sample of the Consumer Price Index, styling figured in one-third of all haircuts performed in barber shops.

[12] See Amelia Bassin, "The Consumer Revolt—What's In It For You?" *Modern Beauty Shop*, January 1973, p. 40 ff.

[13] *1983 Salon Client Survey*, conducted by Vance Research Services, Lincolnshire, IL. Data are from the Bureau of Labor Statistics.

[14] See the "1983 Salon Client Survey," *Modern Salon*, September 1983, p. 92.

[15] See footnote 1.

[16] Internal Revenue Service, *Statistics of Income, Partnership Returns and Sole Proprietorship Returns*, various years.

[17] *Occupational Projections and Training Data*, Bulletin 2206 (Bureau of Labor Statistics, 1984), pp. 52–53.

[18] Consumer-oriented service industries with a high personal service component (other than government services) are here defined as including the following industries: hotels and motels (SIC 70); personal services (SIC 72); motion pictures (SIC 78); amusement and recreation services (SIC 79); health services (SIC 80); educational services (SIC 82); social services (SIC 83); and membership organizations (SIC 86).

[19] For the salon owner profile, published annually in *Modern Salon*, see August 1984 issue, p. 82 ff.

[20] Licensing surveys by *American Hairdresser* estimated the number of licensed hair stylists to exceed the number actually working by a factor of 5 in 1973–74 and 1975–76.

[21] *Facts and Figures*, 23rd Annual Survey of the Professional Salon Market, 1982.

[22] Information from Beauty and Barber Supply Institute. See also the advertiscment for Oster Corp., and Wahl Clipper Corp., in various issues of *Modern Beauty Shop* and *Modern Salon*.

[23] Information from National Beauty and Barber Manufacturers Association. See also advertisements of Styling Research Co. in *Modern Salon*, November 1982, and Duhl, Duck Inc., *Modern Salon*, April 1984.

[24] *Ibid*. See also advertisements for shears, switch blades, and razors, for example, by Jatai International, Los Angeles, CA, in *Modern Salon*, September 1984.

[25] Apparently none of the pertinent advertisements have claimed that labor time savings would result from the use of the products advertised. Industry observers, however, say that the use of better service-adapted styling tools is considerably less tiring than the use of more conventional tools—considering that the stylist stands behind the chair a good part of the day and moves her or his arms in a distal position.

[26] Industry sources. See also footnote 7. "Permanenting, coloring, bleaching and tinting can all take their toll on the quality of hair," advertisements by the Wella Corp., *Modern Beauty Shop*, February 1974, p. 84.

[27] National Beauty and Barber Manufacturers Association.

[28] See Wilburn, "A Contrast in Productivity Trends," p. 61 ff.

[29] Information from National Beauty and Barber Manufacturing Association, National Hair Dressers and Cosmetologists Association, and People-Media, Reading, PA.

[30] Andrew Kostecka, *Franchise Opportunities Handbook* (U.S. Department of Commerce, September 1983), pp. 32–37.

[31] See, for example, *The Raylon Resource* (Reading, PA, Raylon Showrooms). See also *Salon Today*, various issues. Information from Cutco Industries, Jericho, NY., and other industry sources.

[32] See, for example, *The Computerized Salon Management System* (Cincinatti, OH, The Mikal Corp., 1985). The annual "Facts and Figures" articles in *Modern Salon* also tend to standardize business operations in the industry.

APPENDIX: Measurement techniques and limitations

Indexes of output per hour of all persons measure the change in the relation between the output of an industry and the hours expended on that output. An index of output per hour is derived by dividing an index of output by an index of hours.

The preferred output index for personal service industries would be obtained from data on the quantities of services provided by the industry. The quantity of each type of service provided would be weighted (multiplied) by the time required to provide one unit of each type of service in some specified base period. Thus, services that require more labor time would be given more importance in the output index than services that require less.

Such data, however, are not available for the beauty and barber shop industries. Real output of these industries was estimated by removing the effects of changing prices from the current-dollar value of industry receipts. Because an adjustment for price changes usually lowers the dollar value, such a series is referred to as a deflated value measure. The deflator used here is the Consumer Price Index for beauty shops and for barber shops. These two CPI's price a total of 25 types of service and 51 specific services, as well as certain additional pricing factors. The more important the service, the greater the probability of its being priced.

The index of hours for beauty and barber shops is for all persons—that is, the index represents hours for paid employees, as well as for partners and proprietors. As in all of the output-per-hour measures published by the Bureau of Labor Statistics, hours and employment are considered homogeneous and additive. Adequate information for weighting the various types of labor separately are not available.

The indexes of output per hour do not measure the specific contribution of labor, capital, or any other single factor. Rather, they reflect many interrelated influences such as changes in technology, capital investment, design and layout of workplaces, skill and effort of the work force, and managerial ability.

The output measure is derived from data on annual receipts published by the Bureau of the Census. The all-persons-hour measures are derived from data on employment and hours originated by the Bureau of Labor Statistics and supplemented by data reported by the Internal Revenue Service, and from special tabulations compiled for the Bureau of Labor Statistics by the Bureau of the Census.

Productivity in the metal doors, sash, and trim industry

The overall rate of output per hour increased slowly from 1967 to 1983, reflecting low output growth and an increase in employee hours; moderate advancement is expected to continue

ELMER S. PERSIGEHL AND JOHN G. OLSEN

From 1967 to 1983, output per hour in the metal doors, sash, and trim industry[1] increased at an average annual rate of 0.9 percent. In comparison, the rate of productivity growth for all manufacturing industries during this period was 2.4 percent. The slow productivity rise reflected a relatively low output growth of 1.5 percent per year and an increase in employee hours of 0.6 percent per year. (See table 1.) The industry's demand is dependent upon residential and nonresidential building construction, where wide seasonal and cyclical fluctuations have been common. The productivity growth experienced in this industry has been aided by gradual improvements in equipment design and the increased application of easier-to-use aluminum materials.

Year-to-year changes in industry output and productivity have generally shown similar movements. Large increases in output have been associated with above average gains in productivity. For example, in 1971, output increased 11.3 percent and productivity jumped 11.3 percent. Similarly, output advanced 11.4 and 24.7 percent in 1976 and 1977, while productivity gained 4.0 and 7.6 percent. In 4 of the 6 years that output declined, productivity also fell. Despite declines in output during 1975 and 1982, productivity advanced as manufacturers were able to adjust their work force hours to meet demand changes.

Subperiod productivity trends

In the metal doors, sash, and trim industry, productivity growth can be divided into two distinct periods: 1967–72 and 1972–83. From 1967 to 1972, productivity grew at a rate of 2.4 percent per year based on a gain in output at a 3.8-percent rate and an increase in hours at a 1.4-percent rate. This growth, however, reflected a slight decrease during 1967–70, with a substantial growth in 1970–72 of 6.5 percent per year. Following the economic recession of 1970, industry output grew strongly in 1971 and 1972.

Between 1972 and 1983, productivity increased at the low rate of 0.5 percent per year, reflecting an annual output growth of 1.2 percent and an increase in hours of 0.7 percent per year. This slow growth resulted from a balancing off of diverse movements. From 1972 to 1974, productivity fell at an average annual rate of 3.2 percent, but from 1975 to 1977 it rose to a rate of 5.8 percent as a result of an average increase in output of almost 18 percent per year. From 1977 to 1981, productivity again declined at a rate of 2.4 percent per year, largely as a result of the economic recession in 1980. But it rebounded in 1982 and 1983, increasing at an annual rate of 4.6 percent.

Output

Establishments in this industry manufacture metal and metal covered doors and sash, window and door frames, screens, molding, and trim. In 1983, more than two-fifths of the industry's output consisted of doors, including garage

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Elmer S. Persigehl and John G. Olsen are economists in the Division of Industry Productivity and Technology Studies, Bureau of Labor Statistics.

doors, and around one-third of window units and related items. The industry's output depends closely on building construction markets. More than four-fifths of the output was used in building construction.[2] Approximately two-fifths of output was used in new residential housing, including additions and alterations. One-sixth was used in new nonresidential buildings, which include educational and commercial buildings. Additionally, almost one-quarter of output was used in maintenance and repair construction on existing buildings.

In spite of several economic downturns, overall output of the metal doors, sash, and trim industry increased an average of 1.5 percent per year between 1967 and 1983. In comparison, over the same period, all manufacturing output increased an average of 2.3 percent per year.

The industry's output generally paralleled the trend for new building construction.[3] Between 1967 and 1972, for example, the industry's output grew at an average annual rate of 3.8 percent. In comparison, the deflated value of new building construction put in place increased 3.6 percent annually over this period. From 1972 to 1975, the industry's output fell 10.6 percent per year as the market for new buildings experienced an 11.0-percent annual decline.

Since the mid-1970's, this pattern has changed somewhat. To offset market fluctuations in new building construction, manufacturers have produced more of their output for the replacement market. In 1973, new construction accounted for about 52 percent of the value of total industry revenues.[4] By 1983, this market had fallen to about 40 percent of revenues. The replacement market comprised about 59 percent of revenues in 1983, rising from 46 percent in 1973. This trend is expected to continue.

Metal doors. One factor affecting the demand for industry output has been the wider use of metal doors. In single family housing construction, homebuilders are installing more metal than wooden doors in projects costing less than $100,000.[5] According to the Architectural Aluminum Manufacturers Association (AAMA), aluminum doors accounted for more than three-fourths of all residential patio doors used in 1982. The introduction of more energy efficient metal door units along with increased consumer demand for security and fire safety, also has contributed to a shift in the type of entry door in new construction from wood to metal.

Demand for garage doors, particularly by the metal buildings industry, has grown substantially in the past 20 years. Before 1966, only 5 percent of all overhead garage doors were manufactured out of metal.[6] Technological advances such as the development of prepainted doors, which have eliminated the need for on-site painting, and new insulating core materials, along with improved economies of scale, which have lowered average unit costs, have led to increased demand for metal doors. By 1980, about 90 percent of the doors installed on steel buildings were made of galvanized steel.

Aluminum windows. Another factor contributing to the growth of industry output has been the increasing penetration of the new housing market by manufacturers of aluminum windows. In 1967, aluminum and, to a small extent, steel windows accounted for about 55 percent of all new residential window installations, with wood making up the other 45 percent.[7] Except for 2 years in the mid-1970's when aluminum window prices rose relative to wooden ones, the industry's share of the window market has grown steadily to approximately 70 percent of the total in 1980.

Demand for metal windows varies from region to region and by type of building. Aluminum windows are more popular in the South and parts of the West, while wood windows are more popular in the Northeast and North Central parts of the United States. Among residential units, the use of aluminum windows is more prevalent in attached single family houses and apartments than in detached single family homes. Between 1977 and 1983, about 71 percent of new private housing starts occurred in the South and West regions. During this period, townhouses and apartments also increased their share of the new housing market. As a result, manufacturers of aluminum windows increased their share of new residential construction.

Storm windows and doors. The vast majority of storm windows and doors are made of aluminum. According to AAMA statistics, aluminum units comprised almost 95 percent of all storm windows and doors shipped from 1970 to 1983. Beginning in the mid-1970's, shipments increased substantially because of rising heating and cooling costs and energy tax credit incentives. Several years of high installation rates reduced the number of homes containing only single glazed windows that were available for storm window

Table 1. Productivity and related indexes for metal doors, sash, and trim, 1967–83

[1977 = 100]

Year	Output per employee-hour	Output	All employee hours	Employees
1967	81.7	81.0	99.1	97.1
1968	85.6	81.7	95.4	94.8
1969	83.7	81.9	97.9	96.4
1970	82.1	79.5	96.8	94.7
1971	91.4	88.5	96.8	95.7
1972	93.1	100.9	108.4	107.4
1973	92.0	98.2	106.7	105.8
1974	87.2	88.6	101.6	101.2
1975	89.3	72.0	80.6	81.6
1976	92.9	80.2	86.3	85.7
1977	100.0	100.0	100.0	100.0
1978	94.8	102.9	108.6	108.5
1979	92.8	103.4	111.4	111.4
1980	90.6	96.3	106.3	107.0
1981	90.4	100.1	110.7	109.1
1982	96.0	96.6	100.6	100.8
1983	98.9	104.1	105.3	107.1
	Average annual rates of change (in percent)			
1967–83	0.9	1.5	0.6	0.7
1978–83	0.9	−0.3	−1.2	−1.0

and door applications. This temporary market saturation along with a fall in new housing starts contributed to a total decline in product shipments of 53 percent from 1978 to 1982.

Insulated doors and windows. Since the mid-1970's, much progress has been made in the energy efficiency of door, window, and wall design. According to the Insulated Steel Door Institute, advancements in weatherstrip systems and improvements in insulating technologies for door sections has led to a reduction in heat loss of more than 40 percent. In glass areas of buildings, the best improvement has been achieved by using double glazed insulating glass. In many cases, heat loss through glass areas has been cut in half. The use of better seals and coated glass also has improved the energy efficiency of windows. These product improvements along with home energy conservation incentive programs contributed to an increase in the replacement and retrofitting of existing doors and windows with more energy efficient units. Replacement and remodeling activity has helped to sustain the industry's output by offsetting the impact of declining new building construction.

Employment

Total employment in the metal doors, sash, and trim industry grew at a rate of 0.7 percent per year between 1967 and 1983. In comparison, all manufacturing industries showed no average annual change in employment over the same period. Employment growth for the industry was uneven, however, rising from 63,900 in 1967 to 70,700 in 1972, declining to 53,700 in 1975, again rising to a peak of 73,300 in 1979, and then declining again to 66,300 in 1982. The proportion of production workers fell from 75.0 percent in 1967 to 73.8 percent in 1983.

The majority of jobs in the metal doors, sash, and trim industry consisted of stamping, blanking, and forming of metals. Almost 50 percent of the production workers were engaged in these three operations.[8] Other main types of work in this industry consist of galvanizing iron and steel, painting, lacquering, or enameling. About 15 percent of the employees worked in these finishing occupations. About 11 percent worked in a tool and die shop. Eleven percent worked in plate or structural fabrication. About 9 percent worked in a machine shop. The remaining 8.5 percent of production workers were engaged in electroplating, heat treating, or worked in the pattern shop.

Female employees constitute an increasing proportion of the workers in the metal doors, sash, and trim industry, rising from an 18-percent share of the work force in 1967 to almost 27 percent of all industry employees in 1983.[9] During the period, average weekly hours of production workers declined 1 hour, from 40.6 hours in 1967 to 39.6 in 1983.

Capital expenditures

Increases in capital expenditures are important and frequently contribute to advances in output per hour. During the 1967–83 period, the annual rate of growth in new capital expenditures per employee averaged 9.2 percent in the metal doors, sash, and trim industry. In comparison, the average for all manufacturing establishments was 10.0 percent. Although the growth rate was close to the average, the level of capital expenditures per employee in this industry was less than half the level for all manufacturing industries. In 1983, the industry spent about $1,350 per employee for new capital expenditures, compared with more than $3,500 for all manufacturing. During 1983, the metal doors, sash, and trim industry allocated around 70 percent of capital expenditures to the purchase of new machinery and equipment. In comparison, the average for all manufacturing during 1981 (most recent year for which data is available) was more than 80 percent. The remainder was expended on new structures and plant additions.

Size of establishments

In 1982, the Bureau of the Census reported a total of 1,738 establishments in the metal doors, sash, and trim industry. A small percentage of these accounted for the majority of industry shipments. Nearly 10 percent of the industry's establishments averaged more than 100 employees and generated approximately 57 percent of the industry's value of shipments. In contrast, more than one-quarter of the establishments reported four or fewer employees and accounted for only 1 percent of shipments.

The number of metal window manufacturers has increased substantially during the past 20 years. Currently, about 750 companies make prime metal windows, and 175 firms manufacture metal storm windows.[10] Although some large firms manufacture metal windows and doors in several establishments, most producers are small, one-plant companies that serve local or regional markets.

Metal windows usually are manufactured in a variety of custom-ordered sizes. To be responsive to special orders, manufacturers of windows generally are located near their market outlets. In 1977, the majority of metal window frames and sash produced was shipped less than 200 miles from the manufacturers' plants to their customers.

Technology

Technological change in this industry during recent years has primarily consisted of modifications and improvements in existing methods and equipment.

The manufacture of aluminum framing members for window and curtain walls essentially consists of the remelting, extruding, annodizing, and fabricating of aluminum to specified dimensions. Aluminum scrap is remelted in an aluminum cast house to produce aluminum billets. To produce extruded shapes, a hydraulically operated ram forces a hot (but not molten) aluminum billet through openings in a precision-made die. The result is a fine grained extrusion conforming to the configurations and dimensions of the die. In this process, it is possible to form an infinite variety of uniform products.

Anodizing is a protective treatment used to improve the corrosive and abrasive resistance of aluminum. This treatment does not apply a coating but converts a thin layer of aluminum on the surface to an oxide that is extremely hard. In recent years, anodizing processes have been developed that result in anodic films in amber shades, ranging from light to dark. In many cases, amber colored finishes have been used in architectural work in place of clear anodizing. Anodic films developed with these processes are much harder, denser, and longer lasting than former clear anodizing finishes. Another recent modification at one plant replaced a one-step, 19 bath anodizing process with a two-step, 18–20 bath process. The two-step process which uses better controls has improved the quality of the aluminum oxide coating, and reduced energy and labor requirements for this operation.

The anodized aluminum extrusions are fitted and assembled in the factory to modular or custom sizes. The joints in aluminum windows and frames are either welded or fastened mechanically. Mortise and tenon joints, that is, joints between members at right angles to each other, are commonly used. The clip, epoxy, and stake (CES) method is often used when joints are fastened together mechanically. The clip, a type of corner fastener, is placed into the joint with epoxy. Then a machine mechanically drives the extruded sections together.

Although not widely diffused in the industry, the computer-aided design and computer-aided manufacture (CAD/CAM) system have been introduced into the operations of some plants. This technology uses computers to assist in developing designs for products to be manufactured. It is most feasible for large plants which have a sizable volume of fabricating work, generally destined for the commercial building sector. The CAD/CAM system has improved design analysis and cut unit labor requirements for skilled drafters through its greater sophistication, accuracy, and operation speed.

A recent equipment improvement has been the introduction of programmable controllers into new machines that perform complex operations. These electrical testing devices that replace limit switches allow the source of electrical problems to be more easily located, thereby reducing machine downtime. Another equipment improvement has been the development of drilling machines that drill holes of different configurations. Compared with previously used equipment, these machines reduce set up time, and thus, lower unit labor requirements.

Outlook

As indicated earlier, short-term changes in productivity generally reflect changes in output and output in this industry is directly related to trends in residential and nonresidential building construction. According to macroeconomic projections by the U.S. Department of Commerce, building construction should continue to grow during the next 5 years. Private nonresidential construction is expected to increase in quantity and value put in place. The number of residential units built is expected to level off. Because of increases in the average size per unit, however, the value of residential construction put in place is expected to grow slightly. Based on these projections, the demand for the metal doors, sash, and trim industry's products should also rise during the next 5 years. This projection, along with the experience over the 1967–83 period, suggests that productivity should continue to advance moderately. Wider adoption of recent innovations, particularly among large manufacturers, should also contribute to the growth of labor productivity. ☐

——FOOTNOTES——

[1] The metal doors, sash, and trim industry is classified as SIC 3442 in the *Standard Industrial Classification Manual 1972* and its 1977 supplement, issued by the U.S. Office of Management and Budget. This industry includes establishments primarily engaged in manufacturing ferrous and nonferrous metal and metal covered doors and sash, window and door frames, and screens, molding, and trim.

[2] *The Detailed Input-Output Structure of the U.S. Economy 1977, Volume 1, The Use and Make of Commodities by Industries 1977* (U.S. Department of Commerce, 1984), pp. 17–35.

[3] This output measure includes the value of new private residential buildings, new private nonresidential buildings, and new public buildings put in place, in constant 1977 dollars. See *Construction Review*, International Trade Administration, July–August, 1983, pp. 9–15.

[4] "Prospects Good for Metal Doors, Windows, Study Says," *Metal Building News*, May 1984, p. 41.

[5] "Sales Power of Doors and Windows," *Professional Builder*, June 1980, p. 122.

[6] "Metal Builders and the Overhead Door Industry," *Metal Building Review*, October 1984, pp. 24, 64, and 65.

[7] See Architectural Aluminum Manufacturers Association, *Architectural Aluminum Industry Statistical Review 1980*, 1981, p. 20.

[8] Computed from survey material in the *1977 Census of Manufactures*, Vol. I, Table 3, "Selected Metal Working Operations by Industry," pp. 10–27.

[9] See *Employment and Earnings, United States, 1909–79*, Bulletin 1312–11 (Bureau of Labor Statistics, July 1979); and *Supplement to Employment and Earnings, United States, 1909–78* (Bureau of Labor Statistics, July 1985).

[10] "Market Trends in the U.S. Window Industry," *Construction Review*, International Trade Administration, January–February 1984, p. 3.

APPENDIX: Measurement techniques and limitations

The productivity indexes in this study measure the change over time in industry output per unit of labor input. They do not measure the specific contribution of labor, but reflect the influence of many factors such as technology, capital investment, and managerial skills, as well as the skill and effort of the work force.

The output index is based on value of shipments data adjusted for inventory change, published by the Bureau of the Census. Detailed data from the Census of Manufactures for 1967, 1972, 1977, and 1982 were used to derive benchmark indexes, to which the annual indexes for intervening years, based on the Annual Survey of Manufactures, were adjusted. The value of shipments of the various product classes were adjusted for price changes by appropriate Producer Price Indexes to derive a real output measure. These, in turn, were combined with employee hour weights to derive the overall output measure. Employment and employee hour indexes were derived from census data. Employees and employee hours are considered homogeneous and additive, and thus do not reflect changes in the qualitative aspects of labor, such as skill and experience of persons constituting the aggregate.

Data on the quantities of goods produced by the metal doors, sash, and trim industry are not complete. Real output, therefore, was estimated on the basis of a deflated value technique. That is, changes in the price levels of the current dollar value of production were removed by means of appropriate price indexes. Because an adjustment for changing price levels usually lowers the dollar value, such a series is referred to as a deflated value measure. In an industry such as the metal doors, sash, and trim industry, where the raw material may differ from one product to the next, this technique may result in some bias in the measure. However, the bias is minimal.

To combine segments of the output measure, employee hour weights relating to the individual segments were used. This technique was used at various levels of subaggregation for the variety of products manufactured by this industry. These procedures result in a final output index that is conceptually close to the preferred output measure.

Indexes of output per employee-hour relate total output to one input of labor time. The indexes do not measure the specific contribution of labor, capital, and any other single factor. Rather, they reflect the joint effects of such factors as changes in technology, capital investment, capacity utilization, shop design and layout, skill and effort of the work force, managerial ability, and labor-management relations.

Verifying basic skills

Employers report in survey after survey that what they are seeking in young empoyees is, first, the basic skills needed to learn on the job, and, second, the dependability and world-of-work skills to show up on time and follow instructions. Vocational skills are less frequently required, although important for some jobs such as secretarial work. Employers do not usually give academic or other tests, and have little basis for judging the dependability of those with limited work experience, so they judge on the basis of academic credentials and other considerations such a vouching by acquaintances or relatives, best bets based on previous experiences with similar individuals, or prejudice. Employment and training programs recruit and serve those unable to secure jobs in the private sector. Unless these enrollees attain academic credentials recognized by employers, or are sorted so that those who prove to be dependable and trainable are identified, participants who are disadvantaged at entry will be equally disadvantaged at exit.

—NATIONAL COUNCIL ON EMPLOYMENT POLICY
Investing in America's Future: A Policy Statement by the National Council on Employment Policy
(Washington, National Council on Employment Policy, 1984), pp. 24–25.

Research Summaries

Minimum wage stability affects shirt and nightwear industry pay

Absence of change in the Federal minimum wage during the May 1981–84 survey period helps to explain the relatively modest wage gains of production and related workers in the men's and boy's shirts and nightwear manufacturing industry. Straight-time earnings averaged $4.68 an hour in May 1984, according to the latest Bureau of Labor Statistics survey.[1] This was 11 percent above the $4.23 recorded in a similar survey conducted in May 1981—an increase averaging 3.4 percent a year.[2] By comparison, wages and salaries in all nondurable goods manufacturing as reported by the Bureau's Employment Cost Index rose 17.1 percent, or 5.4 percent a year, during the 3 years ending in the second quarter of 1984.

In establishments employing about half of the industry's production workers in May 1984, pay was linked to the minimum wage by a policy of adjusting wage rates for all jobs to reflect changes in the statutory minimum. (See table 1.)

A more moderate rate of inflation between May 1981 and May 1984 also helps to explain the shirt industry's pace of wage increases. The Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) rose 13.5 percent, or 4.3 percent a year, at a time when one-fifth of the shirt workers were under collective bargaining agreements providing for cost-of-living wage adjustments.

Workers in the Southeast, who accounted for seven-tenths of the production work force, averaged $4.62 an hour in May 1984. Among the other five regions studied separately,[3] average hourly earnings were highest in New England ($5.43) and lowest in the Southwest ($4.17).

Hourly earnings of more than 64,000 workers covered by the study ranged from the minimum wage of $3.35 to $9 and over. The middle 50 percent of the workers earned between $3.68 and $5.42 an hour. About 14 percent of the workers earned within 5 cents of the Federal minimum wage, down from 22 percent in 1981.

Among the 23 occupational classifications selected to represent the shirtmaking process, average hourly earnings ranged from $7.49 for sewing-machine adjusters to $4.03 for thread trimmers. Machine cutters ($6.18) and markers ($5.57) were the only other jobs studied separately with hourly averages over $5.50. Sewing-machine operators, by far the largest occupational group studied, with nearly 37,000 workers, averaged $4.59 an hour. Averages for the other jobs with more than 2,000 workers were $4.66 for combination final inspectors and thread trimmers, $4.62 for garment folders, and $4.48 for finish pressers.

Occupational pay levels varied widely by region. While pay levels typically exceeded the national averages by 15 to 25 percent in New England and by 5 to 15 percent in the Border States and Middle Atlantic States, occupational averages in the Southeast and Pacific generally fell slightly below the national levels, and those in the Southwest were usually 10 to 20 percent below. Regional pay patterns, however, were not consistent among individual jobs. For example, shipping clerks in the Border States averaged 48 percent more than those in the Southwest, but clicker-machine operators (who cut or stamp small pieces of various shapes from material or cardboard) in the latter region averaged 9 percent more than those in the Border States.

Occupational pay levels were generally higher in metropolitan than in nonmetropolitan areas, in plants with at least 250 employees than in smaller establishments, in union plants than in nonunion plants, and in establishments primarily making dress shirts than in those principally making sport shirts.

Extensive use of incentive pay plans, notably piece rate systems, contributed to wide ranges of rates within an occupation and area. Incentive earnings vary according to work experience, effort, work flow, and other factors which the worker may or may not control. Workers paid under incentive systems, four-fifths of the production workers, usually averaged from 10 to 15 percent more than time-rated workers in the same occupation. Incentive workers accounted for virtually all of the sewing-machine operators and were also predominant among the other sewing and finishing occupations. Workers paid on a time-rated basis, however, were predominant among sewing-machine adjusters, janitors, shipping clerks, and work distributors.

Virtually all production workers were in establishments with formal provisions for paid holidays and vacations. Three-fifths of the workers received 5 to 8 holidays annually; while nearly three-tenths—mainly workers under contracts negotiated by the Amalgamated Clothing and Textile

Workers Union (ACTWU)—were entitled to 10 holidays. Vacation plans in the industry typically provided 1 week of pay after 1 year of service, 2 or more weeks' pay after 3 years of service, and 3 weeks after 10 years. About one-fifth of the workers could receive 3 weeks after 1 year of service. Most of these workers were in plants covered by the ACTWU plan, which provides for a 2-week summer vacation for employees with 1 year of service (1 week after 6 months) and a 1-week winter vacation for employees with 1 year of service.

Life, hospitalization, and surgical insurance were provided for about nine-tenths of the workers. At least three-fifths of the workers were covered by accidental death and dismemberment insurance and basic medical and major medical plans. Slightly more than one-half were included in private pension plans, nearly all of which were paid for entirely by the employer. Paid funeral leave was available to seven-tenths of the workers and jury-duty pay to nearly three-fifths.

The study included establishments engaged primarily in manufacturing men's, youth's, and boys' shirts (including polo and sport shirts) and nightwear, cut and sewn from purchased woven or knit fabric. In May 1984, establishments within the scope of the survey—those with 20 workers or more—employed 64,789 production workers. This is almost exactly the same number of workers reported in 1981 and breaks a pattern of decline reported in similar BLS studies since 1964. In 1984, about one-half of the production workers were in establishments primarily making sport shirts. Plants making dress shirts accounted for just under two-fifths of the work force.

In addition to the six major regions studied, separate data were obtained for nine States and three local areas. These localities employed slightly more than four-fifths of the industry's production workers. Among the States, employment ranged from 10,500 in North Carolina to about 600 in Maryland.

The Bureau's eight regional offices will provide free of charge, while the supply lasts, separate releases issued earlier for the following States and areas: Alabama; Georgia; Maryland; Mississippi; North Carolina; Pennsylvania; South Carolina; Tennessee; Virginia; Allentown–Bethlehem–Easton, PA-NJ; Los Angeles–Long Beach, CA; and Pottsville–Shamokin, PA. A comprehensive bulletin, *Industry Wage Survey: Men's and Boys' Shirts and Nightwear, May 1984*, Bulletin 2232, is for sale by the Superintendent of Documents, Washington 20402.

Table 1. Average hourly earnings and percent change in men's and boy's shirts and nightwear and Federal minimum wage levels, selected years, 1964–84

Survey date	Average hourly earnings		Federal minimum	
	Level	Percent change[1]	Level	Percent change[1]
May 1984	$4.68	11	$3.35	0
May 1981	4.23	29	3.35	26
May 1978	3.28	29	2.65	32.5
June 1974	2.54	24	2.00	25
October 1971 ..	2.05	12	1.60	0
October 1968 ..	1.83	26	1.60	28
June 1964	1.45	—	1.25	—

[1] Percent change from previous period.

—FOOTNOTES—

[1] Earnings data exclude premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] For a report on the earlier survey, see *Industry Wage Survey: Men's and Boys' Shirts and Nightwear, May 1981*, BLS Bulletin 2131 (Bureau of Labor Statistics).

[3] New England, Middle Atlantic States, Border States, Southwest, and Pacific States.

Expert panel offers suggestions on 1990 census methodology

Pursuant to a 1982 recommendation by the American Statistical Association, the Committee on National Statistics of the National Research Council established a panel under the aegis of the Census Bureau to make recommendations on methodology for the 1990 decennial census. Formally designated the Panel on Decennial Census Methodology, this group of experts was charged with suggesting research, experiments, and new methods and with guiding the Census Bureau in evaluating alternative techniques. Their work continued the longstanding policy of evaluating the results of the most recent census with a view toward resolving problems and testing new procedures well before the next census is undertaken.

The final report of the panel, *The Bicentennial Census: New Directions for Metholodogy in 1990*, was published in 1985. The 404-page volume first examines the history of the decennial census, noting particularly the great expansion in usage of census data since the first national study was conducted in 1790 and concommitant growth in numbers of criticisms of census procedures and results. Against this background, the authors present an analysis of existing problems with census methodology and propose solutions.

The major issues confronted in the most recent round of methodology review involved: (1) the proper adjustment of census counts and characteristics; (2) the appropriateness of sampling techniques within a census framework; and (3) the possible use of administrative records to improve the accuracy of census counts and the efficiency of census operations. In developing its recommendations, the panel considered the stated goal of the Census Bureau to develop better and more timely estimates for 1990 without an appreciable increase in per-housing-unit costs over 1980 levels. Following are selected recommendations from the final report:

- That the Census Bureau assess the need for a mid-decade census, particularly by studying the effect of errors in postcensal population estimates compared with errors in the decennial census on major data uses. Unless these studies do not support the value of a mid-decade census, the Bureau should make every effort to secure funding for a census in 1995.
- That the Bureau prune its proposed research and testing program for 1986 by deferring certain projects until 1987 or later and by forgoing research on proposals that are unlikely to be implemented in the 1990 study or that appear to hold little promise based on previous census experience or other survey research results. Other cutbacks might be accomplished by making fuller use of 1980 census data and experimental results. To this end, the Bureau should assign a high priority to the completion of 1980 census methodology studies and further analysis of 1980 data.
- That the Bureau assign a high priority to the completion of studies of undercount and overcount of various population groups in the 1980 census. A variety of question designs for sensitive race and ethnicity information should be tested for the 1990 study, including some that combine the collection of information on Hispanic origin with other race and ethnicity information. The report also recommends that the Census Bureau, the National Center for Health Statistics, and other Federal agencies work closely together to design questions and response editing rules on race and ethnicity that minimize conceptual differences between census and vital statistics records.
- That the Census Bureau not pursue research on or testing of a sample survey as a replacement for complete enumeration in 1990. This recommendation reflects the panel's belief that a large sample survey would result in less complete coverage than a census, and that there would be only minor cost savings in sampling on the scale necessary for satisfaction of present demands for small-area data from the census. However, the Bureau should include in its 1987 pretest program the testing of sampling for the follow-up of households that do not return their questionaires. Sampling could prove cost-effective in the final stages of follow-up, where it becomes very expensive to count an additional person.
- Given the likelihood that the census will continue to produce different rates of undercoverage for various population groups, it is recommended that work proceed on the development of adjustment procedures and that adjustment be implemented if there is reasonable confidence that it will reduce differential coverage errors. The Census Bureau should also explore methods for providing estimates of errors associated with estimates of census over- and undercoverage, with a view to publishing such error estimates along with coverage evaluation results and any adjusted census data that may be issued.
- That the Census Bureau conduct research and testing in the area of improved accuracy of responses to content items (income, utility costs, and so forth) in the census. Further, the content improvement procedures examined should not be limited to reinterviews of samples of respondents, but should also include the use of administrative records. A specific recommendation urges the Bureau to investigate the cost and feasibility of obtaining data on housing structure items through alternative uses of local administrative records.

Copies of the full report of the Panel on Decennial Census Methodology, edited by Constance F. Citro and Michael L. Cohen, may be purchased from the National Academy Press, Washington, DC. Price: $23.95. ☐

Foreign Labor Developments

International experiences with technological change

STEVEN DEUTSCH

Most industrial nations are concerned with the impact of microelectronics and technological change on the work force. In many instances, reports from national commissions, such as the Canadian Task Force on Microelectronics and Employment and the Swedish Computer Commission, have attempted to identify and address problems that can arise when new technology is introduced. These reports often lead to legislative solutions to the problems of new technology that are consistent with the larger role played by government in many countries in shaping the conditions at the workplace and the role of labor and management.

In countries with collective bargaining systems similar to the United States, there is evidence of growing reliance on some governmental mechanisms. For example, the Canadian Task Force on Microelectronics and Employment suggested the establishment of mandatory labor-management technology committees in all places of employment with more than 50 employees. These committees would "deal with issues such as training, retraining, redundancy, work-sharing, productivity improvements, and other matters related to technological change at the workplace."[1] A review of the pattern in most industrial nations reveals varying blends of governmental legislation and collectively bargained labor-management agreements.[2]

This reflects not only the tendency to involve government in labor-management relations, but also the relative size of the unionized labor force and the power of labor political parties. The percentage of the labor force which is unionized varies considerably among industrialized nations: United States, 22 percent; France, 28 percent; Japan, 33 percent; Germany, 42 percent; United Kingdom, 55 percent; Australia, 56 percent; Belgium, 79 percent; and Sweden, 83 percent.[3] Most of these nations have a labor party which tends to wed collective bargaining strategies to political and legislative agendas. For example, the Swedish Labor Federation, through the Social Democratic Party, has been successful in gaining governmental approval for legislative changes concerning job security, labor market policies (including advance notification and government subsidies to assure full employment), worker representation on corporate boards, joint consultation between management and labor (co-determination), empowering workers to improve work environments, and the establishment of wage earner funds to give workers gradual ownership and economic influence in the enterprise.[4]

There are many variations in the relative importance of collective bargaining versus legislative approaches, but even in England, Canada, or Australia, where there are strong traditions of deferral to bargaining, in recent years, the government has been active on issues of worker participation and technology.[5]

Adversarial relations

England. Concern with technology was already well developed in England in the 1970's, prior to the resurgence of interest in the United States. Primarily, union-initiated proposed technology agreements with employers dealt with the basic questions of advance notification, job security, training and retraining, worker involvement in technological change, and design and implementation. However, "while unions in Britain have generally recognized the need to extend the scope of collective bargaining in order to influence the introduction of new technology, few have succeeded in achieving this end."[6] The reason for this lies largely in the tension over the short-term strategy of worker involvement in planning. In 1982, a group at the University of Aston examined a large number of English technology agreements and collective bargaining contracts; they concluded that, "To date, it is the defensive/reaction strategy that has predominated."[7]

Compounding the problem today are the troubled economic situation in Britain and the deterioration of labor relations in that country. High unemployment and bitter labor-management disputes overshadow cooperative developments and the substantial number of successfully negotiated agreements which provide for joint efforts and worker involvement in the change process. While the language in many of the agreements is suggestive of what should be implemented, such agreements will work best in a full

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Steven Deutsch is director of the Center of the Study of Work, Economy, and Community and professor of sociology, University of Oregon.

employment economy and one in which the spirit of cooperation prevails—features both lacking in England today.

Australia. The Australian situation has paralleled that in many other industrial countries. In 1980, the government established the Committee of Inquiry into Technological Change in Australia. The committee made proposals to reform aspects of Australia's industrial relations system in such a way as to provide incentives for unions and employees to cooperate with employers in the introduction of technological change. However, the reality since has failed to see these fully materialize. The overall picture is characterized by leading industrial relations analysts in Australia:

> . . . although governments, employees and unions have agreed about the need to introduce technological change without causing undue social and economic hardship, this consensus appears to have had little impact on the manner in which changes have been implemented. The majority of employers have introduced new technology without consulting their employees in advance; most unions have been ill-equipped or unprepared to assume a more assertive or interventionist role; and industrial tribunals, by and large, have been unwilling to interfere with managerial rights or prerogatives in this field. These factors have exacerbated conflict in the workplace as, in many cases, traditional patterns of work have been upset, wage relativities have been disturbed and job security has been decreased.[8]

As in the case of England, Australia has had a number of negotiated technology agreements on the primary issues of job security, work organization, work environment, and methods of work involvement. The Australian Council of Trade Unions, just as the Trades Union Congress in England, has passed official statements on technology, disseminated model contract clauses for unions, and conducted technology training for its membership. Nevertheless, the conclusion stated above illustrates the reason for the gap between the ideal and actual practice.

Canada. The U.S. industrial relations system shares some features with those of England, Australia, and Canada. These are traditions which have created a decentralized union structure with a large number of separate unions and individual negotiating situations. It is a system dependent on free collective bargaining with modest governmental intervention outside broad framework laws, and an ideology which tends to emphasize traditional managerial prerogatives and conflicts of interest between management and labor. Canada's experience is especially relevant for the United States because of geographical proximity, the role of U.S. firms in the Canadian economy, and the linked bargaining across the border (international unions in this country typically include Canadian affiliates).

Provincial laws on work environment have been patterned, in part, after Scandinavian models. For example, joint labor-management health and safety committees were mandatory in Saskatchewan in the 1970's, during which a climate of worker participation was cultivated.

In the Canadian Postal Service, where labor relations have been erratic in recent years, the following agreement over technological change notification was negotiated:

> . . . the Employer agrees to notify the Union as far as possible in advance of his intention and to update the information provided as new developments arise and modifications are made . . . the Employer shall provide the Union, at least 120 days before the introduction of a technological change, with a detailed description of the project it intends to carry out, disclosing all foreseeable effects and repercussions on employees.[9]

A 1-year minimum advance notice currently is specified in the contract negotiated by Saskatchewan Telephone and Communication Workers of Canada, with a range of other time periods given in various contracts. Following notice by the employer to the union, the next step defines the role the union and workers will take in decisions affecting technological change. Many contracts spell out the establishment of joint labor-management committees to consult, plan, and execute programs of technological change, including issues of relocation and retraining of workers. Recently, the National Association of Broadcasting Corporation agreed that, "No employee who has completed his probationary period as of the date of execution of this Agreement will be laid off or suffer a reduction in salary during the term of this Agreement because of the introduction of new or modified equipment and/or associated changes in methods of operation."[10]

Involvement of the work force in the design and implementation of new technology has been a significant part of the Canadian labor relations scene in recent years, especially in the case of office automation and video display terminals (VDT's). The Canadian Union of Public Employees and the United Way of the Lower Mainland, British Columbia, have a contract which stipulates:

> The selection and installation of equipment shall be done in consultation with the affected employees. The installation shall also involve consultation directed towards assuring that all 'ergonomic' factors are dealt with satisfactorily.[11]

The Newspaper Guild Local 115 and Suburban Press, Ltd., have a memorandum of agreement which states that "If an employee has been operating a VDT in the final two hours of a shift, the employee shall not be required to operate a VDT less than 30 minutes before leaving the plant."[12] Other provisions in this agreement deal with inspecting each VDT for radiation emmissions. Several Canadian labor agreements, including those which cover the Newspaper Guild and Communications Workers, specify that women workers during pregnancy may have the option of being rotated onto a non-VDT job. This last provision is controversial because scientific data have not conclusively demonstrated danger during pregnancy caused by working on a VDT. However, the concern has been pushed by workers and some of the Canadian unions who have won such agreements from employers. An equivalent level of concern exists in the United States and a similar provision for pregnant women is being pursued in some contract negotiations.

European Community: joint efforts

There are considerable variations in the pattern of labor relations abroad. Nations in the European Community have agreed to some coordinated policies which have influenced various aspects of cooperation, including sharing corporate economic data with the workers, and worker and union involvement in work organization decisionmaking. As of 1984, the European Community is ". . . examining with both sides of industry the best way and at what level to introduce basic principles on the information and consultation of workers affected by the introduction of new technologies, while taking account of practices and procedures already applied in the Member States."[13]

In the past, many European unions have been more aggressive than those in the United States; this is particularly true for the issues of advance notification, joint participation in workplace design and the introduction of new technology, protection of jobs and programs for relocation, retraining, and other means of cushioning the effects of job loss.[14] At the same time, the industrial relations climate in much of Europe has been supportive of some participative and joint labor-management approaches to addressing issues of technological change. Both management and labor have generally agreed that the new technology offers an excellent opportunity for work redesign so as to eliminate boredom and monotony and facilitate the creation of semi-autonomous work groups with greater worker influence. "The technology-optimistic attitude, which was distinctive of the years of prosperity up through the sixties, could be found in all European countries; technology was unequivocally seen as a, and often the most important, remedy for securing full employment and greater welfare for union members."[15] The economic crisis of the later 1970's and early 1980's has altered some of the earlier optimistic viewpoints and a more recent opinion suggests that, "There is considerable evidence that automation has outpaced the ability of managements and trade unions to control, much less to optimize, its [technology's] implications for quality of work life, at least for very large numbers of enterprises."[16]

A recent OECD study revealed: "A common theme of many of the reports is that new technology can yield great benefits. The question, who receives the benefits and who carries the burden of the costs?"[17] The report then presents as a possible model the Norwegian Data Agreement which provides for workers affected by the new information technology to be informed and consulted.

Historically cooperative relations

Norway and Sweden. The Norwegian developments are seen as an integration of the legislative approach to improve the work environment and the negotiation process involving unions and employers to implement particular means whereby workers and their representatives have authentic influence over the introduction of new technology and work organization.[18] Parts of Section 12 of the 1977 Norwegian Work Environment Act are very informative:

- *General requirements.* Technology, organization of the work, working hours and wage systems shall be set up so that the employees are not exposed to undesirable physical or mental strain and so that their possibilities of displaying caution and observing safety measures are not impaired.

  Conditions shall be arranged so that employees are afforded reasonable opportunity for professional and personal development through their work.
- *Arrangements of work.* The individual employee's opportunity for self-determination and professional responsibility shall be taken into consideration when planning and arranging the work. Efforts shall be made to avoid undiversified, repetitive work and work that is governed by machine or conveyor belt in such a manner that the employees themselves are prevented from varying the speed of the work. Otherwise efforts shall be made to arrange the work so as to provide possibilities for variation and for contact with others, for connection between individual job assignments, and for employees to keep themselves informed about production requirements and results.
- *Control and planning systems.* The employees and their elected union representatives shall be kept informed about the systems employed for planning and effecting the work and about planned changes in such systems. They shall be given the training necessary to enable them to learn these systems, and they shall take part in planning them.[19]

What this language specifies is an obligatory information-sharing process whereby workers cooperate with management in advance of the introduction of significant changes in technology, work organization, and job design. It is predicated on research which indicates that a cooperative approach will indeed continuously improve the work environment. It is a perspective which has had a good deal of impact on the thinking of practitioners and policymakers throughout the world.[20]

It would be a mistake to judge the Norwegian or Swedish approaches as being unqualified successes; however, they are interesting models of how the issues of work organization, technology, and labor-management relations have been addressed. In the Norwegian case, the broad Work Environment Act obliges employers to consult with workers and their representatives and sets up a joint approach to planning. In Norway, with more than a decade of experience, professional computer and technology experts serve as consultants for large unions who are planning a better working environment and actively and competently engage with management in such work-systems development.[21] In Scandinavia, the unions have endorsed the new technologies, but they have actively worked on their own research and development with the aid of outside experts. For example, the Nordic Graphic Arts Workers Union Confederation has been designing a model high tech work environment, using microelectronic graphic arts equipment and computer-aided design. With consultants from the Swedish Center for Working Life and others, they have worked out the best situation from a worker viewpoint, while satisfying managerial and organizational goals of cost effectiveness and productivity.[22] In other instances, Swedish unions, under the 1976 Co-determination Act, have gained an employer commitment to actively involve workers in the planning of new technology systems. For postal social insurance office workers, it was clear from the beginning of the work system design that their concerns, which included the quality of service to the clients with whom they interacted, would be taken into account.[23]

In a 1979 agreement, the Swedish postal workers used the introduction of new technology and work reorganization as a means of improving the work environment. Approximately 4,700 women work in the central post office in Stockholm, and the technological and operational changes initially proposed threatened between 500 and 600 jobs. The union and management agreed on the goals of improved working environment, improved content of work, preserved level of employment, and development of new products and improved service to clients.[24]

In 1982, an "Agreement of Efficiency and Participation" was signed by the Swedish employers' federation (SAF) and the blue-collar (LO) and white-collar (PTK) union federations. It recognized the need for efficiency and productivity if Swedish enterprise was to be more competitive in the international markets; it also detailed some of the means of implementing technological change to achieve these goals. The paragraph dealing with technical development states:

> *Item 1. General direction.* The parties are agreed that day-to-day as well as more far-reaching technical modernization offers many opportunities that must be taken to enable the company to survive, achieve success and therefore also safeguard jobs and employment. Capital expenditure makes it possible to improve productivity as well as creating opportunities to introduce new production systems, utilize modern technology, develop the expertise and skills of employees, and thereby increase the competitiveness of company.
>
> *Item 2. Stimulating work.* In the event of technical change, a sound job content shall be the goal, together with opportunities for the employees to increase their skills and accept responsibility for their work. The knowledge of the employees should be stimulated together with their ability to cooperate with and have contact with their colleagues.
>
> *Item 3. Major changes.* When technical change that involves major changes for the employees is being planned, the trade union organizations shall participate. Such participation shall take place in accordance with the provisions in [sections 7 and 8].
>
> The employer shall describe the considerations underlying the new technology, and the technical, financial/economic, work environmental, and employment consequences that can be foreseen and possibly make proposals for appointing project groups.
>
> *Item 4. Training information.* It is important that the employees are given opportunities for further development of their vocational expertise and skills. The company shall make available as early as possible training for the new jobs that technical change will involve. Such training shall be provided at the expense of the company and on unchanged pay and employment conditions.

According to the authors of the document, "LO, SAF, and PTK are in agreement about the need for increased knowledge and responsibility and the need to support those affected by technological change."[25]

A number of work redesign experiments were initiated in Norway and in Sweden in the late 1960's and early 1970's. Many of these cases have been widely discussed. What is more critical is to see what *post hoc* assessments tell about the patterns of cooperative labor-management relations as applied to changing technology and the workplace. A leading analysis by the Swedish Employers' Federation concludes:

> If we glance quickly at the significant developments of the 1970's, we are struck by the fact that a large part of the evolution of our thinking regarding work organization and job content has arisen in connection with technological changes. In many cases, new organizational principles have scored genuine breakthroughs only when ways have been found to change material flows, machine grouping, work environments and design of factories.
>
> An important explanation of why the demand for better jobs could have such a large concrete effect on production methods in the 1970's is that it is only recently that new demands for job satisfaction and job content could be met with demonstrably superior technical measures. And *it is only when practitioners out in the factories can be involved in these questions that technology can be changed in such a way as to provide new types of work organization and job content* (emphasis added).[26]

The Swedish process is designed to mutually benefit all parties. Swedish workers and unions have supported the application of the most advanced technology; in fact, Sweden leads the world in *per capita* use of robots today.[27] The system has allowed employers to increase efficiency and productivity, and thus helped maintain their competitive role in such world market industries as auto production and finished steel products. Employees have been involved in planning changes in the work environment and have considerable job security and a range of training programs, including those negotiated with employers.

In both Norway and Sweden, broad framework laws, passed by the Federal Government and then subject to local agreement or implementation, have served as the major device for engaging a cooperative approach to technological change by labor and management. Both parties have accepted the desirability of new technology and have decided that solving problems in the work environment and designing and implementing the best system require joint efforts. The differences between Scandanavian and U.S. positions on technology and labor relations are considerable. These distinctions are influenced by the size of the public sector, proportion of the labor force organized into unions, and governmental policies and programs. With particular regard to Sweden, a leading American trade union researcher states:

> . . . one of the distinguishing features is the breadth and depth of the activities in Sweden, involving trade unions, employers and governmental agencies. In the U.S., only the unions have shown consistent interest in the human problems associated with workplace technological change . . . the main lessons Americans can learn, are related to the *values* underlying the experiments and the many accomplishments of the Swedish approach. Chief among them appears to be a real concern for the welfare of individuals, which naturally extends to the workplace and the quality of work performed there. Jobs not only must provide a decent income, but also should be responsible and intellectually satisfying, to the greatest extent possible; if new technologies bring major changes, then adequate training must be provided; and above all, representatives of affected employees might be actively involved in all stages of the process of change, from initial planning through final implementation and evaluation.[28]

Japan. U.S. industries have surveyed the Japanese system of industrial relations, productivity, and quality control circles. One analyst has concluded that it is a system of ". . . predecision joint consultation to solve the problems of manpower and employment due to drastic technological changes, developed around 1960, and . . . built up to become a basic part of the later Japanese industrial relations. . . . This practice often takes the place of collective bargaining in Japanese industry."[29]

One rare example of a formal technology agreement is that between the Nissan Motor Co. and the Nissan Motor Workers' Union. All 3,000 workers at Nissan's Zama plant participated in quality circles at the time robots were introduced in the 1970's and early 1980's, but the technology agreement only came into being in 1983. However, it does contain a clause which states, "in introducing new technology, the Company shall inform the Union in advance of the introduction of the program, possible effects on union members and proposals of countermeasures against such effects, and hold prior consultations with the Union." Also, "The Company shall neither dismiss nor layoff union members for reasons of the introduction of new technology."[30] Additional provisions address new technology in relation to safety and health, education and training programs, and necessary reassignments and job changes. What is critical is the transition from an earlier joint labor-management consultative agreement (1955) to this new technology agreement which specifically stipulates that the company will provide advance notification, job security, retraining, and the like. Whether this is the beginning of a new pattern in Japanese labor relations remains to be seen.

IN SUMMARY, most other industrial nations have shown greater interest and concern regarding new technology in recent years than has the United States. Unions in those countries have also acquired considerable experience in working out technology agreements and negotiating successfully in various industries.

In countries with a history of cooperation in labor-management relationships, there seems to be a more institutionalized joint approach to dealing with technological change than in those nations, such as the United States, with a tradition of more adversarial labor relations. Technological considerations have been identified in some countries as a critical factor in legislation mandating joint labor-management approaches at the workplace. Whether in the form of work environment legislation or codetermination laws, such regulations nearly always provide for consultation and participation by workers and their representatives in planning and executing technological and organizational design. ☐

——*FOOTNOTES*——

[1] Harish Jain, "Task force encourages diffusion of microelectronics in Canada," *Monthly Labor Review*, October 1983, p. 26.

[2] See "Work Organization and the Introduction of New Technology: A Survey of Legislative and Collective Agreements in Industrialized Countries," in *Automation, Work Organization and Occupational Stress* (Washington, International Labor Organization, 1984).

[3] These data are for the year 1978 and are from a U.S. Department of Labor report cited in Ira Magaziner and Robert Reich, *Minding America's Business* (New York, Vintage Press, 1983), p. 146.

[4] This is outlined in Sandra Albrecht and Steven Deutsch, "The Challenge of Economic Democracy—The Case of Sweden," *Economic and Industrial Democracy*, August 1983, pp. 287–320.

[5] A useful review is given in Everett Kassalow, "Industrial Democracy and Collective Bargaining: A Comparative View," *Labour and Society*, September 1982, pp. 209–29. See also, Greg Bamber, "Microchips and Industrial Relations," *Industrial Relations Journal*, November–December 1980, pp. 7–19; and Russell Lansbury and Edward Davis, eds., *Technology, Work and Industrial Relations* (Melbourne, Longman Cheshire, 1984).

[6] Greg Bamber and Russell Lansbury, "Labor-Management Relations and Technological Change: Some International Comparisons Between Australia and Britain," *Labor Law Journal*, August 1983, p. 522.

[7] Robin Williams and others, "Technology Agreements: Consensus, Control and Technical Change in the Workplace," in *Information Society: For Richer, For Poorer* (European Economic Community, Amsterdam, North-Holland, 1982), p. 260.

[8] Russell Lansbury and Edward Davis, "Technological Change and Industrial Relations in Australia," in Lansbury and Davis, *Technology, Work and Industrial Relations*, p. 3.

[9] Canadian Labour Congress, *Tech Change: A Handbook for Negotiators* (Ottawa, Canadian Labour Congress, 1984), p. 10.

[10] Susan Attenborough, *Microtechnology* (Ottawa, National Union of Provincial Government Employees, 1982), p. 36.

[11] Canadian Labour Congress, *Tech Change*, p. 24.

[12] Canadian Labour Congress, *Tech Change*, p. 27.

[13] European Communities, *Workers' Rights in Industry* (Brussels, European Economic Community, 1984), p. 10.

[14] An overview is presented in Steven Deutsch, "Unions and Technological Change: International Perspectives," in Donald Kennedy and others, eds., *Labor and Technology* (University Park, Pennsylvania State University, Department of Labor Studies, 1982). Also see Steve Early and Matt Witt, "How European unions cope with new technology," *Monthly Labor Review*, September 1982, pp. 36–38, and John Evans, *Technology and Collective Bargaining* (Brussels, European Trade Union Institute, 1985).

[15] Anders Hingel, "A Promethean Change of Industrial Relations: A Comparative Study of Western European Unions and Technological Developments," in Malcolm Warner, ed., *Microprocessors, Manpower, and Society* (New York, St. Martin's Press, 1984), p. 256.

[16] Joseph Thurman, "New Technology and Work Designs: Implications for Worker Attitudes and Industrial Relations," in *Changing Perceptions of Work in Industrial Countries: Their Effects on and Implications for Industrial Relations* (Geneva, International Institute for Labour Studies, 1983), pp. 188–89.

[17] Organization for Economic Cooperation and Development, *Microelectronics, Robots and Jobs* (Washington, OECD Publications Center, 1982), p. 111.

[18] Steven Deutsch, "Work Environment Reform and Industrial Democracy," *Work and Occupations*, May 1981, pp. 180–94; and Bjorn Gustavsen and Gerry Hunnius, *New Patterns of Work Reform* (Oslo, University of Oslo Press, 1981).

[19] *Act Relating to Worker Protection and Working Environment* (Oslo, Directorate of Labour Inspection, 1977), pp. 5–6.

[20] *New Technologies: The Impact on Employment and the Working Environment* (Geneva, International Labor Organization, 1983). Also enlightening on this issue is Alfred Hassencamp and Hans-Jurgen Bieneck, "Technical and Organizational Changes and Design of Working Conditions in the Federal Republic of Germany," *Labour and Society*, January–March 1983, pp. 39–56.

[21] Arne Pape and Jostein Fjalstad, "Research on Social Aspects of Computerization and Democratization of Working Life," in P. Samet, ed., *Proceedings of the European Conference on Applied Information Technology of the International Federation for Information Proceeding* (EURO IFIP) (Amsterdam, North-Holland, 1979); and Max Elden and others, *Good Technology Is Not Enough: Automation and Work Design in Norway* (Trondheim, Institute for Social Science Research in Industry, 1982).

[22] This project (known as the Utopia Project) and a larger approach is reviewed in *Training Technology and Products Viewed from the Quality of Work Perspective* (Stockholm, Swedish Center for Working Life, 1981).

[23] Some of these approaches are described in Bo Goranzon, *Job Design and Automation in Sweden* (Stockholm, Swedish Center for Working Life, 1982).

[24] "Local Collective Agreement on the Development of a New Production-System at the Postgiro," Stockholm, 1979, Section 2.

[25] Swedish Trade Union Confederation (LO), *Computers on Human Terms* (Stockholm, Swedish Trade Union Confederation, October 1983), p. 4.

[26] Stefan Aguren and Jan Edgren, *New Factories: Job Design Through Factory Planning in Sweden* (Stockholm, Swedish Employers' Federation, 1980), p. 104.

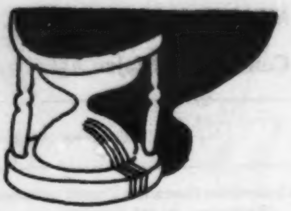
[27] Bengt Abrahamsson, *Computer Technology and Industrial Relations: The Case of Sweden and Norway* (Rome, Olivetti Foundation, forthcoming), p. 44, citing 1984 research by the Swedish Institute for Social Research.

[28] Dennis Chamot, "Labor and Technological Change in Sweden," *Working Life in Sweden*, No. 29 (New York, Swedish Information Service, February 1985), p. 6.

[29] Akihiro Ishikawa, "Microelectronics and Japanese Industrial Relations," in Warner, *Microprocessors*, p. 355.

[30] *Agreement Concerning the Introduction of New Technology*, Nissan Motor Co. and Nissan Motor Workers' Union, Mar. 1, 1983.

Major Agreements Expiring Next Month



This list of selected collective bargaining agreements expiring in April is based on information from the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more. Private industry is arranged in order of Standard Industrial Classification.

Employer and location	Private industry	Labor organization[1]	Number of workers
Independent Building Contractors (Maine)	Construction	Carpenters	1,300
General Building Contractors and others, Philadelphia area (Pennsylvania)	Construction	Laborers	5,000
Building Contractors Association (New Jersey)	Construction	Carpenters	14,000
General Building Contractors, Philadelphia area (Pennsylvania)	Construction	Carpenters	5,000
Building Trades Employers Association, commercial building agreement (Rochester, NY)	Construction	Carpenters	1,100
Construction Contractors Council–AGC Labor Division, Inc. (Washington, DC and vicinity)	Construction	Carpenters	6,300
Construction Contractors Council–AGC Labor Division, Inc. (Washington, DC and vicinity)	Construction	Operating Engineers	1,100
Associated General Contractors and independent contractors (Lake Charles, LA)	Construction	Laborers	1,000
Associated General Contractors, Central Illinois Builders Chapter (Illinois)	Construction	Carpenters	1,200
Greater Peoria Contractors and Suppliers Association, Inc. (Illinois)	Construction	Laborers	1,500
Associated General Contractors, Builders division (Minneapolis and St. Paul, MN)	Construction	Carpenters	4,000
Associated General Contractors, Builders division (Minnesota)	Construction	Laborers	3,000
Associated General Contractors (St. Louis, MO)	Construction	Laborers	3,000
Construction Employers Association (Cleveland, OH)	Construction	Carpenters	3,500
Building Contractors of Southern New Jersey (New Jersey)	Construction	Carpenters	2,200
Associated General Contractors (Minnesota)	Construction	Iron Workers	1,100
Associated General Contractors, building construction agreement (Ohio)	Construction	Operating Engineers	1,000
Home Builders Association (St. Louis, MO)	Construction	Carpenters	4,500
Associated General Contractors (St. Louis, MO)	Construction	Carpenters	4,500
Associated General Contractors (New Orleans, LA)	Construction	Carpenters	3,000
Associated General Contractors (New Orleans, LA)	Construction	Laborers	1,200
Associated General Contractors, building construction (Minnesota)	Construction	Operating Engineers	1,750
Contractors Association of Eastern Pennsylvania, heavy and highway, Philadelphia area (Pennsylvania)	Construction	Laborers	2,000
Associated General Contractors, heavy and highway (Minnesota)	Construction	Laborers	4,250
Associated General Contractors of Missouri (Western Missouri)	Construction	Laborers	1,000
Ohio Contractors Association and Associated General Contractors (Ohio and West Virginia)	Construction	Teamsters (Ind.)	1,400
Ohio Contractors Association (Ohio)	Construction	Operating Engineers	4,000
Ohio Contractors Association (Ohio and Kentucky)	Construction	Bricklayers; Plasterers and Cement Masons	1,100
Montana Heavy, Highway and Building Contractors (Montana)	Construction	Various unions	5,600
Associated General Contractors (Chicago, IL)	Construction	Teamsters (Ind.)	4,000
Associated General Contractors and independent companies, heavy and highway (Minnesota)	Construction	Carpenters	3,500
Associated General Contractors, Duluth contractors and others (Minnesota)	Construction	Teamsters (Ind.)	1,800
Ohio Contractors Association (Ohio)	Construction	Laborers	10,000
Ohio Contractors Association (Cleveland, OH)	Construction	Teamsters (Ind.)	1,400
Associated General Contractors, heavy and highway (Minnesota)	Construction	Operating Engineers	5,000
Associated General Contractors of St. Louis (St. Louis, MO)	Construction	Operating Engineers	1,200
General Building Contractors Association, building and heavy, Philadelphia area (Pennsylvania)	Construction	Operating Engineers	4,500

See footnotes at end of table.

Continued—Major Agreements Expiring Next Month

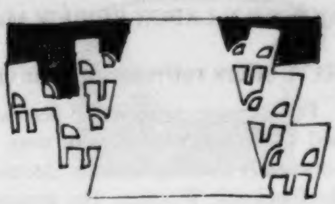
Employer and location	Private industry	Labor organization[1]	Number of workers
Construction Contractors Council, commercial construction (Washington, DC and vicinity)	Construction	Laborers	2,500
Contractors Association of Eastern Pennsylvania (Pennsylvania)	Construction	Laborers	1,050
Construction Contractors Council, heavy construction (Washington, DC and vicinity)	Construction	Laborers	1,000
Central New Jersey Painting Contractors Association (New Jersey)	Construction	Painters	1,200
Associated Contractors of Essex County (Network, NJ)	Construction	Carpenters	1,850
National Electrical Contractors Association (Philadelphia, PA)	Construction	Electrical Workers (IBEW)	1,700
Roofing and Sheet Metal Contractors Association (Philadelphia, PA)	Construction	Sheet Metal Workers	1,800
Mechanical Contractors Association of Eastern Pennsylvania, Inc., 2 agreements (Pennsylvania)	Construction	Plumbers	4,200
Painting and Decorating Contractors of America (Minneapolis, MN)	Construction	Painters	1,050
National Electrical Contractors of America (St. Paul, MN)	Construction	Electrical Workers (IBEW)	1,400
Sheet Metal and Air Conditioning Contractors (St. Paul, MN)	Construction	Sheet Metal Workers	1,150
National Electrical Contractors of America (Cleveland, OH)	Construction	Electrical Workers (IBEW)	1,100
Mechanical Contractors Association (New Orleans, LA)	Construction	Plumbers	3,000
Roofing and Sheet Metal Contractors (Philadelphia, PA)	Construction	Roofers	1,700
Associated General Contractors and Minnesota Concrete and Masonry Contractors Association (Minneapolis, MN)	Construction	Bricklayers	1,750
Industrial Contractors (Florida and Georgia)	Construction	Carpenters	1,200
Minnesota Gypsum Drywall Contractors Association (Minneapolis and St. Paul, MN)	Construction	Carpenters	1,000
Chicago Meat Packers (Chicago, IL)	Food products	Teamsters (Ind.)	1,200
J.R. Simplot (Caldwell, ID)	Food products	Teamsters (Ind.)	1,100
Brown and Williamson Tobacco Corp. (Virginia)	Tobacco	Bakery, Confectionery and Tobacco Workers	1,050
James River Corp. (Green Bay, WI)	Paper	Paperworkers	1,000
Proctor and Gamble Paper Products Co. (Green Bay, WI)	Paper	Paperworkers	1,500
Owens–Illinois, Inc. (Interstate)	Rubber	Glass, Pottery, Plastics and Allied Workers	1,300
Southern California Shoe Manufacturers Association, Los Angeles area (California)	Leather	Clothing and Textile Workers	1,200
Lynchburg Foundry Co. (Lynchburg, VA)	Primary metals	Steelworkers	1,000
Northern California Foundries (California)	Primary metals	Molders	1,800
Gould Inc., battery group (Interstate)	Electrical products	Electrical Workers (IBEW)	1,300
The Hoover Co. (North Canton, OH)	Electrical products	Electrical Workers (IBEW)	2,800
Bendix Corp, (Interstate)	Transportation equipment	Auto Workers	5,500
United Technologies Corp., Diesel system (Springfield, MA)	Transportation equipment	Electrical Workers (IUE)	1,200
United Technologies Corp., Hamilton Standard division (Windsor, CT)	Transportation equipment	Machinists	3,050
Dana Corp., Weatherhead division (Interstate)	Transportation equipment	Auto Workers	1,000
Robertshaw Controls Co., Grayson division (Long Beach, CA)	Instruments	Auto Workers	1,000
American Airlines Inc., pilots (Interstate)[2]	Air transportation	Allied Pilots Association (Ind.)	3,400
Central Maine Power, Inc. (Augusta, ME)	Utilities	Electrical Workers (IBEW)	4,050
West Penn Power Co. (Pennsylvania)	Utilities	Utility Workers	1,100
Northern Illinois Ready Mix and Materials Association (Chicago, IL)	Wholesale trade	Teamsters (Ind.)	2,000
Greater New York Association of Meat and Poultry Dealers (New York, NY)	Wholesale trade	Food and Commercial Workers	3,000
Chicago Beer Wholesalers Association (Chicago, IL)	Wholesale trade	Teamsters (Ind.)	1,100
Minneapolis Automobile Dealers Association (Minnesota)	Retail trade	Teamsters (Ind.)	1,200
Northwestern Mutual Life Insurance Co. (Milwaukee, WI)	Insurance	Office and Professional Employees	1,550

		Government activity	Labor organization[1]	Number of workers
California:	Riverside County, supporting services	Multidepartments	Supporting Services Unit (Ind.)	2,050
District of Columbia:	Washington Metropolitan Transit Authority	Transportation	Transit Union	5,500
Missouri:	Kansas City, city wide unit	Multidepartments	State, County and Municipal Employees	2,400
Minnesota:	St. Paul, Twin City Area Metropolitan Transit Authority	Transportation	Transit Union	2,100

[1] Affiliated with AFL–CIO except where noted as independent (Ind.).

[2] Information is from newspaper reports.

Developments in Industrial Relations



Comparable worth settlements

After suffering some reverses in the last year, backers of the comparable worth concept of pay equity were heartened by a settlement concluding the 5-year controversy between the State of Washington and several unions. Under the out-of-court settlement, nearly 35,000 State workers in predominantly female occupations will receive pay adjustments over a 6-year period to bring them to parity with other State workers in jobs requiring comparable levels of responsibility, skill, and training. In general, backers of the comparable worth concept contend that some workers are underpaid simply because they are in "women's occupations," such as secretaries, librarians, and nurses.

The events leading to the settlement began in 1981 when nine female employees filed suit against the State, contending that a study sponsored by the State showed pay discrimination against women. In 1983, a Federal district judge found the State guilty of pay discrimination under the Federal Civil Rights Act and ordered it to retroactively correct the disparity. In September 1985, the 9th U.S. Circuit Court of Appeals overturned that decision, but the State legislature had already appropriated $41.6 million to finance a settlement to be negotiated with the State, County, and Municipal Employees and other unions representing State employees.

The accord, which will require additional appropriations to cover the $106.5 million total cost, provides for the worth of jobs to be measured in terms of skill, effort, training, education, responsibility, and working conditions. During the first 15 months, $46.5 million will be available for pay adjustments, followed by $10 million allocations on July 1 of 1987 through 1992. The settlement does not provide for retroactivity of the pay adjustments. The 35,000 employees will also receive the same general wage increases the unions negotiate for other employees in their bargaining units during the 6-year period.

Pay equity adjustments also were a feature of an initial contract between the State, County, and Municipal Employees and the city of Chicago for 7,500 white-collar employees. Under the 3-year contract, all employees will receive wage increases totaling about 13 percent. In addition, 3,500 employees in 79 predominantly female job classifications will receive an additional 5 percent, which will be accomplished by raising these workers by one pay grade. According to the parties, 86 percent of the workers scheduled for upgrading are women.

In return for the upgrading, the union agreed to drop sex discrimination charges it had filed with the Equal Employment Opportunity Commission against the city in 1982.

The parties also established a joint job evaluation committee to study the city's pay system and recommend changes, if necessary.

In another area, the parties moved to end political favoritism by adopting criteria to be used in selecting workers for jobs and promotions.

State, County, and Municipal Employees' President Gerald W. McEntee hailed the accord as a "demonstration of the nationwide momentum on pay equity," despite the Appeals Court ruling in the Washington State case. McEntee said that during 1985, the union's "blueprint for equality" program had resulted in pay adjustments of $12 million for 4,000 clericals and librarians in Los Angeles; $20 million for 6,000 workers in the Iowa State government; $40 million for 9,000 employees of the State of Minnesota; $9.1 million for 10,000 employees of the State of Wisconsin; $5.6 million for 9,000 employees of the State of Connecticut; and $36 million to be used for adjusting the pay of thousands of employees of the State of New York.

In another pay equity agreement, the Auto Workers' initial contracts with the State of Michigan included special adjustments (20 cents an hour retroactive to October 1, 1985, and 20 cents effective October 1, 1986) for 70 percent of the 21,000 employees in the two bargaining units. The union said the special pay adjustments were intended to "achieve a greater degree of pay equity between traditionally 'female' State jobs and other jobs."

Terms for all employees included a 5-percent general pay increase effective October 1, 1986; a provision for reopening bargaining on a possible increase in October 1987; reduced employee premium costs for health insurance; and a joint review of workloads and caseloads.

The Auto Workers gained the right to represent the Human Services and Administrative Support units by defeating the incumbent Michigan State Employees Association in 1985 elections.

"Developments in Industrial Relations" is prepared by George Ruben of the Division of Developments in Labor-Management Relations, Bureau of Labor Statistics, and is largely based on information from secondary sources.

RCA offers retirement inducement

Pay increases totaling 5.5 percent, lump-sum payments, and a retirement inducement were featured in settlements between RCA Corp. and the Electrical Workers (IBEW) and the Electronic Workers. The separate but coordinated bargaining by the two unions covered 14,500 workers at 12 electrical products plants.

The first cash payment, payable immediately, was equal to 3 percent of employee earnings from November 1, 1984, through October 31, 1985. Instead of continuing the provision for automatic annual cost-of-living adjustments in hourly pay based on the movement of the Consumer Price Index, employees will receive lump-sum payments of $225 on June 2, 1986, $500 on June 1, 1987, and $525 on June 6, 1988.

Hourly pay rates will increase by 3 percent on December 1, 1986, and 2.5 percent on December 7, 1987. Workers in the upper pay grades will also receive an additional 5 to 20 cents and 5 to 15 cents an hour on the respective dates.

Pay progression was extended, with new employees starting at 80 percent of the standard rate for their job and receiving 5 percentage point increases every 6 months until they attain the standard rate.

The retirement inducement, limited to workers leaving the company between January 1 and July 1 of 1986, is $5,000. It is available to employees with 30 years of service or whose age plus years of service total 85.

Other terms include a two-step increase in the pension rate to $16 a month (from $14) for each year of credited service; three $100 credits to employees under a stock purchase plan; and some changes to help restrain the rise in health insurance costs.

Grocery workers accept concessions

Following the lead of a June 1985 settlement with major St. Louis grocery store chains, United Food and Commercial Workers locals 219 and 35 and three chains in nearby Illinois agreed on cuts in pay and benefits to aid the companies in competing with nonunion stores.

The Illinois agreement cut the top rate for clerks to $10.80 an hour, from $11.15, effective immediately, and to $10.50 in November 1986. Workers below the top rate will have their rates frozen for the term of the contract, which expires on November 26, 1988. To some extent, the pay cut and freeze will be offset by bonuses totaling $1,000 to $1,200, depending on the number of hours an employee works. Half of the bonus will be distributed in 1986 and the balance in 1987 and 1988.

The contract also provided for:

- A top rate of $6.50 an hour for employees who work less than 30 hours a week. Previously there was no pay cap for these employees.
- For workers hired after the effective date of the contract, Sunday work premium pay of $1 an hour during their first year and $2 an hour thereafter. Current employees will continue to receive time and one-half pay for work on Sunday.
- A 9-cent reduction, to 76 cents an hour, in the employers' payment to the health and welfare trust fund. Benefits financed by the fund were not reduced.
- Elimination of a sixth week of paid vacation after 25 years of service. Currently eligible workers will continue to receive 6 weeks.
- Elimination of one personal paid holiday and four paid sick leave days beginning January 1, 1986.
- Reduced employer financing of health and welfare and pension benefits for new employees.
- A guarantee that 50 percent of scheduled work hours will be given to employees who normally work 40 hours a week and 10 percent to those who normally work at least 30 hours a week. The union said these requirements will help counter a trend toward increasing use of part-time workers, to the detriment of full-time workers.

The three chains covered by the settlement are the Kroger Co., National Supermarkets, and Schnuck Markets.

Alaska construction workers agree to a pay cut

Concern about the possibility of losing work to nonunion construction firms impelled unions in Alaska's petroleum producing area to agree to a 20-percent pay cut during the first year of their new 2-year agreement with the North Slope Contractors Association. Pay rates for the second year will be negotiated under a mid-term contract reopening provision.

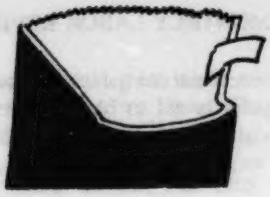
The deciding factor in the unions' decision apparently was the oil companies 1985 announcement that bidding for projects would be opened to both union and nonunion contractors. Traditionally, most of the construction on the North Slope has been performed by unionized firms.

A union official said that the pay cut was not popular with union members, but it must be viewed in relation to the still-substantial earnings opportunity resulting from company-financed rooms, meals, and transportation, and a usual 70-hour work week.

Among the affected crafts, pay rates for plumbers and welders dropped to $20.94 an hour, from $26.17, and laborers dropped to $16.27, from $20.34. Employer payments for benefits remained at $6.10 an hour for the plumbers and welders and $6.45 for the laborers.

Other terms include a 40-hour work week guarantee; a limit of time and one-half pay for all work in excess of 8 hours per day; regular pay rates for work on second or third shifts, if such shifts are established; and a cut in the number of paid travel hours from the Fairbanks dispatch point. □

Book Reviews



New technology requires new management

Beyond Mechanization. By Larry Hirschhorn. Cambridge, MA, The MIT Press, 1984. 187 pp., bibliography. $17.50.

Larry Hirschhorn's thesis is compelling. The production technology of the processing plant and computerized flexible manufacturing systems require a new approach to organizational design and management. In the older electromechanical factories, work could be broken down into measurable motions, and the worker trained to perform repetitive tasks, coordinated and controlled at higher levels. The new technology makes this approach unsafe and unproductive, since complex technological systems are vulnerable to costly breakdowns. The alternative is a different vision of organization and work roles in which operators develop diagnostic and maintenance skills, and are prepared to deal with the unexpected. Working together in self-regulating teams, they share information and rotate jobs to expand their knowledge of what can go wrong, and why. In this system, supervisors become teachers and coordinators, not policemen. If this approach had been employed at the Three Mile Island nuclear reactor, Hirschhorn believes operators would have been better prepared to have closed a valve quickly and avoided the danger of meltdown.

This concept is fully consistent with Joan Woodward's research in the 1960's showing that continuous processing plants (for example paper and pulp, chemicals, and oil refineries) were best run when operators had the training and authority to make decisions. It is supported by the sociotechnical theories of Eric Trist, Louis Davis, and Richard Walton, who was a consultant to the General Foods plant in Topeka, KS, which was designed according to the team concept in 1970. Hirschhorn points out that during the past decade, more than 500 American plants have been designed according to the team principle, generally with job rotation and salary, not wages, based on tasks mastered. "A worker may be a materials scheduler, a work assigner, a trainer, a financial coordinator managing the team's budget, a health and safety coordinator, a recorder, or the team's representative on a committee studying social-system issues throughout the plant" (p. 117).

Beyond improved safety and less likelihood of errors, what are the costs and benefits of the new plants? Writes Hirschhorn, "I know of no systematic study comparing the long-term performance of these plants with that over conventional ones. Cases studies and my own interviews with managerial and supervisory staff suggest that these plants produce a higher quality product than do conventional factories, while remaining profitable" (p. 120).

Yet, there are serious problems with many of these innovative work systems, and they are social rather than technical. Hirschhorn interviewed 22 managers and consultants, and two workers at 13 new plants. (The companies would not let him interview more workers.) He found one source of ineffectiveness when idealistic plant managers expected teams to govern themselves without skilled leadership and sufficient training in a group process. Disputes undermined effectiveness. Workers refused to discipline colleagues who abused trust. When teamwork broke down, disillusioned managers imposed traditional control. Most of these plants are nonunion, and it is notable that in one unionized factory, Hirschhorn finds better discipline, more effectiveness at resolving disputes. When there is experienced union leadership, utopian ideas are less likely to cloud the vision.

Hirschhorn touches on many factors that he believes impede the development of better sociotechnical solutions, including the problem of fitting the innovative factories into industrial bureaucracies. The new pay systems and job classifications clash with corporate policy. Here again, a strong union could help institutionalize a new approach.

Finally, Hirschhorn directs criticism at engineers for ignoring the human element in designing production systems. Like many who write today from a humanistic viewpoint, he blasts the founder of scientific management, Frederick Windslow Taylor, for having "introduced the study of human motion within a perspective emptied of psychological and physiological content" (p. 13). In his time, Taylor was concerned with the health and development of the worker. Like Hirschhorn, he complained of over-controlling managers. The difference is that Taylor's theory fit the simpler technology of his day and the poorly educated immigrant workers he first studied. Today's technology and work force require different organization, but as Hirschhorn points out, our social R&D lags behind technical development. The point is not to blame the engineers but to show them a viable, more productive alternative.

—Michael Maccoby
Director, Program on Technology,
Policy and Human Development
J. F. Kennedy School of Government
Harvard University

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A note on communications

The *Monthly Labor Review* welcomes communications that supplement, challenge, or expand on research published in its pages. To be considered for publication, communications should be factual and analytical, not polemical in tone. Communications should be addressed to the Editor-in-Chief, *Monthly Labor Review*, Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C. 20212.

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Series	Release date	Period coverd	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	March 7	February	April 4	March	May 2	April	1; 4-21
Producer Price Index	March 14	February	April 11	March	May 16	April	2; 33-35
Consumer Price Index	March 25	February	April 22	March	May 21	April	2; 30-32
Real earnings	March 25	February	April 22	March	May 21	April	14-17
Productivity and costs:							
Nonfarm business and manufacturing	....	....	April 24	1st quarter	....	....	2; 42-44
Nonfinancial corporations	....	....	....	....	May 28	1st quarter	2; 42-44
Major collective bargaining settlements	....	....	April 25	1st quarter	....	....	3; 25-28
Employment Cost Index	....	....	April 29	1st quarter	....	....	1-3; 22-24

NOTES ON CURRENT LABOR STATISTICS

This section of the Review presents the principal statistical series collected and calculated by the Bureau of Labor Statistics: series on labor force, employment, unemployment, collective bargaining settlements, consumer, producer, and international prices, productivity, international comparisons, and injury and illness statistics. In the notes that follow, the data in each group of tables is briefly described, key definitions are given, notes on the data are set forth, and sources of additional information are cited.

General notes

The following notes apply to several tables in this section:

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect on the data of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might prevent short-term evaluation of the statistical series. Tables containing data that have been adjusted are identified as "seasonally adjusted." (All other data are not seasonally adjusted.) Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. (Seasonally adjusted data appear in tables 1–3, 4–10, 13, 14, and 18.) Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are being seasonally adjusted with a new procedure called X–11 ARIMA, which was developed at Statistics Canada as an extension of the standard X–11 method previously used by BLS. A detailed description of the procedure appears in *The X–11 ARIMA Seasonal Adjustment Method* by Estla Bee Dagum (Statistics Canada, Catalogue No. 12–564E, January 1983). The second change is that seasonal factors are now being calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year for the July-December period. However, revisions of historical data continue to be made only at the end of each calendar year.

Seasonally adjusted labor force data in tables 1 and 4–10 were revised in the February 1986 issue of the *Review* to reflect experience through 1985.

Annual revisions of the seasonally adjusted payroll data shown in tables 13, 14, and 18 were made in July 1985 using the X–11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in table 42 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the Hourly Earnings Index in table 17—are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is $2 ($3/150 × 100 = $2). The $2 (or any other resulting values) are described as "real," "constant," or "1967" dollars.

Additional information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule preceding these general notes. More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in *Employment and Earnings*, a monthly publication of the Bureau. More data from the household survey is published in the two-volume data book—*Labor Force Statistics Derived From the Current Population Survey*, Bulletin 2096. More data from the establishment survey appear in two data books—*Employment, Hours, and Earnings, United States*, and *Employment, Hours, and Earnings, States and Areas*, and the annual supplements to these data books. More detailed information on employee compensation and collective bargaining settlements is published in the monthly periodical, *Current Wage Developments*. More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report*, and *Producer Prices and Price Indexes*. Detailed data on all of the series in this section are provided in the *Handbook of Labor Statistics*, which is published biennally by the Bureau. BLS bulletins are issued covering productivity, injury and illness, and other data in this section. Finally, the *Monthly Labor Review* carries analytical articles on annual and longer term developments in labor force, employment and unemployment; employee compensation and collective bargaining; prices; productivity; international comparisons; and injury and illness data.

Symbols

p = preliminary. To increase the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally, this revision reflects the availability of later data but may also reflect other adjustments.
n.e.c. = not elsewhere classified.
n.e.s. = not elsewhere specified.

COMPARATIVE INDICATORS
(Tables 1–3)

Comparative indicators tables provide an overview and comparison of major BLS statistical series. Consequently, although many of the included series are available monthly, all measures in these comparative tables are presented quarterly and annually.

Labor market indicators include employment measures from two major surveys and information on rates of change in compensation provided by the Employment Cost Index (ECI) program. The labor force participation rate, the employment-to-population ratio, and unemployment rates for major demographic groups based on the Current Population ("household ") Survey are presented, while measures of employment and average weekly hours by major industry sector are given using nonagricultural payroll data. The Employment Cost Index (compensation), by major sector and by bargaining status, is chosen from a variety of BLS compensation and wage measures because it provides a comprehensive measure of employer costs for hiring labor, not just outlays for wages, and it is not affected by employment shifts among occupations and industries.

Data on **changes in compensation, prices, and productivity** are presented in table 2. Measures of rates of change of compensation and wages

from the Employment Cost Index program are provided for all civilian nonfarm workers (excluding Federal and household workers) and for all private nonfarm workers. Measures of changes in consumer prices for all urban consumers; producer prices by stage of processing; and the overall export and import price indexes are given. Measures of productivity (output per hour of all persons) are provided for major sectors.

Alternative measures of wage and compensation rates of change, which reflect the overall trend in labor costs, are summarized in table 3. Differences in concepts and scope, related to the specific purposes of the series, contribute to the variation in changes among the individual measures.

Notes on the data

Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data. For detailed descriptions of each data series, see *BLS Handbook of Methods*, Volumes I and II, Bulletins 2134-1 and 2134-2 (Bureau of Labor Statistics, 1982 and 1984, respectively), as well as the additional bulletins, articles, and other publications noted in the separate sections of the *Review*'s "Current Labor Statistics Notes." Historical data for many series are provided in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). Users may also wish to consult *Major Programs, Bureau of Labor Statistics*, Report 718 (Bureau of Labor Statistics, 1985).

EMPLOYMENT DATA

(Tables 1; 4–21)

Household Survey Data

Description of the series

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 59,500 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons include (1) all civilians who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. Members of the Armed Forces stationed in the United States are also included in the employed total. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **overall unemployment rate** represents the number unemployed as a percent of the labor force, including the resident Armed Forces. The **civilian unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **labor force** consists of all employed or unemployed civilians plus members of the Armed Forces stationed in the United States. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons who are retired, those engaged in their own housework, those not working while attending school, those unable to work because of long-term illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy, and members of the Armed Forces stationed in the United States. The **labor force participation rate** is the proportion of the noninstitutional populaton that is in the labor force. The **employment-population ratio** is total employment (including the resident Armed Forces) as a percent of the noninstitutional population.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 4–10 are seasonally adjusted, based on the seasonal experience through December 1985.

Additional sources of information

For detailed explanations of the data, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982) and for additional data, *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). A detailed description of the Current Population Survey as well as additional data are available in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*. Historical data from 1948 to 1982 are available in *Labor Force Statistics Derived from the Current Population Survey: A Databook*, Vols. I and II, Bulletin 2096 (Bureau of Labor Statistics, 1982).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

Establishment Survey Data

Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by more than 200,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

An **establishment** is an economic unit which produces goods or services (such as a factory or store) at a single location and is engaged in one type of economic activity.

Employed persons are all persons who received pay (including holiday

and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 12-16 include production workers in manufacturing and mining; construction workers in construction; and for nonsupervisory workers in the following industries: transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for about four-fifths of the total employment on private nonagricutural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earner and Clerical Workers (CPI-W). The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

The Diffusion Index, introduced in table 17 of the May 1983 issue, represents the percent of 185 nonagricultural industries in which employment was rising over the indicated period. One-half of the industries with unchanged employment are counted as rising. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. The diffusion index is useful for measuring the dispersion of economic gains or losses and is also an economic indicator.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of May 1985 data, published in the July 1985 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Unadjusted data have been revised back to April 1983; seasonally adjusted data have been revised back to January 1980. These revisions were published in the *Supplement to Employment and Earnings* (Bureau of Labor Statistics, 1985). Unadjusted data from April 1984 forward, and seasonally adjusted data from January 1981 forward are subject to revision in future benchmarks.

Additional sources of information

Detailed data from the establishment survey are published monthly in the BLS periodical, *Employment and Earnings*. Earlier comparable unadjusted and seasonally adjusted data are published in *Employment, Hours, and Earnings, United States, 1909–84*, Bulletin 1312–12 and its annual supplement (Bureau of Labor Statistics, 1985). For a detailed discussion of the methodology of the survey, see *BLS Handbook of Methods*, Bulletin 2143–1 (Bureau of Labor Statistics, 1982). For additional data, see *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

Unemployment Data By State

Description of the series

Data presented in this section are obtained from two major sources—the Current Population Survey (CPS) and the Local Area Unemployment Statistics (LAUS) program, which is conducted in cooperation with State employment security agencies.

Monthly estimates of the labor force, employment, and unemployment for States and sub-State areas are a key indicator of local economic conditions and form the basis for determining the eligibility of an area for benefits under Federal economic assistance programs such as the Job Training Partnership Act and the Public Works and Economic Development Act. Insofar as possible, the concepts and definitions underlying these data are those used in the national estimates obtained from the CPS.

Notes on the data

Data refer to State of residence. Monthly data for 11 States—California, Florida, Illinois, Massachusetts, Michigan, New York, New Jersey, North Carolina, Ohio, Pennsylvania, and Texas—are obtained directly from the CPS because the size of the sample is large enough to meet BLS standards of reliability. Data for the remaining 39 States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates for the 11 States are revised to new population controls. For the remaining States and the District of Columbia, data are benchmarked to annual average CPS levels.

Additional sources of information

Information on the concepts, definitions, and technical procedures used to develop labor force data for States and sub-State areas as well as additional data on sub-States are provided in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*, and the annual report, *Geographic Profile of Employment and Unemployment* (Bureau of Labor Statistics). See also *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982).

COMPENSATION AND WAGE DATA

(Tables 22–29)

COMPENSATION AND WAGE DATA are gathered by the Bureau from business establishments, State and local governments, labor unions, collective bargaining agreements on file with the Bureau, and secondary sources.

Employment Cost Index

Description of the series

The **Employment Cost Index** (ECI) is a quarterly measure of the rate of change in compensation per hour worked and includes wages, salaries, and employer costs of employee benefits. It uses a fixed market basket of labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over time in employer costs of employing labor. The index is not seasonally adjusted.

Statistical series on total compensation costs and on wages and salaries are available for private nonfarm workers excluding proprietors, the self-employed, and household workers. Both series are also available for State and local government workers and for the civilian nonfarm economy, which consists of private industry and State and local government workers combined. Federal workers are excluded.

The Employment Cost Index probability sample consists of about 2,200 private nonfarm establishments providing about 12,000 occupational observations and 700 State and local government establishments providing

3,500 occupational observations selected to represent total employment in each sector. On average, each reporting unit provides wage and compensation information on five well-specified occupations. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Fixed employment weights from the 1970 Census of Population are used each quarter to calculate the indexes for civilian, private, and State and local governments. These fixed weights, also used to derive all of the industry and occupation series indexes, ensure that changes in these indexes reflect only changes in compensation, not employment shifts among industries or occupations with different levels of wages and compensation. For the bargaining status, region, and metropolitan/nonmetropolitan area series, however, employment data by industry and occupation are not available from the census. Instead, the 1970 employment weights are reallocated within these series each quarter based on the current sample. Therefore, these indexes are not strictly comparable to those for the aggregate, industry, and occupation series.

Definitions

Total compensation costs include wages, salaries, and the employer costs for employee benefits.

Wages and salaries consist of earnings before payroll deductions, including production bonuses, incentive earnings, commissions, and cost-of-living adjustments.

Benefits include the cost to employers for paid leave, supplemental pay (including nonproduction bonuses), insurance, retirement and savings plans, and legally required benefits (such as social security, workers' compensation, and unemployment insurance).

Excluded from wages and salaries and employee benefits are such items as payment-in-kind, free room and board, and tips.

Notes on the data

The Employment Cost Index data series began in the fourth quarter of 1975, with the quarterly percent change in wages and salaries in the private nonfarm sector. Data on employer costs for employee benefits were included in 1980 to produce, when combined with the wages and salaries series, a measure of the percent change in employer costs for employee total compensation. State and local government units were added to the ECI coverage in 1981, providing a measure of total compensation change in the *civilian* nonfarm economy (excluding Federal employees). Historical indexes (June 1981 = 100) of the quarterly rates of change are presented in the May issue of the BLS monthly periodical, *Current Wage Developments*.

Additional sources of information

For a more detailed discussion of the Employment Cost Index, see Chapter 11, "The Employment Cost Index," in the *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), and the following *Monthly Labor Review* articles: "Employment Cost Index: a measure of change in the 'price of labor'," July 1975; "How benefits will be incorporated into the Employment Cost Index," January 1978; "Estimation procedures for the Employment Cost Index," May 1982; and "Introducing new weights for the Employment Cost Index," June 1985.

Data on the ECI are also available in BLS quarterly press releases issued in the month following the reference months of March, June, September, and December; and from the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

Collective bargaining settlements

Description of the series

Collective bargaining settlements data provide statistical measures of negotiated adjustments (increases, decreases, and freezes) in compensation (wages and benefits costs) and wages alone, quarterly for private industry and semiannually for State and local government. Compensation measures cover all collective bargaining situations involving 5,000 workers or more and wage measures cover all situations involving 1,000 workers or more. These data, covering private nonagricultural industries and State and local governments, are calculated using information obtained from bargaining agreements on file with the Bureau, parties to the agreements, and secondary sources, such as newspaper accounts. The data are not seasonally adjusted.

Settlement data are measured in terms of future specified adjustments: those that will occur within 12 months after contract ratification—first year—and all adjustments that will occur over the life of the contract expressed as an average annual rate. Adjustments are worker weighted. Both first-year and over-the-life measures exclude wage changes that may occur under cost-of-living clauses that are triggered by future movements in the Consumer Price Index.

Effective wage adjustments measure all adjustments occurring in the reference period, regardless of the settlement date. Included are changes from settlements reached during the period, changes deferred from contracts negotiated in earlier periods, and changes under cost-of-living adjustment clauses. Each wage change is worker weighted. The changes are prorated over all workers under agreements during the reference period yielding the average adjustment.

Definitions

Wage rate changes are calculated by dividing newly negotiated wages by the average hourly earnings, excluding overtime, at the time the agreement is reached. Compensation changes are calculated by dividing the change in the value of the newly negotiated wage and benefit package by existing average hourly compensation, which includes the cost of previously negotiated benefits, legally required social insurance programs, and average hourly earnings.

Compensation changes are calculated by placing a value on the benefit portion of the settlements at the time they are reached. The cost estimates are based on the assumption that conditions existing at the time of settlement (for example, methods of financing pensions or composition of labor force) will remain constant. The data, therefore, are measures of negotiated changes and not of total changes in employer cost.

Contract duration runs from the effective date of the agreement to the expiration date or first wage reopening date, if applicable. Average annual percent changes over the contract term take account of the compounding of successive changes.

Notes on the data

Care should be exercised in comparing the size and nature of the settlements in State and local government with those in the private sector because of differences in bargaining practices and settlement characteristics. A principal difference is the incidence of cost-of-living adjustment (COLA) clauses which cover only about 2 percent of workers under a few local government settlements but cover 50 percent of workers under private sector settlements. Agreements without COLA's tend to provide larger specified wage increases than those with COLA's. Another difference is that State and local government bargaining frequently excludes pension benefits which are often prescribed by law. In the private sector, in contrast, pensions are typically a bargaining issue.

Additional sources of information

For a more detailed discussion on the series, see chapter 10, "Negotiated Wage and Benefit Changes," of the *BLS Handbook of Methods*, Bulletin 2134–1. Comprehensive data are published in press releases issued quarterly (in January, April, July, and October) for private industry, and semi-

annually (in February and August) for State and local government. Historical data and additional detailed tabulations for the prior calendar year appear in the April issue of the BLS monthly periodical, *Current Wage Developments*.

Work stoppages

Description of the series

Data on **work stoppages** measure the number and duration of major strikes or lockouts (involving 1,000 workers or more) occurring during the month (or year), the number of workers involved, and the amount of time lost because of stoppage.

Data are largely from newspaper accounts and cover only establishments directly involved in a stoppage. They do not measure the indirect or secondary effect of stoppages on other establishments whose employees are idle owing to material shortages or lack of service.

Definitions

Number of stoppages: The number of strikes and lockouts involving 1,000 workers or more and lasting a full shift or longer.

Workers involved: The number of workers directly involved in the stoppage.

Number of days idle: The aggregate number of work days lost by workers involved in the stoppages.

Days of idleness as a percent of estimated working time: Aggregate work days lost as a percent of the aggregate number of standard work days in the period multiplied by total employment in the period.

Notes on the data

This series is not comparable with the one terminated in 1981 that covered strikes involving six workers or more.

Additional sources of information

Data for each calendar year are reported in a BLS press release issued in the first quarter of the following year. Monthly data appear in the BLS monthly periodical, *Current Wage Developments*. Historical data appear in the BLS *Handbook of Labor Statistics*.

Other compensation data

Other BLS data on pay and benefits, not included in the Current Labor Statistics section of the *Monthly Labor Review*, appear in and consist of the following:

Industry Wage Surveys provide data for specific occupations selected to represent an industry's wage structure and the types of activities performed by its workers. The Bureau collects information on weekly work schedules, shift operations and pay differentials, paid holiday and vacation practices, and information on incidence of health, insurance, and retirement plans. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Monthly Labor Review*.

Area Wage Surveys annually provide data for selected office, clerical, professional, technical, maintenance, toolroom, powerplant, material movement, and custodial occupations common to a wide variety of industries in the areas (labor markets) surveyed. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Review*.

The National Survey of Professional, Administrative, Technical, and Clerical Pay provides detailed information annually on salary levels and distributions for the types of jobs mentioned in the survey's title in private employment. Although the definitions of the jobs surveyed reflect the duties and responsibilities in private industry, they are designed to match specific pay grades of Federal white-collar employees under the General Schedule pay system. Accordingly, this survey provides the legally required information for comparing the pay of salaried employees in the Federal civil service with pay in private industry. (See Federal Pay Comparability Act of 1970, 5 U.S.C. 5305.) Data are published in a BLS news release issued in the summer and in a bulletin each fall; summaries and analytical articles also appear in the *Review*.

Employee Benefits Survey provides nationwide information on the incidence and characteristics of employee benefit plans in medium and large establishments in the United States, excluding Alaska and Hawaii. Data are published in an annual BLS news release and bulletin, as well as in special articles appearing in the *Review*.

PRICE DATA
(Tables 30–41)

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Consumer Price Indexes

Description of the series

The **Consumer Price Index** (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI-W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all urban consumer index (CPI-U) introduced in 1978 is representative of the 1972–73 buying habits of about 80 percent of the noninstitutional population of the United States at that time, compared with 40 percent represented in the CPI-W. In addition to wage earners and clerical workers, the CPI-U covers professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items is kept essentially unchanged between major revisions so that only price changes will be measured. All taxes directly associated with the purchase and use of items are included in the index.

Data collected from more than 24,000 retail establishments and 24,000 tenants in 85 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 28 major urban centers are presented in table 31. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

Notes on the data

In January 1983, the Bureau changed the way in which homeownership costs are measured for the CPI-U. A rental-equivalence method replaced the

asset-price approach to homeownership costs for that series. In January 1985, the same change was made in the CPI-W. The central purpose of the change was to separate shelter costs from the investment component of homeownership so that the index would reflect only the cost of shelter services provided by owner-occupied homes.

Additional sources of information

For a discussion of the general method for computing the CPI, see *BLS Handbook of Methods, Volume II, The Consumer Price Index*, Bulletin 2134–2 (Bureau of Labor Statistics, April 1984). The recent change in the measurement of homeownership costs is discussed in Robert Gillingham and Walter Lane, "Changing the treatment of shelter costs for homeowners in the CPI," *Monthly Labor Review*, June 1982, pp. 9–14.

Additional detailed CPI data and regular analyses of consumer price changes are provided in the *CPI Detailed Report*, a monthly publication of the Bureau. Historical data for the overall CPI and for selected groupings may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, June 1985).

Producer Price Indexes

Description of the series

Producer Price Indexes (PPI) measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 60,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The stage of processing structure of Producer Price Indexes organizes products by class of buyer and degree of fabrication (that is, finished goods, intermediate goods, and crude materials). The traditional commodity structure of PPI organizes products by similarity of end-use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

Since January 1976, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

Notes on the data

Beginning with the January 1986 issue, the *Review* is no longer presenting tables of Producer Price Indexes for commodity groupings, special composite groups, or SIC industries. However, these data will continue to be presented in the Bureau's monthly publication *Producer Price Indexes*. Series on the net output of major mining and manufacturing industry groups will appear in the *Review* starting with data for July 1986.

The Bureau has completed the first major stage of its comprehensive overhaul of the theory, methods, and procedures used to construct the Producer Price Indexes. Changes include the replacement of judgment sampling with probability sampling techniques; expansion to systematic coverage of the net output of virtually all industries in the mining and manufacturing sectors; a shift from a commodity to an industry orientation; the exclusion of imports from, and the inclusion of exports in, the survey universe; and the respecification of commodities priced to conform to Bureau of the Census definitions. These and other changes have been phased in gradually since 1978. The result is a system of indexes that is easier to use in conjunction with data on wages, productivity, and employment and other series that are organized in terms of the Standard Industrial Classification and the Census product class designations.

Additional sources of information

For a discussion of the methodology for computing Producer Price Indexes, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 7.

Additional detailed data and analyses of price changes are provided monthly in *Producer Price Indexes*. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, June 1985).

International Price Indexes

Description of the series

The BLS **International Price Program** produces quarterly export and import price indexes for nonmilitary goods traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national income accounts: it includes corporations, businesses, and individuals but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents. With publication of an all-import index in February 1983 and an all-export index in February 1984, all U.S. merchandise imports and exports now are represented in these indexes. The reference period for the indexes is 1977 = 100, unless otherwise indicated.

The product universe for both the import and export indexes includes raw materials, agricultural products, semifinished manufactures, and finished manufactures, including both capital and consumer goods. Price data for these items are collected quarterly by mail questionnaire. In nearly all cases, the data are collected directly from the exporter or importer, although in a few cases, prices are obtained from other sources.

To the extent possible, the data gathered refer to prices at the U.S. border for exports and at either the foreign border or the U.S. border for imports. For nearly all products, the prices refer to transactions completed during the first 2 weeks of the third month of each calendar quarter—March, June, September, and December. Survey respondents are asked to indicate all discounts, allowances, and rebates applicable to the reported prices, so that the price used in the calculation of the indexes is the actual price for which the product was bought or sold.

In addition to general indexes of prices for U.S. exports and imports, indexes are also published for detailed product categories of exports and imports. These categories are defined by the 4- and 5-digit level of detail of the Standard Industrial Trade Classification System (SITC). The calculation of indexes by SITC category facilitates the comparison of U.S. price trends and sector production with similar data for other countries. Detailed indexes are also computed and published on a Standard Industrial Classification (SIC-based) basis, as well as by end-use class.

Notes on the data

The export and import price indexes are weighted indexes of the Laspeyeres type. Price relatives are assigned equal importance within each weight category and are then aggregated to the SITC level. The values assigned to each weight category are based on trade value figures compiled

by the Bureau of the Census. The trade weights currently used to compute both indexes relate to 1980.

Because a price index depends on the same items being priced from period to period, it is necessary to recognize when a product's specifications or terms of transaction have been modified. For this reason, the Bureau's quarterly questionnaire requests detailed descriptions of the physical and functional characteristics of the products being priced, as well as information on the number of units bought or sold, discounts, credit terms, packaging, class of buyer or seller, and so forth. When there are changes in either the specifications or terms of transaction of a product, the dollar value of each change is deleted from the total price change to obtain the "pure" change. Once this value is determined, a linking procedure is employed which allows for the continued repricing of the item.

For the export price indexes, the preferred pricing basis is f.a.s. (free alongside ship) U.S. port of exportation. When firms report export prices f.o.b. (free on board), production point information is collected which enables the Bureau to calculate a shipment cost to the port of exportation. An attempt is made to collect two prices for imports. The first is the import price f.o.b. at the foreign port of exportation, which is consistent with the basis for valuation of imports in the national accounts. The second is the import price c.i.f. (cost, insurance, and freight) at the U.S. port of importation, which also includes the other costs associated with bringing the product to the U.S. border. It does not, however, include duty charges.

Additional sources of information

For a discussion of the general method of computing International Price Indexes, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 8.

Additional detailed data and analyses of international price developments are presented in the Bureau's quarterly publication *U.S. Import and Export Price Indexes* and in occasional *Monthly Labor Review* articles prepared by BLS analysts. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, June 1985).

PRODUCTIVITY DATA
(Tables 42–47)

U. S. productivity and related data

Description of the series

The productivity measures relate real physical output to real input. As such they encompass a family of measures which include single factor input measures, such as output per unit of labor input (output per hour) or output per unit of capital input, as well as measures of multifactor productivity (output per unit of labor and capital inputs combined). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

Corresponding indexes of hourly compensation, unit labor costs, unit nonlabor payments, and prices are also provided.

Definitions

Output per hour of all persons (labor productivity) is the value of goods and services in constant prices produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the value of goods and services in constant dollars produced per unit of capital services input.

Multifactor productivity is the ratio output per unit of labor and capital inputs combined. Changes in this measure reflect changes in a number of factors which affect the production process such as changes in technology, shifts in the composition of the labor force, changes in capacity utilization, research and development, skill and efforts of the work force, management, and so forth. Changes in the output per hour measures reflect the impact of these factors as well as the substitution of capital for labor.

Compensation per hour is the wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, and the wages, salaries, and supplementary payments for the self-employed (except for nonfinancial corporations in which there are no self-employed)—the sum divided by hours paid for. **Real compensation per hour** is compensation per hour deflated by the change in the Consumer Price Index for All Urban Consumers.

Unit labor costs is the labor compensation costs expended in the production of a unit of output and is derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from current dollar value of output and dividing by output. **Unit nonlabor costs** contain all the components of unit nonlabor payments *except* unit profits.

Unit profits include corporate profits and the value of inventory adjustments per unit of output.

Hours of all persons are the total hours paid of payroll workers, self-employed persons, and unpaid family workers.

Capital services is the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories—weighted by rental prices for each type of asset.

Labor and capital inputs combined are derived by combining changes in labor and capital inputs with weights which represent each component's share of total output. The indexes for capital services and combined units of labor and capital are based on changing weights which are averages of the shares in the current and preceding year (the Tornquist index-number formula).

Notes on the data

Output measures for the business sector and the nonfarm businesss sector exclude the constant dollar value of owner-occupied housing, rest of world, households and institutions, and general government output from the constant dollar value of gross national product. The measures are derived from data supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are developed from data of the Bureau of Labor Statistics and the Bureau of Economic Analysis.

The productivity and associated cost measures in tables 42–44 describe the relationship between output in real terms and the labor time and capital services involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input. Although these measures relate output to hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; capital investment; level of output; utilization of capacity, energy, and materials; the organization of production; managerial skill; and the characteristics and efforts of the work force.

Additional sources of information

Descriptions of methodology underlying the measurement of output per hour and multifactor productivity are found in the *BLS Handbook of Methods*, Bulletin 2134, Vol. 1, Chapter 13 (Bureau of Labor Statistics, 1982). Historical data for selected industries are provided in the Bureau's *Handbook of Labor Statistics*, Bulletin 2217, 1985.

International comparisons

Description of the series

Comparative measures of labor force, employment, and unemployment (tables 45 and 46) are prepared regularly for the United States, Canada, Australia, Japan, France, Germany, Great Britain, Italy, the Netherlands, and Sweden. Unemployment rates, approximating U.S. concepts, are prepared monthly for most of the countries; the other measures, annually.

The Bureau of Labor Statistics also prepares international comparisons of manufacturing labor productivity and labor costs (table 47) that cover the United States and 11 foreign countries—those listed above plus Belgium and Norway. These measures are limited to trend comparisons; that is, intercountry series of changes over time, rather than level comparisons because reliable international comparisons of the levels of manufacturing are unavailable. The U.S. measures are described in the notes on U.S. productivity measurement; the measures for foreign countries are compiled from various national and international data sources.

Definitions

Output measures are constant value output (value added) from the national accounts of each country, except for those for Japan prior to 1970 and for the Netherlands for 1969 forward, which are indexes of industrial production. The national accounting methods for measuring real output differ considerably among the 12 countries, but the use of different procedures does not, in itself, connote lack of comparability—rather, it reflects differences among countries in the availability and reliability of underlying data series.

Hours and compensation measures refer to all employed persons including the self-employed in the United States and Canada, and to all wage and salary employees in the other countries. *Hours* refer to hours *paid* in the United States, hours *worked* in the other countries. *Compensation (labor costs)* includes not only all payments made directly to employees and employer expenditures for social insurance and private benefit plans, but changes in significant employment or payroll taxes that are not compensation to employees but are labor costs to employers (France, Sweden, and the United Kingdom). Self-employed workers are included in the U.S. and Canadian figures by assuming that their hourly compensation is equal to the average for wage and salary employees.

Notes on the data

The data for the foreign countries in tables 45 and 46 have been adjusted, where necessary, for greater comparability with U.S. definitions of employment and unemployment. The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country. Therefore, the adjusted statistics relate to the civilian population age 16 and over in the United States, France, and Sweden, and from 1973 onward, Great Britain; 15 and over in Canada, Australia, Japan, Germany, and the Netherlands; and 14 and over in Italy. Prior to 1973, the data for Great Britain related to persons age 15 and over. The institutional population is included in the denominator of the labor force participation rates and employment-population rates for Japan and Germany.

For most of the countries in table 47, the measures refer to total manufacturing as defined by the International Standard Industrial Classification. However, the measures for France (beginning 1959), Italy (beginning 1970), and the United Kingdom (beginning 1976) refer to manufacturing and mining less energy-related products. For all countries, manufacturing includes the activities of government enterprises.

In addition, for all countries, preliminary estimates for recent years are generally based on current indicators of manufacturing output, employment and hours, and hourly compensation until national accounts and other statistics used for the long-term measures become available.

Additional sources of information

For further information, see *International Comparisons of Unemployment*, Bulletin 1979 (Bureau of Labor Statistics, 1978), Appendix B and Supplements to Appendix B. Additional detail is also found in the *BLS Handbook of Methods*, Bulletin 2134, Vol. 1, Chapter 16. Additional international comparison statistics are available in the *Handbook of Labor Statistics* (BLS Bulletin 2217, 1985). The most recent statistics are presented and analyzed annually in the *Monthly Labor Review*, typically in the December issue (for the previous year) and in February.

OCCUPATIONAL INJURY AND ILLNESS DATA

(Table 48)

Description of the series

The Annual Survey of Occupational Injuries and Illnesses is designed to collect data on injuries and illnesses based on records which employers in the following industries maintain under the Occupational Safety and Health Act of 1970: agriculture, forestry, and fishing; oil and gas extraction; construction; manufacturing; transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. Excluded from the survey are self-employed individuals, farmers with fewer than 11 employees, employers regulated by other Federal safety and health laws, and Federal, State, and local government agencies.

Because the survey is a Federal–State cooperative program and the data must meet the needs of participating State agencies, an independent sample is selected for each State. The sample is selected to represent all private industries in the States and territories. The sample size for the survey is dependent upon (1) the characteristics for which estimates are needed; (2) the industries for which estimates are desired; (3) the characteristics of the population being sampled; (4) the target reliability of the estimates; and (5) the survey design employed.

While there are many characteristics upon which the sample design could be based, the total recorded case incidence rate is used because it is one of the most important characteristics and the least variable; therefore, it requires the smallest sample size.

The survey is based on stratified random sampling with a Neyman allocation and a ratio estimator. The characteristics used to stratify the establishments are the Standard Industrial Classification (SIC) code and size of employment.

Definitions

Recordable occupational injuries and illnesses are: (1) occupational deaths, regardless of the time between injury and death, or the length of the illness; or (2) nonfatal occupational illnesses; or (3) nonfatal occupational injuries which involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment (other than first aid).

Occupational injury is any injury such as a cut, fracture, sprain, amputation, etc., which results from a work accident or from exposure involving a single incident in the work environment.

Occupational illness is an abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. It includes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion, or direct contact.

Lost workday cases are cases which involve days away from work, or days of restricted work activity, or both.

Lost workday cases involving restricted work activity are those cases which result in restricted work activity only.

Lost workdays away from work are the number of workdays (consecutive or not) on which the employee would have worked but could not

because of occupational injury or illness.

Lost workdays—restricted work activity are the number of workdays (consecutive or not) on which, because of injury or illness: (1) the employee was assigned to another job on a temporary basis; or (2) the employee worked at a permanent job less than full time; or (3) the employee worked at a permanently assigned job but could not perform all duties normally connected with it.

The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked even though able to work.

Incidence rates represent the number of injuries and/or illnesses or lost workdays per 100 full-time workers.

Notes on the data

Estimates are made for industries and employment-size classes and for severity classification: fatalities, lost workday cases, and nonfatal cases without lost workdays. Lost workday cases are separated into those where the employee would have worked but could not and those in which work activity was restricted. Estimates of the number of cases and the number of days lost are made for both categories.

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses, or lost workdays, per 100 full-time employees. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Only a few of the available measures are included in the *Handbook of Labor Statistics*. Full detail is presented in the annual bulletin, *Occupational Injuries and Illnesses in the United States, by Industry*.

Comparable data for individual States are available from the BLS Office of Occupational Safety and Health Statistics.

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration, respectively. Data from these organizations are included in BLS and State publications. Federal employee experience is compiled and published by the Occupational Safety and Health Administration. Data on State and local government employees are collected by about half of the States and territories; these data are not compiled nationally.

Additional sources of information

The Supplementary Data System provides detailed information describing various factors associated with work-related injuries and illnesses. These data are obtained from information reported by *employers* to State workers' compensation agencies. The Work Injury Report program examines selected types of accidents through an employee survey which focuses on the circumstances surrounding the injury. These data are not included in the *Handbook of Labor Statistics* but are available from the BLS Office of Occupational Safety and Health Statistics.

The definitions of occupational injuries and illnesses and lost workdays are from *Recordkeeping Requirements under the Occupational Safety and Health Act of 1970*. For additional data, see *Occupational Injuries and Illnesses in the United States, by Industry*, annual Bureau of Labor Statistics bulletin; BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), ch. 17; *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985), pp. 411–14; annual reports in the *Monthly Labor Review*; and annual U.S. Department of Labor press releases.

1. Labor market indicators

Selected indicators	1984	1985	1984				1985			
			I	II	III	IV	I	II	III	IV
Employment data										
Employment status of the civilian noninstitutionalized population (household survey)[1]										
Labor Force participation rate	64.4	64.8	64.1	64.5	64.4	64.5	64.8	64.7	64.7	64.
Employment-population ratio	59.5	60.1	59.0	59.6	59.7	59.8	60.1	60.0	60.1	60.
Unemployment rate	7.5	7.2	7.9	7.5	7.4	7.2	7.3	7.3	7.2	7.
Men	7.4	7.0	7.9	7.4	7.3	7.1	7.1	7.1	7.0	6.
16 to 24 years	14.4	14.1	15.0	14.3	14.5	13.8	14.1	14.2	14.0	14.
25 years and over	5.7	5.3	6.1	5.7	5.5	5.4	5.4	5.4	5.3	5.
Women	7.6	7.4	7.9	7.6	7.6	7.5	7.6	7.5	7.4	7.
16 to 24 years	13.3	13.0	–	–	–	–	–	–	–	–
25 years and over	6.0	5.9	6.1	5.9	6.0	5.9	6.0	6.0	5.9	5.
Unemployment rate, 15 weeks and over	2.4	2.0	2.7	2.5	2.3	2.1	2.0	2.0	2.0	1.
Employment, nonagricultural (payroll data):[1] [4]										
Total	94,461	97,698	91,804	94,013	94,915	95,849	96,640	97,338	97,967	98,810
Private sector	78,477	81,403	75,932	78,082	78,898	79,745	80,522	81,143	81,588	82,316
Goods-producing	24,730	25,056	23,938	24,680	24,861	24,973	25,077	25,055	24,986	25,095
Manufacturing	19,412	19,426	18,885	19,394	19,509	19,564	19,564	19,430	19,331	19,383
Service-producing	69,731	72,642	67,866	69,333	70,055	70,876	71,563	72,283	72,981	73,715
Average hours										
Private sector	35.3	35.1	–	–	–	–	–	–	–	35.1
Manufacturing	40.7	40.5	–	–	–	–	–	–	–	40.8
Overtime	–	–	3.5	3.5	3.5	3.6	3.4	3.3	3.2	3.5
Employment Cost Index										
Percent change in the ECI, compensation:[2]										
All workers (excluding farm, household, and Federal workers)	–	–	1.7	.8	1.3	1.2	1.3	.7	1.6	.6
Private industry workers	–	–	1.7	.9	.8	1.3	1.2	.8	1.3	.6
Goods-producing[3]	–	–	1.6	.9	.9	1.1	1.5	.7	.6	.6
Servicing-producing[3]	–	–	1.9	1.0	.7	1.4	1.0	1.0	1.8	.5
State and local government workers	–	–	1.6	.4	3.5	1.0	1.2	.2	3.4	.7
Workers by bargaining status (private industry)										
Union	–	–	1.5	.9	.7	1.1	.7	.6	.8	.5
Nonunion	–	–	1.8	1.0	.9	1.3	1.6	1.0	1.4	.6

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[1] Quarterly data seasonally adjusted.

[2] Annual changes are December-to-December change. Quarterly changes calculated using the last month of each quarter.

[3] Goods-producing industries include mining, construction, and manufacturing. Service-producing industries include all other private sector industries.

– Data not available.

[4] Data for 1985 and 4th quarter 1985 are preliminary.

2. Annual and quarterly percent changes in compensation, prices, and productivity

Selected measures	1984	1985	1984 I	1984 II	1984 III	1984 IV	1985 I	1985 II	1985 III	1985 IV
Compensation data: [1], [2]										
Employment Cost Index–Compensation (wages, salaries, benefits)										
Civilian nonfarm	–	–	1.7	0.8	1.3	1.2	1.3	0.7	1.6	0.6
Private nonfarm	–	–	1.7	.9	.8	1.3	1.2	.8	1.3	.6
Employment Cost Index–Wages and Salaries										
Civilian nonfarm	–	–	1.2	.8	1.3	1.2	1.2	.9	1.7	.6
Private nonfarm	–	–	1.2	.9	.8	1.2	1.2	1.1	1.3	.6
Price data[1]										
Consumer Price Index (All urban consumers): All items	–	–	–	–	–	–	–	–	–	–
Producer Price Index										
Finished goods	–	–	–	–	–	–	–	–	–	–
Finished consumer goods	–	–	–	–	–	–	–	–	–	–
Capital equipment	–	–	–	–	–	–	–	–	–	–
Intermediate materials, supplies, components	–	–	–	–	–	–	–	–	–	–
Crude materials	–	–	–	–	–	–	–	–	–	–
U.S. Export Price Index	–	–	–	–	–	–	–	–	–	–
U.S. Import Price Index	–	–	–	–	–	–	–	–	–	–
Productivity data										
Output per hour of all persons:										
Business sector	2.1	.2	5.1	2.5	-.8	-.3	1.0	.8	1.6	-3.1
Nonfarm business sector	1.6	-.2	3.6	2.2	-1.3	-1.3	1.0	.2	.4	-3.1
Nonfinancial corporations [3]	2.1	-.1	4.7	2.1	-2.3	-1.1	.1	-.2	2.8	–

[1] Annual changes are December-to-December change. Quarterly changes are calculated using the last month of each quarter.

[2] Excludes Federal and private household workers.

[3] Output per hour of all employees.

– Data not available.

3. Alternative measures of wage and compensation changes

Components	Quarterly average 1984 III	1984 IV	1985 I	1985 II	1985 III	1985 IV	Four quarters ended in– 1984 III	1984 IV	1985 I	1985 II	1985 III	1985 IV
Average hourly compensation:[1]												
All persons, business sector	–	–	–	–	–	–	–	–	–	–	–	–
All employees, nonfarm business sector	–	–	–	–	–	–	–	–	–	–	–	–
Hourly earnings index:[2]												
All private nonfarm	–	–	–	–	–	–	–	–	–	–	–	–
Employment Cost Index–compensation:												
Civilian nonfarm [3]	1.3	1.2	1.3	0.7	1.6	0.6	5.1	5.2	4.8	4.6	4.9	4.3
Private nonfarm	.8	1.3	1.2	.8	1.3	.6	4.8	4.9	4.4	4.2	4.7	3.9
Union	.7	1.1	.7	.6	.8	.5	4.1	4.3	3.5	3.1	3.2	2.6
Nonunion	.9	1.3	1.6	1.0	1.4	.6	5.2	5.2	4.9	4.9	5.4	4.6
State and local governments	3.5	1.0	1.2	.2	3.4	.7	6.6	6.6	6.3	6.1	6.0	5.7
Employment Cost Index–wages and salaries:												
Civilian nonfarm[3]	1.3	1.2	1.2	.9	1.7	.6	4.3	4.5	4.4	4.5	5.0	4.4
Private nonfarm	.8	1.2	1.2	1.1	1.3	.6	4.1	4.1	4.1	4.3	4.8	4.1
Union	.7	.9	.7	1.1	.9	.5	3.3	3.4	3.0	3.4	3.6	3.1
Nonunion	.8	1.3	1.4	1.1	1.5	.6	4.5	4.5	4.6	4.8	5.4	4.6
State and local governments	3.4	.8	1.0	.2	3.5	.8	5.8	5.9	5.6	5.5	5.8	5.6
Total effective wage adjustments[4]	1.2	.7	.8	.8	1.2	.5	4.2	3.7	3.6	3.5	3.5	3.3
From current settlements	.2	.3	.1	.2	.2	.2	1.0	.8	.7	.9	.9	.7
From prior settlements	.7	.2	.6	.5	.6	.2	2.1	2.0	2.2	1.9	1.8	1.8
From cost-of-living provision	.3	.2	.1	.1	.4	.1	1.2	.9	.7	.7	.8	.8
Negotiated wage adjustments from settlements[4]												
First-year adjustments	2.1	2.3	3.3	2.5	2.0	2.1	3.2	2.4	2.4	2.4	2.4	2.3
Annual rate over life of contract	2.6	1.5	3.2	2.8	3.1	1.9	2.8	2.4	2.3	2.4	2.5	2.7
Negotiated wage and benefit adjustments from settlements:[5]												
First-year adjustment	2.7	3.7	3.6	3.5	2.0	2.0	4.2	3.6	3.4	3.5	3.1	–
Annual rate over life of contract	3.1	2.0	2.7	3.4	3.0	1.4	3.2	2.8	2.6	2.7	2.7	2.8

[1] Seasonally adjusted.

[2] Production or nonsupervisory workers.

[3] Excludes Federal and household workers.

[4] Limited to major collective bargaining units of 1,000 workers or more. The most recent data are preliminary.

[5] Limited to major collective bargaining units of 5,000 workers or more. The most recent data are preliminary.

– Data not available.

4. Employment status of the total population, by sex, monthly data seasonally adjusted

(Number in thousands)

Employment status	Annual average		1985												19
	1984	1985	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ja
TOTAL															
Noninstitutional population [1], [2]	178,080	179,912	179,061	179,219	179,368	179,501	179,649	179,798	179,967	180,131	180,304	180,470	180,642	180,810	181,
Labor force[2]	115,241	117,167	116,451	116,685	117,036	116,958	117,044	116,726	116,976	117,069	117,522	117,814	117,832	117,927	118,
Participation rate [3]	64.7	65.1	65.0	65.1	65.2	65.2	65.2	64.9	65.0	65.0	65.2	65.3	65.2	65.2	6
Total employed [2]	106,702	108,856	108,012	108,290	108,652	108,574	108,644	108,303	108,575	108,936	109,251	109,513	109,671	109,904	110,
Employment-population ratio [4]	59.9	60.5	60.3	60.4	60.6	60.5	60.5	60.2	60.3	60.5	60.6	60.7	60.7	60.8	6
Resident Armed Forces [1]	1,697	1,706	1,697	1,703	1,701	1,702	1,705	1,702	1,704	1,726	1,732	1,700	1,702	1,698	1,6
Civilian employed	105,005	107,150	106,315	106,587	106,951	106,872	106,939	106,601	106,871	107,210	107,519	107,813	107,969	108,206	108,9
Agriculture	3,321	3,179	3,319	3,325	3,314	3,353	3,284	3,140	3,120	3,095	3,017	3,058	3,070	3,151	3,2
Nonagricultural industries	101,685	103,971	102,996	103,262	103,637	103,519	103,655	103,461	103,751	104,115	104,502	104,755	104,899	105,055	105,6
Unemployed	8,539	8,312	8,439	8,395	8,384	8,384	8,400	8,423	8,401	8,133	8,271	8,301	8,161	8,023	7,8
Unemployment rate [5]	7.4	7.1	7.2	7.2	7.2	7.2	7.2	7.2	7.2	6.9	7.0	7.0	6.9	6.8	
Not in labor force	62,839	62,744	62,630	62,534	62,332	62,543	62,605	63,072	62,991	63,062	62,782	62,656	62,810	62,883	62,8
Men, 16 years and over															
Noninstitutional population [1], [2]	85,156	86,025	85,629	85,692	85,764	85,827	85,898	85,970	86,052	86,132	86,217	86,293	86,374	86,459	86,8
Labor force[2]	65,386	65,967	65,737	65,762	65,898	65,929	66,012	65,808	65,884	65,945	66,074	66,227	66,176	66,139	66,6
Participation rate [3]	76.8	76.7	76.8	76.8	76.8	76.8	76.8	76.5	76.6	76.6	76.6	76.7	76.6	76.5	76
Total employed [2]	60,642	61,447	61,163	61,207	61,381	61,373	61,498	61,175	61,273	61,510	61,629	61,656	61,731	61,793	62,4
Employment-population ratio [4]	71.2	71.4	71.4	71.4	71.6	71.5	71.6	71.2	71.2	71.4	71.5	71.4	71.5	71.5	71
Resident Armed Forces [1]	1,551	1,556	1,549	1,554	1,553	1,553	1,556	1,552	1,554	1,574	1,580	1,551	1,552	1,549	1,53
Civilian employed	59,091	59,891	59,614	59,653	59,828	59,820	59,942	59,623	59,719	59,936	60,049	60,105	60,179	60,244	60,91
Unemployed	4,744	4,521	4,574	4,575	4,517	4,556	4,514	4,633	4,611	4,435	4,445	4,571	4,445	4,346	4,22
Unemployment rate [5]	7.3	6.9	7.0	7.0	6.9	6.9	6.8	7.0	7.0	6.7	6.7	6.9	6.7	6.6	6
Women, 16 years and over															
Noninstitutional population [1], [2]	92,924	93,886	93,452	93,527	93,603	93,674	93,751	93,828	93,915	93,999	94,087	94,177	94,266	94,351	94,47
Labor force[2]	49,855	51,200	50,714	50,903	51,138	51,029	51,032	50,918	51,092	51,124	51,448	51,587	51,655	51,788	51,79
Participation rate [3]	53.7	54.5	54.3	54.4	54.6	54.5	54.4	54.3	54.4	54.4	54.7	54.8	54.8	54.9	54
Total employed[2]	46,061	47,409	46,849	47,083	47,271	47,201	47,146	47,128	47,302	47,426	47,622	47,857	47,939	48,111	48,18
Employment-population ratio [4]	49.6	50.5	50.1	50.3	50.5	50.4	50.3	50.2	50.4	50.5	50.6	50.8	50.9	51.0	51
Resident Armed Forces [1]	146	150	148	149	148	149	149	150	150	152	152	149	149	149	15
Civilian employed	45,915	47,259	46,701	46,934	47,123	47,052	46,997	46,978	47,152	47,274	47,470	47,708	47,790	47,962	48,03
Unemployed	3,794	3,791	3,865	3,820	3,867	3,828	3,886	3,790	3,790	3,698	3,826	3,730	3,716	3,677	3,610
Unemployment rate [5]	7.6	7.4	7.6	7.5	7.6	7.5	7.6	7.4	7.4	7.2	7.4	7.2	7.2	7.1	7.0

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[1] The population and Armed Forces figures are not adjusted for seasonal variation.

[2] Includes members of the Armed Forces stationed in the United States.

[3] Labor force as a percent of the noninstitutional population.

[4] Total employed as a percent of the noninstitutional population.

[5] Unemployment as a percent of the labor force (including the resident Armed Forces).

5. Employment status of the civilian population, by sex, age, race and Hispanic origin, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1985												1986
	1984	1985	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
TOTAL															
Civilian noninstitutional population[1]	176,383	178,206	177,384	177,516	177,667	177,799	177,944	178,096	178,263	178,405	178,572	178,770	178,940	179,112	179,670
Civilian labor force	113,544	115,461	114,754	114,962	115,335	115,256	115,339	115,024	115,272	115,343	115,790	116,114	116,130	116,229	116,786
Participation rate	64.4	64.8	64.7	64.8	64.9	64.8	64.8	64.6	64.7	64.7	64.8	65.0	64.9	64.9	65.0
Employed	105,005	107,150	106,315	106,587	106,951	106,872	106,939	106,601	106,871	107,210	107,519	107,813	107,969	108,206	108,955
Employment-population ratio[2]	59.5	60.1	59.9	60.0	60.2	60.1	60.1	59.9	60.0	60.1	60.2	60.3	60.3	60.4	60.6
Unemployed	8,539	8,312	8,439	8,395	8,384	8,384	8,400	8,423	8,401	8,133	8,271	8,301	8,161	8,023	7,831
Unemployment rate	7.5	7.2	7.4	7.3	7.3	7.3	7.3	7.3	7.3	7.1	7.1	7.1	7.0	6.9	6.7
Not in labor force	62,839	62,744	62,630	62,534	62,332	62,543	62,605	63,072	62,991	63,062	62,782	62,656	62,810	62,883	62,885
Men, 20 years and over															
Civilian noninstitutional population[1]	76,219	77,195	76,760	76,820	76,904	76,988	77,068	77,135	77,243	77,306	77,389	77,498	77,586	77,651	78,101
Civilian labor force	59,701	60,277	59,997	60,037	60,154	60,165	60,240	60,246	60,158	60,269	60,407	60,526	60,553	60,548	61,212
Participation rate	78.3	78.1	78.2	78.1	78.2	78.1	78.2	78.1	77.9	78.0	78.1	78.1	78.1	78.0	78.4
Employed	55,769	56,562	56,231	56,274	56,411	56,390	56,544	56,384	56,403	56,636	56,751	56,849	56,897	56,982	57,706
Employment-population ratio[2]	73.2	73.3	73.3	73.2	73.4	73.2	73.4	73.1	73.0	73.3	73.3	73.4	73.4	73.4	73.9
Agriculture	2,418	2,278	2,409	2,368	2,329	2,358	2,352	2,260	2,230	2,231	2,171	2,188	2,210	2,278	2,349
Nonagricultural industries	53,351	54,284	53,822	53,906	54,082	54,032	54,192	54,124	54,173	54,405	54,580	54,661	54,687	54,704	55,356
Unemployed	3,932	3,715	3,766	3,763	3,743	3,775	3,696	3,862	3,755	3,633	3,656	3,677	3,656	3,566	3,507
Unemployment rate	6.6	6.2	6.3	6.3	6.2	6.3	6.1	6.4	6.2	6.0	6.1	6.1	6.0	5.9	5.7
Women, 20 years and over															
Civilian noninstitutional population[1]	85,429	86,506	86,015	86,096	86,181	86,274	86,380	86,477	86,575	86,652	86,727	86,810	86,901	86,986	87,112
Civilian labor force	45,900	47,283	46,753	46,853	47,095	47,103	47,082	47,185	47,190	47,340	47,558	47,663	47,713	47,870	47,895
Participation rate	53.7	54.7	54.4	54.4	54.6	54.6	54.5	54.6	54.5	54.6	54.8	54.9	54.9	55.0	55.0
Employed	42,793	44,154	43,593	43,713	43,927	43,925	43,883	44,033	44,070	44,197	44,363	44,609	44,656	44,882	44,980
Employment-population ratio[2]	50.1	51.0	50.7	50.8	51.0	50.9	50.8	50.9	50.9	51.0	51.2	51.4	51.4	51.6	51.6
Agriculture	595	598	593	606	630	633	600	572	596	581	557	609	591	597	696
Nonagricultural industries	42,198	43,556	43,000	43,107	43,297	43,292	43,283	43,461	43,474	43,616	43,806	44,000	44,065	44,285	44,284
Unemployed	3,107	3,129	3,160	3,140	3,168	3,178	3,199	3,152	3,120	3,143	3,195	3,054	3,057	2,988	2,915
Unemployment rate	6.8	6.6	6.8	6.7	6.7	6.7	6.8	6.7	6.6	6.6	6.7	6.4	6.4	6.2	6.1
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	14,735	14,506	14,610	14,600	14,582	14,539	14,496	14,483	14,445	14,448	14,456	14,463	14,472	14,474	14,458
Civilian labor force	7,943	7,901	8,004	8,092	8,086	7,988	8,017	7,593	7,924	7,734	7,825	7,925	7,864	7,811	7,678
Participation rate	53.9	54.5	54.8	55.4	55.5	54.9	55.3	52.4	54.9	53.5	54.1	54.8	54.3	54.0	53.1
Employed	6,444	6,434	6,491	6,600	6,613	6,557	6,512	6,184	6,398	6,377	6,405	6,355	6,416	6,342	6,269
Employment-population ratio[2]	43.7	44.4	44.4	45.2	45.4	45.1	44.9	42.7	44.3	44.1	44.3	43.9	44.3	43.8	43.4
Agriculture	309	305	317	351	355	362	332	308	294	283	289	261	269	276	254
Nonagricultural industries	6,135	6,129	6,174	6,249	6,258	6,195	6,180	5,876	6,104	6,094	6,116	6,094	6,147	6,066	6,015
Unemployed	1,499	1,468	1,513	1,492	1,473	1,431	1,505	1,409	1,526	1,357	1,420	1,570	1,448	1,469	1,409
Unemployment rate	18.9	18.6	18.9	18.4	18.2	17.9	18.8	18.6	19.3	17.5	18.1	19.8	18.4	18.8	18.4
White															
Civilian noninstitutional population[1]	152,347	153,679	153,103	153,191	153,290	153,386	153,489	153,597	153,717	153,819	153,938	154,082	154,203	154,327	154,784
Civilian labor force	98,492	99,926	99,358	99,612	99,862	99,718	99,771	99,527	99,705	99,817	100,179	100,533	100,478	100,533	100,961
Participation rate	64.6	65.0	64.9	65.0	65.1	65.0	65.0	64.8	64.9	64.9	65.1	65.2	65.2	65.1	65.2
Employed	92,120	93,736	93,040	93,414	93,617	93,470	93,574	93,132	93,378	93,684	94,055	94,369	94,507	94,585	95,165
Employment-population ratio[2]	60.5	61.0	60.8	61.0	61.1	60.9	61.0	60.6	60.7	60.9	61.1	61.2	61.3	61.3	61.5
Unemployed	6,372	6,191	6,318	6,198	6,245	6,248	6,197	6,395	6,327	6,133	6,124	6,164	5,971	5,948	5,796
Unemployment rate	6.5	6.2	6.4	6.2	6.3	6.3	6.2	6.4	6.3	6.1	6.1	6.1	5.9	5.9	5.7
Black															
Civilian noninstitutional population[1]	19,348	19,664	19,518	19,542	19,569	19,594	19,620	19,646	19,675	19,700	19,726	19,761	19,790	19,819	19,837
Civilian labor force	12,033	12,364	12,305	12,299	12,294	12,364	12,372	12,317	12,354	12,289	12,378	12,412	12,457	12,522	12,548
Participation rate	62.2	62.9	63.0	62.9	62.8	63.1	63.1	62.7	62.8	62.4	62.7	62.8	62.9	63.2	63.3
Employed	10,119	10,501	10,451	10,333	10,422	10,489	10,466	10,538	10,499	10,560	10,500	10,566	10,518	10,657	10,737
Employment-population ratio[2]	52.3	53.4	53.5	52.9	53.3	53.5	53.3	53.6	53.4	53.6	53.2	53.5	53.1	53.8	54.1
Unemployed	1,914	1,864	1,854	1,966	1,872	1,875	1,906	1,779	1,855	1,729	1,878	1,846	1,939	1,865	1,810
Unemployment rate	15.9	15.1	15.1	16.0	15.2	15.2	15.4	14.4	15.0	14.1	15.2	14.9	15.6	14.9	14.4

See footnotes at end of table.

5. Continued— Employment status of the civilian population, by sex, age, race and Hispanic origin, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1985												1986
	1984	1985	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Hispanic origin [3]															
Civilian noninstitutional population[1]	11,478	11,915	11,716	11,753	11,789	11,826	11,862	11,897	11,933	11,969	12,004	12,040	12,075	12,111	12,14
Civilian labor force	7,451	7,698	7,506	7,591	7,621	7,607	7,616	7,669	7,713	7,781	7,844	7,854	7,782	7,772	7,78
Participation rate	64.9	64.6	64.1	64.6	64.6	64.3	64.2	64.5	64.6	65.0	65.3	65.2	64.4	64.2	64.
Employed	6,651	6,888	6,713	6,832	6,838	6,814	6,806	6,856	6,870	6,973	7,026	6,982	6,953	6,962	6,99
Employment-population ratio[2]	57.9	57.8	57.3	58.1	58.0	57.6	57.4	57.6	57.6	58.3	58.5	58.0	57.6	57.5	57.
Unemployed	800	811	793	759	783	793	810	813	843	808	818	872	829	810	78
Unemployment rate	10.7	10.5	10.6	10.0	10.3	10.4	10.6	10.6	10.9	10.4	10.4	11.1	10.7	10.4	10.

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[1] The population figures are not seasonally adjusted.

[2] Civilian employment as a percent of the civilian noninstitutional population.

[3] Data for 1980–85 have been revised to reflect new population estimates.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" groups are not presented and Hispanics are included in both the white and black population groups.

6. Selected employment indicators, monthly data seasonally adjusted

(In thousands)

Selected categories	Annual average		1985												1986
	1984	1985	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
CHARACTERISTIC															
Civilian employed, 16 years and over	105,005	107,150	106,315	106,587	106,951	106,872	106,939	106,601	106,871	107,210	107,519	107,813	107,969	108,206	108,955
Men	59,091	59,891	59,614	59,653	59,828	59,820	59,942	59,623	59,719	59,936	60,049	60,105	60,179	60,244	60,919
Women	45,915	47,259	46,701	46,934	47,123	47,052	46,997	46,978	47,152	47,274	47,470	47,708	47,790	47,962	48,035
Married men, spouse present	39,056	39,248	39,402	39,324	39,467	39,362	39,260	38,966	39,096	39,142	39,103	39,272	39,314	39,278	39,615
Married women, spouse present	25,636	2₀,336	25,970	26,079	26,163	26,087	26,036	26,174	26,316	26,392	26,531	26,702	26,721	26,804	26,958
Women who maintain families	5,465	5,597	5,567	5,533	5,600	5,603	5,626	5,643	5,607	5,627	5,556	5,514	5,605	5,693	5,702
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,555	1,535	1,598	1,597	1,598	1,653	1,582	1,530	1,479	1,456	1,438	1,465	1,537	1,572	1,673
Self-employed workers	1,553	1,458	1,523	1,508	1,502	1,493	1,498	1,451	1,474	1,444	1,414	1,436	1,361	1,409	1,492
Unpaid family workers	213	185	222	229	223	219	196	159	170	176	179	172	158	164	163
Nonagricultural industries:															
Wage and salary workers	93,565	95,871	95,086	95,235	95,606	95,493	95,660	95,391	95,523	95,791	96,546	96,530	96,676	96,921	97,911
Government	15,770	16,031	15,820	15,957	15,969	15,955	15,936	16,000	15,949	16,075	16,145	16,213	16,157	16,194	16,418
Private industries	77,794	79,841	79,266	79,278	79,637	79,538	79,724	79,391	79,574	79,716	80,401	80,317	80,519	80,727	81,494
Private households	1,238	1,249	1,364	1,288	1,225	1,218	1,255	1,228	1,251	1,295	1,266	1,271	1,197	1,131	1,256
Other	76,556	78,592	77,902	77,990	78,412	78,320	78,469	78,163	78,323	78,421	79,135	79,046	79,322	79,596	80,238
Self-employed workers	7,785	7,811	7,753	7,694	7,764	7,717	7,711	7,728	7,724	7,874	7,846	7,991	8,013	7,903	7,655
Unpaid family workers	335	289	336	336	321	305	290	292	277	303	266	248	249	250	273
PERSONS AT WORK PART TIME[1]															
All industries:															
Part time for economic reasons	5,744	5,590	5,636	5,356	5,682	5,690	5,676	5,544	5,596	5,680	5,554	5,475	5,498	5,494	5,543
Slack work	2,430	2,430	2,473	2,244	2,585	2,567	2,607	2,524	2,414	2,480	2,433	2,251	2,306	2,303	2,364
Could only find part-time work	2,948	2,819	2,830	2,817	2,763	2,767	2,871	2,751	2,786	2,835	2,815	2,897	2,883	2,864	2,883
Voluntary part time	13,169	13,489	13,343	13,524	13,517	13,356	13,078	13,439	13,634	13,622	13,496	13,713	13,645	13,556	13,958
Nonagricultural industries:															
Part time for economic reasons	5,512	5,334	5,392	5,098	5,421	5,402	5,550	5,278	5,329	5,413	5,299	5,241	5,295	5,294	5,275
Slack work	2,291	2,273	2,320	2,073	2,397	2,380	2,418	2,334	2,251	2,319	2,292	2,115	2,196	[illegible]	2,208
Could only find part-time work	2,866	2,730	2,735	2,732	2,670	2,679	2,785	2,675	2,686	2,740	2,730	2,801	2,784	[illegible]	2,776
Voluntary part time	12,704	13,038	12,859	13,057	13,016	12,926	12,612	12,995	13,235	13,179	13,053	13,277	13,194	13,122	13,441

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[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

7. Selected unemployment indicators, monthly data seasonally adjusted

(Unemployment rates)

Selected categories	Annual average		1985												1986
	1984	1985	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
CHARACTERISTIC															
Total, all civilian workers	7.5	7.2	7.4	7.3	[illegible].3	7.3	7.3	7.3	7.3	7.1	7.1	7.1	7.0	6.9	6.7
Both sexes, 16 to 19 years	18.9	18.6	18.9	18.4	[illegible]	17.9	18.8	18.6	19.3	17.5	18.1	18.8	18.4	18.8	18.4
Men, 20 years and over	6.6	6.2	6.3	6.3	6.2	6.3	6.1	6.4	6.2	6.0	6.1	6.1	6.0	5.9	5.7
Women, 20 years and over	6.8	6.6	6.8	6.7	6.7	6.7	6.8	6.7	6.6	6.6	6.7	6.4	6.4	6.2	6.1
White, total	6.5	6.2	6.4	6.2	6.3	6.3	6.2	6.4	6.3	6.1	6.1	6.1	5.9	5.9	5.7
Both sexes, 16 to 19 years	16.0	15.7	15.7	15.4	15.1	15.2	16.0	16.0	16.1	15.2	15.3	17.0	15.5	15.9	14.9
Men, 16 to 19 years	16.8	16.5	16.1	16.8	15.6	15.7	16.7	16.7	17.1	17.2	16.2	18.5	15.8	16.2	14.7
Women, 16 to 19 years	15.2	14.8	15.3	14.0	14.7	14.5	15.1	15.2	15.0	13.0	14.4	15.3	15.1	15.5	15.1
Men, 20 years and over	5.7	5.4	5.5	5.4	5.4	5.4	5.2	5.7	5.6	5.3	5.2	5.2	5.2	5.1	5.0
Women, 20 years and over	5.8	5.7	5.9	5.7	5.9	5.8	5.8	5.8	5.7	5.7	5.7	5.5	5.4	5.4	5.3
Black, total	15.9	15.1	15.1	16.0	15.2	15.2	15.4	14.4	15.0	14.1	15.2	14.9	15.6	14.9	14.4
Both sexes, 16 to 19 years	42.7	40.2	41.5	42.1	41.5	39.3	40.4	39.5	41.2	35.3	38.8	39.7	40.8	41.6	41.9
Men, 16 to 19 years	42.7	41.0	43.9	40.9	41.1	39.4	39.3	41.0	43.1	34.9	41.1	41.0	45.2	41.0	41.3
Women, 16 to 19 years	42.6	39.2	38.9	43.3	41.9	39.3	41.5	37.8	39.0	35.9	36.1	38.2	36.0	42.3	42.4
Men, 20 years and over	14.[illegible]	13.2	12.9	14.2	13.3	13.3	13.4	12.5	12.8	11.9	13.3	13.7	13.7	13.1	12.7
Women, 20 years and over	13.5	13.1	13.0	13.7	13.0	13.2	13.5	12.7	13.1	13.1	13.5	12.1	13.6	12.6	12.0
Hispanic origin, total [2]	10.7	10.5	10.6	10.0	10.3	10.4	10.6	10.6	10.9	10.4	10.4	11.1	10.7	10.4	10.1
Married men, spouse present	4.6	4.3	4.5	4.4	4.3	4.3	4.0	4.6	4.4	4.1	4.3	4.2	4.3	4.3	4.3
Married women, spouse present	5.7	5.6	5.7	5.4	5.8	5.8	5.7	5.8	5.7	5.4	5.6	5.3	5.5	5.3	5.1
Women who maintain families	10.3	10.4	10.2	10.9	10.3	10.7	10.8	9.9	10.3	10.8	11.3	10.4	10.0	9.4	9.9
Full-time workers	7.2	6.8	7.0	7.0	6.9	6.9	6.9	6.9	7.0	6.8	6.8	6.8	6.7	6.6	6.4
Part-time workers	9.3	9.3	9.3	8.8	9.5	9.7	10.0	9.5	9.4	9.0	9.3	9.6	8.8	9.0	8.4
Unemployed 15 weeks and over	2.4	2.0	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.8
Labor force time lost[1]	8.6	8.1	8.3	8.2	8.2	8.2	8.3	8.2	8.2	8.1	8.1	7.9	7.9	7.8	7.6
INDUSTRY															
Nonagricultural private wage and salary workers	7.4	7.2	7.3	7.3	7.2	7.3	7.2	7.3	7.3	7.1	7.2	7.1	7.0	6.9	6.7
Mining	10.0	9.5	10.3	10.8	10.9	10.6	7.5	10.9	9.9	8.6	8.9	7.7	7.3	10.3	10.9
Construction	14.3	13.1	13.5	13.4	13.3	13.3	11.0	13.5	13.4	13.1	13.6	13.5	13.4	12.6	12.9
Manufacturing	7.5	7.7	7.6	7.6	7.7	7.9	7.8	7.7	7.9	7.8	7.7	7.5	7.7	7.3	7.0
Durable goods	7.2	7.6	7.2	7.3	7.5	7.7	7.8	7.9	7.9	7.9	7.7	7.3	7.6	7.3	7.0
Nondurable goods	7.8	7.8	8.0	8.0	8.1	8.2	7.8	7.5	7.9	7.6	7.8	7.8	7.8	7.3	7.1
Transportation and public utilities	5.5	5.1	5.1	5.4	4.7	5.4	5.2	5.3	5.7	4.5	5.3	5.1	5.1	5.0	4.3
Wholesale and retail trade	8.0	7.6	7.7	7.7	7.5	7.4	7.8	7.7	7.8	7.7	7.8	7.7	7.5	7.6	7.2
Finance and service industries	5.9	5.6	5.9	5.7	5.7	5.7	6.1	5.7	5.6	5.5	5.5	5.4	5.4	5.3	5.2
Government workers	4.5	3.9	4.1	4.0	4.0	3.9	3.9	3.9	4.0	3.9	3.8	3.9	3.6	3.8	3.4
Agricultural wage and salary workers	13.5	13.2	15.4	13.6	12.5	13.2	11.9	12.5	14.0	14.0	13.3	12.9	12.5	10.6	10.9

[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

[2] Data for 1980–85 have been revised to reflect new population estimates.

8. Unemployment rates by sex and age, monthly data seasonally adjusted

(Civilian workers)

Sex and age	Annual average		1985											
	1984	1985	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Total, 16 years and over	7.5	7.2	7.4	7.3	7.3	7.3	7.3	7.3	7.3	7.1	7.1	7.1	7.0	6.9
16 to 24 years	13.9	13.6	13.6	13.7	13.5	13.4	14.0	13.6	13.9	13.0	13.3	13.9	13.5	13.3
16 to 19 years	18.9	18.5	18.9	18.4	18.2	17.9	18.8	18.6	19.3	17.5	18.1	19.8	18.4	18.8
16 to 17 years	21.2	21.0	21.0	20.4	20.6	20.8	21.2	21.6	21.7	19.1	20.3	22.7	21.4	21.1
18 to 19 years	17.4	17.0	17.3	17.4	16.5	16.3	17.1	16.4	17.3	16.8	16.7	17.8	16.9	17.5
20 to 24 years	11.5	11.1	10.9	11.2	11.1	11.1	11.6	11.2	11.2	10.8	10.9	10.9	11.0	10.6
25 years and over	5.8	5.6	5.7	5.6	5.6	5.7	5.5	5.6	5.6	5.5	5.6	5.4	5.4	5.3
25 to 54 years	6.1	5.8	6.0	5.9	6.0	6.1	5.8	6.0	5.9	5.8	5.8	5.7	5.6	5.5
55 years and over	4.5	4.1	4.2	4.0	4.0	4.1	4.3	4.3	4.4	4.1	4.1	3.9	3.8	3.9
Men, 16 years and over	7.4	7.0	7.1	7.1	7.0	7.1	7.0	7.2	7.2	6.9	6.9	7.1	6.9	6.7
16 to 24 years	14.4	14.1	13.9	14.3	13.9	13.8	14.7	14.2	14.6	13.8	13.8	14.6	13.9	13.5
16 to 19 years	19.6	19.5	19.3	19.4	18.5	18.5	19.4	19.2	20.5	19.6	19.3	21.5	19.4	19.3
16 to 17 years	21.9	21.9	21.3	21.3	21.7	21.4	22.2	23.2	22.1	21.9	20.7	24.0	20.9	21.6
18 to 19 years	18.3	17.9	18.0	18.4	16.1	16.8	17.6	16.4	18.7	18.1	18.3	19.9	18.7	18.0
20 to 24 years	11.9	11.4	11.3	11.8	11.7	11.4	12.3	11.7	11.6	10.9	11.0	11.1	11.2	10.6
25 years and over	5.7	5.3	5.5	5.4	5.3	5.5	5.1	5.6	5.4	5.3	5.3	5.3	5.2	5.1
25 to 54 years	5.9	5.6	5.7	5.6	5.6	5.8	5.3	5.8	5.6	5.6	5.5	5.5	5.4	5.4
55 years and over	4.6	4.1	4.3	4.1	3.9	4.0	4.1	4.4	4.6	3.8	4.0	4.1	4.0	3.9
Women, 16 years and over	7.6	7.4	7.6	7.5	7.6	7.5	7.6	7.5	7.4	7.3	7.5	7.3	7.2	7.1
16 to 24 years	13.3	13.0	13.2	13.0	13.1	12.9	13.3	12.9	13.1	12.2	12.9	13.1	13.1	13.2
16 to 19 years	18.0	17.6	18.5	17.4	17.9	17.2	18.1	17.8	17.9	15.3	16.9	17.9	17.4	18.3
16 to 17 years	20.4	20.0	20.7	19.4	19.3	20.0	20.1	19.9	21.2	15.8	19.8	21.2	22.0	20.6
18 to 19 years	16.6	16.0	16.5	16.3	16.9	15.7	16.5	16.4	15.7	15.3	14.9	15.5	15.1	16.9
20 to 24 years	10.9	10.7	10.6	10.6	10.5	10.7	10.8	10.6	10.7	10.7	10.9	10.7	10.8	10.6
25 years and over	6.0	5.9	6.0	6.0	6.0	6.0	6.1	6.0	5.9	5.8	6.0	5.6	5.6	5.4
25 to 54 years	6.3	6.2	6.4	6.3	6.4	6.3	6.4	6.3	6.2	6.1	6.2	5.9	5.9	5.7
55 years and over	4.2	4.1	4.1	3.9	4.2	4.2	4.4	4.1	4.2	4.5	4.2	3.7	3.6	3.9

9. Unemployed persons by reason for unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Reason for unemployment	Annual average		1985											
	1984	1985	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Job losers	4,421	4,139	4,271	4,236	4,177	4,229	3,994	4,167	4,206	4,144	4,142	4,040	4,081	3,933
On layoff	1,171	1,157	1,216	1,203	1,155	1,182	1,068	1,135	1,134	1,112	1,167	1,161	1,175	1,132
Other job losers	3,250	2,982	3,055	3,033	3,022	3,047	2,926	3,032	3,072	3,032	2,975	2,879	2,906	2,801
Job leavers	823	877	877	868	861	852	870	983	894	875	852	911	808	876
Reentrants	2,184	2,256	2,240	2,238	2,301	2,263	2,378	2,233	2,184	2,191	2,335	2,237	2,226	2,225
New entrants	1,110	1,039	1,045	1,056	1,074	1,051	1,142	1,018	1,098	941	918	1,045	1,055	1,033
PERCENT OF UNEMPLOYED														
Job losers	51.8	49.8	50.6	50.4	49.6	50.3	47.6	49.6	50.2	50.8	50.2	49.1	50.0	48.8
On layoff	13.7	13.9	14.4	14.3	13.7	14.0	12.7	13.5	13.5	13.6	14.2	14.1	14.4	14.0
Other job losers	38.1	35.9	36.2	36.1	35.9	36.2	34.9	36.1	36.6	37.2	36.1	35.0	35.6	34.7
Job leavers	9.6	10.6	10.4	10.3	10.2	10.1	10.4	11.7	10.7	10.7	10.3	11.1	9.9	10.9
Reentrants	25.6	27.1	26.6	26.6	27.4	27.1	28.4	26.6	26.1	26.9	28.3	27.2	27.2	27.6
New entrants	13.0	12.5	12.4	12.6	12.8	12.5	13.6	12.1	13.1	11.5	11.1	12.7	12.9	12.8
PERCENT OF CIVILIAN LABOR FORCE														
Job losers	3.9	3.6	3.7	3.7	3.6	3.7	3.5	3.6	3.6	3.6	3.6	3.5	3.5	3.4
Job leavers	.7	.8	.8	.8	.7	.7	.8	.9	.8	.8	.7	.8	.7	.8
Reentrants	1.9	2.0	2.0	1.9	2.0	2.0	2.1	1.9	1.9	1.9	2.0	1.9	1.9	1.9
New entrants	1.0	.9	.9	.9	.9	.9	1.0	.9	1.0	.8	.8	.9	.9	.9

10. Duration of unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Weeks of unemployment	Annual average		1985												1986
	1984	1985	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Less than 5 weeks	3,350	3,498	3,627	3,501	3,556	3,528	3,607	3,486	3,525	3,422	3,484	3,430	3,465	3,374	3,311
5 to 14 weeks	2,451	2,509	2,540	2,488	2,487	2,516	2,594	2,536	2,514	2,508	2,505	2,536	2,448	2,460	2,441
15 weeks and over	2,737	2,305	2,247	2,413	2,400	2,374	2,274	2,328	2,329	2,274	2,307	2,277	2,205	2,188	2,056
15 to 26 weeks	1,104	1,025	932	1,065	1,061	1,031	1,063	1,033	1,078	1,047	1,035	1,057	894	973	969
27 weeks and over	1,634	1,280	1,315	1,348	1,339	1,343	1,211	1,295	1,251	1,227	1,272	1,220	1,311	1,215	1,087
Mean duration in weeks	18.2	15.6	15.9	16.0	15.9	16.1	15.0	15.5	15.5	15.5	15.5	15.4	15.7	15.4	14.9
Median duration in weeks	7.9	6.8	6.8	7.1	7.0	6.8	6.7	6.8	7.1	7.2	6.9	7.0	6.9	6.9	6.8

11. Unemployment rates of civilian workers by State, data not seasonally adjusted

State	Dec. 1984	Dec. 1985[p]
Alabama	11.6	8.0
Alaska	10.3	10.3
Arizona	4.3	6.4
Arkansas	9.2	9.4
California	6.9	6.3
Colorado	5.3	6.5
Connecticut	4.4	4.3
Delaware	5.4	4.3
District of Columbia	8.3	8.0
Florida	6.1	5.6
Georgia	5.5	5.8
Hawaii	5.9	5.4
Idaho	6.9	7.9
Illinois	8.6	8.3
Indiana	8.8	7.4
Iowa	7.3	7.9
Kansas	5.4	5.5
Kentucky	9.3	10.4
Louisiana	9.8	11.5
Maine	5.9	5.2
Maryland	4.9	4.5
Massachusetts	3.9	3.9
Michigan	10.6	7.6
Minnesota	7.1	7.5
Mississippi	10.3	10.0
Missouri	7.0	6.2
Montana	7.4	8.8
Nebraska	4.3	6.1
Nevada	8.0	8.2
New Hampshire	3.5	2.6
New Jersey	5.4	5.4
New Mexico	7.4	8.6
New York	6.5	5.9
North Carolina	6.7	4.2
North Dakota	5.8	6.8
Ohio	9.2	8.5
Oklahoma	6.7	7.1
Oregon	9.6	7.8
Pennsylvania	7.3	7.3
Rhode Island	5.3	4.4
South Carolina	6.9	7.4
South Dakota	5.1	5.2
Tennessee	8.7	7.6
Texas	5.6	6.3
Utah	6.4	6.0
Vermont	5.2	4.5
Virginia	5.0	5.5
Washington	9.8	8.0
West Virginia	16.1	12.4
Wisconsin	7.7	7.5
Wyoming	5.6	8.3

p = preliminary

NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the database.

12. Employment of workers on nonagricultural payrolls by State, data not seasonally adjusted

(In thousands)

State	Dec., 1984	Nov., 1985	Dec., 1985[p]
Alabama	1,404.7	1,440.6	1,439.9
Alaska	220.1	227.4	223.9
Arizona	1,244.2	1,316.6	1,323.8
Arkansas	791.8	814.9	814.8
California	10,869.9	11,127.9	11,186.2
Colorado	1,436.8	1,438.2	1,440.6
Connecticut	1,568.5	1,598.0	1,601.2
Delaware	298.3	299.9	300.2
District of Columbia	623.3	634.0	637.5
Florida	4,371.5	4,499.5	4,532.1
Georgia	2,534.1	2,616.0	2,626.1
Hawaii	418.0	427.3	430.2
Idaho	329.3	340.6	338.6
Illinois	4,654.3	4,714.2	4,706.6
Indiana	2,169.8	2,258.2	2,254.6
Iowa	1,065.1	1,067.8	1,060.9
Kansas	982.9	994.1	986.0
Kentucky	1,249.7	1,266.0	1,271.7
Louisiana	1,618.8	1,606.1	1,600.4
Maine	450.7	465.9	465.2
Maryland	1,861.8	1,919.3	1,927.1
Massachusetts	2,937.9	2,973.3	2,985.9
Michigan	3,407.3	3,515.5	3,523.8
Minnesota	1,870.1	1,907.0	1,896.5
Mississippi	836.3	854.5	855.8
Missouri	2,041.2	2,132.3	2,131.0
Montana	281.3	280.1	276.8
Nebraska	653.9	659.0	654.7
Nevada	434.2	450.0	449.2
New Hampshire	457.1	480.4	483.5
New Jersey	3,406.1	3,499.7	3,503.1
New Mexico	512.5	525.0	525.8
New York	7,744.9	7,893.0	7,909.8
North Carolina	2,624.5	2,699.8	2,706.7
North Dakota	252.7	253.5	251.2
Ohio	4,332.8	4,452.8	4,461.7
Oklahoma	1,196.9	1,178.9	1,177.1
Oregon	1,015.5	1,042.9	1,036.2
Pennsylvania	4,720.4	4,798.8	4,793.1
Rhode Island	431.8	433.7	431.4
South Carolina	1,281.6	1,319.6	1,321.8
South Dakota	250.0	246.5	247.0
Tennessee	1,847.1	1,899.2	1,900.9
Texas	6,637.9	6,747.3	6,766.7
Utah	620.1	636.2	638.1
Vermont	221.9	227.6	231.5
Virginia	2,413.7	2,473.9	2,490.2
Washington	1,663.7	1,715.8	1,711.3
West Virginia	597.8	600.4	600.9
Wisconsin	1,982.9	2,015.7	2,009.2
Wyoming	203.1	203.7	201.9
Puerto Rico	699.2	694.3	702.8
Virgin Islands	37.3	36.1	36.8

[p] = preliminary

NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the database.

13. Employment of workers on nonagricultural payrolls by industry, monthly data seasonally adjusted

(In thousands)

Industry	Annual average		1985												
	1984	1985	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.p	Jan.
TOTAL	94,461	97,698	96,419	96,591	96,910	97,120	97,421	97,473	97,707	97,977	98,217	98,559	98,801	99,069	99,8
PRIVATE SECTOR	78,477	81,403	80,319	80,480	80,767	80,962	81,208	81,260	81,366	81,634	81,765	82,073	82,317	82,557	83,1
GOODS PRODUCING	24,730	25,056	25,112	25,062	25,056	25,090	25,066	25,010	24,980	25,016	24,962	25,051	25,089	25,145	25,5
Mining	974	969	974	976	977	982	982	974	969	965	962	960	954	953	9
Oil and gas extraction	613	616	621	620	616	625	624	619	619	615	615	610	605	603	
Construction	4,345	4,661	4,534	4,525	4,553	4,641	4,658	4,638	4,660	4,689	4,721	4,753	4,754	4,761	4,9
General building contractors	1,158	1,240	1,219	1,214	1,223	1,233	1,234	1,223	1,239	1,242	1,252	1,262	1,269	1,272	1,2
Manufacturing	19,412	19,426	19,604	19,561	19,526	19,467	19,426	19,398	19,351	19,362	19,279	19,338	19,381	19,431	19,4
Production workers	13,310	13,215	13,399	13,347	13,309	13,249	13,203	13,169	13,137	13,145	13,087	13,140	13,169	13,229	13,2
Durable goods	11,522	11,566	11,702	11,675	11,651	11,608	11,586	11,560	11,509	11,519	11,449	11,493	11,512	11,536	11,5
Production workers	7,749	7,692	7,843	7,806	7,776	7,730	7,704	7,671	7,630	7,638	7,586	7,627	7,636	7,659	7,
Lumber and wood products	707	703	709	704	701	694	697	694	697	700	701	706	712	717	72
Furniture and fixtures	487	497	499	498	499	497	493	494	494	499	494	496	497	500	50
Stone, clay, and glass products	595	600	602	600	601	600	599	598	599	601	598	600	601	604	6
Primary metal industries	856	816	844	840	832	823	819	815	806	799	795	799	804	811	8
Blast furnaces and basic steel products	334	303	315	313	311	308	305	304	302	299	291	292	290	300	29
Fabricated metal products	1,464	1,472	1,486	1,483	1,480	1,479	1,477	1,472	1,467	1,467	1,462	1,465	1,466	1,463	1,46
Machinery, except electrical	2,197	2,181	2,228	2,224	2,220	2,207	2,203	2,191	2,175	2,167	2,143	2,143	2,137	2,132	2,13
Electrical and electronic equipment	2,208	2,207	2,252	2,248	2,243	2,223	2,216	2,205	2,190	2,194	2,175	2,179	2,180	2,185	2,19
Transportation equipment	1,906	1,990	1,974	1,972	1,969	1,982	1,981	1,990	1,985	1,995	1,986	2,008	2,017	2,023	2,02
Motor vehicles and equipment	860	872	881	876	867	876	873	875	869	868	881	872	888	874	87
Instruments and related products	714	724	723	725	727	726	723	725	724	725	722	722	723	725	72
Miscellaneous manufacturing industries	384	376	385	381	379	377	378	376	372	373	373	373	375	376	377
Nondurable goods	7,890	7,859	7,902	7,886	7,875	7,859	7,840	7,838	7,842	7,843	7,830	7,845	7,869	7,895	7,916
Production workers	5,561	5,523	5,556	5,541	5,533	5,519	5,499	5,498	5,507	5,507	5,501	5,513	5,533	5,570	5,59
Food and kindred products	1,619	1,636	1,633	1,633	1,636	1,630	1,634	1,644	1,630	1,636	1,633	1,636	1,638	1,652	1,649
Tobacco manufactures	65	66	67	66	66	66	66	66	65	64	65	64	65	64	65
Textile mill products	746	703	720	712	706	707	701	699	696	697	695	698	700	701	700
Apparel and other textile products	1,197	1,162	1,182	1,175	1,167	1,164	1,153	1,142	1,160	1,152	1,155	1,158	1,160	1,171	1,177
Paper and allied products	681	683	683	682	682	681	682	684	684	683	681	682	688	685	687
Printing and publishing	1,372	1,422	1,400	1,406	1,407	1,411	1,414	1,418	1,426	1,429	1,427	1,431	1,442	1,442	1,449
Chemicals and allied products	1,048	1,042	1,052	1,052	1,052	1,049	1,044	1,042	1,040	1,038	1,040	1,036	1,033	1,033	1,036
Petroleum and coal products	189	177	185	184	183	182	181	180	178	178	170	170	169	169	169
Rubber and misc. plastics products	782	795	798	799	798	795	791	789	787	792	790	795	800	804	810
Leather and leather products	182	175	179	177	178	174	174	173	176	174	174	175	174	174	171
SERVICE-PRODUCING	69,731	72,642	71,307	71,529	71,854	72,030	72,355	72,463	72,727	72,962	73,255	73,508	73,712	73,924	74,300
Transportation and public utilities	5,171	5,300	5,259	5,272	5,269	5,278	5,301	5,295	5,302	5,282	5,317	5,327	5,342	5,345	5,377
Transportation	2,929	3,058	3,015	3,029	3,028	3,037	3,057	3,052	3,060	3,038	3,078	3,087	3,106	3,110	3,129
Communication and public utilities	2,242	2,241	2,244	2,243	2,241	2,241	2,244	2,243	2,242	2,244	2,239	2,240	2,236	2,235	2,248
Wholesale trade	5,550	5,769	5,686	5,697	5,714	5,733	5,748	5,768	5,773	5,791	5,805	5,830	5,833	5,845	5,867
Durable goods	3,272	3,417	3,358	3,367	3,377	3,388	3,402	3,414	3,426	3,434	3,442	3,454	3,464	3,470	3,485
Nondurable goods	2,278	2,352	2,328	2,330	2,337	2,345	2,346	2,354	2,347	2,357	2,363	2,376	2,369	2,375	2,382
Retail trade	16,584	17,426	17,090	17,160	17,249	17,280	17,392	17,425	17,483	17,514	17,539	17,610	17,640	17,715	17,892
General merchandise stores	2,276	2,356	2,341	2,343	2,349	2,348	2,371	2,361	2,344	2,354	2,356	2,365	2,367	2,362	2,416
Food stores	2,655	2,827	2,753	2,773	2,790	2,794	2,823	2,831	2,842	2,849	2,852	2,869	2,865	2,862	2,914
Automotive dealers and service stations	1,802	1,882	1,865	1,866	1,873	1,884	1,890	1,895	1,895	1,902	1,906	1,912	1,914	1,916	1,932
Eating and drinking places	5,403	5,692	5,559	5,586	5,615	5,642	5,660	5,692	5,726	5,725	5,740	5,756	5,774	5,802	5,821
Finance, insurance, and real estate	5,682	5,924	5,790	5,809	5,835	5,858	5,888	5,906	5,932	5,959	5,987	6,011	6,048	6,069	6,104
Finance	2,855	2,978	2,910	2,919	2,933	2,941	2,956	2,968	2,984	2,998	3,011	3,023	3,038	3,053	3,067
Insurance	1,753	1,816	1,783	1,789	1,792	1,799	1,808	1,814	1,817	1,827	1,831	1,837	1,850	1,854	1,866
Real estate	1,074	1,130	1,097	1,101	1,110	1,118	1,124	1,124	1,131	1,134	1,145	1,151	1,160	1,162	1,171
Services	20,761	21,929	21,382	21,480	21,644	21,723	21,813	21,856	21,896	22,073	22,155	22,244	22,365	22,438	22,592
Business services	4,076	4,453	4,295	4,334	4,377	4,402	4,424	4,441	4,446	4,469	4,504	4,539	4,571	4,606	4,636
Health services	6,104	6,266	6,169	6,186	6,204	6,218	6,240	6,243	6,260	6,291	6,308	6,333	6,360	6,384	6,404
Government	15,984	16,295	16,100	16,111	16,143	16,158	16,213	16,213	16,341	16,343	16,452	16,486	16,484	16,512	16,478
Federal	2,807	2,875	2,836	2,834	2,850	2,859	2,873	2,872	2,878	2,886	2,904	2,892	2,904	2,911	2,910
State	3,712	3,780	3,730	3,733	3,744	3,749	3,759	3,765	3,788	3,789	3,818	3,827	3,833	3,829	3,821
Local	9,465	9,640	9,534	9,544	9,549	9,550	9,581	9,576	9,675	9,668	9,730	9,767	9,747	9,772	9,747

p = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

14. Average weekly hours of production or nonsupervisory workers on private nonagricultural payrolls by industry, monthly data seasonally adjusted

Industry	Annual average		1985												1986
	1984	1985^p	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.^p	Jan.^p
PRIVATE SECTOR	35.3	35.1	35.1	35.1	35.2	35.0	35.1	35.1	35.0	35.1	35.1	35.1	35.0	35.1	35.1
CONSTRUCTION	37.7	37.7	37.7	37.8	38.1	38.0	37.6	37.2	37.6	37.5	37.9	37.9	37.4	37.2	38.5
MANUFACTURING	40.7	40.5	40.6	40.1	40.4	40.3	40.4	40.4	40.3	40.6	40.7	40.7	40.7	41.0	40.9
Overtime hours	3.4	3.3	3.4	3.3	3.2	3.4	3.1	3.2	3.2	3.3	3.3	3.4	3.4	3.6	3.5
Durable goods	41.4	41.2	41.3	40.7	41.1	40.9	41.1	41.2	41.0	41.3	41.3	41.3	41.3	41.7	41.6
Overtime hours	3.6	3.5	3.6	3.5	3.5	3.6	3.2	3.3	3.3	3.4	3.5	3.5	3.6	3.8	3.7
Lumber and wood products	39.9	39.6	39.7	38.9	39.6	39.5	39.8	40.1	39.7	40.0	40.1	40.3	39.9	40.1	40.3
Furniture and fixtures	39.7	39.4	40.4	39.5	39.5	39.3	38.9	38.9	38.8	39.2	39.4	39.4	39.4	40.0	40.5
Stone, clay, and glass products	42.0	41.9	41.7	41.6	42.0	42.0	42.1	41.9	42.0	42.0	42.0	42.1	41.6	41.7	42.2
Primary metal industries	41.7	41.5	41.0	40.9	41.1	41.6	41.2	41.6	41.4	41.7	41.5	41.8	41.8	42.2	41.5
Blast furnaces and basic steel products	40.6	41.1	39.9	40.5	40.5	40.2	40.7	41.2	41.2	41.8	41.0	41.7	42.0	42.0	41.0
Fabricated metal products	41.4	41.3	41.4	40.9	41.1	41.1	41.1	41.3	41.3	41.4	41.6	41.5	41.4	41.8	41.6
Machinery except electrical	41.9	41.5	41.7	41.1	41.8	41.2	41.4	41.6	41.3	41.6	41.6	41.6	41.6	41.8	41.5
Electrical and electronic equipment	41.0	40.6	40.8	40.2	40.7	40.2	40.4	40.6	40.3	40.7	40.5	40.8	41.0	41.4	41.5
Transportation equipment	42.7	42.6	43.1	41.9	42.5	42.3	42.6	42.3	42.5	42.9	42.9	42.8	42.6	43.0	42.8
Motor vehicles and equipment	43.8	43.5	44.3	42.4	43.2	43.3	43.5	42.7	43.3	43.8	43.8	43.8	43.7	44.1	43.6
Instruments and related products	41.3	41.0	41.2	40.7	41.0	40.7	40.9	41.1	40.7	40.7	40.9	40.8	41.1	42.2	41.2
Miscellaneous manufacturing	39.4	39.4	39.2	39.0	39.1	39.0	39.3	39.4	39.0	39.3	39.8	39.9	39.7	40.0	40.1
Nondurable goods	39.6	39.6	39.5	39.3	39.4	39.1	39.4	39.4	39.4	39.6	39.8	39.9	39.8	40.1	39.9
Overtime hours	3.1	3.1	3.0	2.9	2.9	3.0	2.9	3.0	3.0	3.1	3.1	3.2	3.2	3.4	3.3
Food and kindred products	39.8	40.0	39.8	39.7	39.8	39.6	40.1	39.6	40.0	39.9	40.2	40.3	39.9	40.3	40.0
Tobacco manufactures	38.9	37.1	38.3	38.2	38.9	35.4	37.0	36.6	34.6	36.8	36.9	36.2	35.2	36.0	37.8
Textile mill products	39.9	39.7	39.2	38.8	39.1	38.8	38.9	38.4	39.1	40.0	40.7	40.7	41.0	41.3	41.1
Apparel and other textile products	36.4	36.3	36.2	35.9	36.1	35.8	36.2	36.3	36.3	36.4	36.5	36.6	36.8	37.1	37.1
Paper and allied products	43.1	43.1	43.0	42.9	42.9	43.0	43.0	42.9	42.7	43.0	43.1	43.3	43.3	43.6	43.5
Printing and publishing	37.9	37.7	37.8	37.7	37.8	37.8	37.4	37.5	37.5	37.9	38.0	37.9	37.8	38.2	37.9
Chemicals and allied products	41.9	41.9	42.0	41.9	42.1	41.9	41.9	42.0	41.8	41.8	41.6	41.7	41.9	41.9	41.7
Petroleum and coal products	43.7	43.0	43.2	43.1	43.3	42.0	41.7	42.6	42.9	43.3	43.4	44.3	43.1	43.9	44.0
Leather and leather products	36.8	37.3	36.9	36.4	37.1	37.0	37.1	37.0	37.0	37.3	37.8	37.9	37.7	37.8	37.3
TRANSPORTATION AND PUBLIC UTILITIES	39.4	39.4	39.3	39.4	39.5	39.4	39.5	39.5	39.2	39.6	39.5	39.5	39.4	39.4	39.4
WHOLESALE TRADE	38.6	38.7	38.6	38.6	38.7	38.6	38.7	38.8	38.6	38.6	38.7	38.6	38.7	38.7	38.6
RETAIL TRADE	30.0	29.7	29.8	29.8	29.8	29.7	29.9	29.9	29.7	29.6	29.6	29.5	29.5	29.3	29.4
SERVICES	32.6	32.6	32.7	32.6	32.6	32.7	32.6	32.8	32.7	32.8	32.8	32.9	32.8	32.8	32.8

p = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark adjustment.

15. Average hourly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1985												1986
	1984	1985ᵖ	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.ᵖ	Jan.ᵖ
PRIVATE SECTOR	$8.33	$8.58	$8.50	$8.52	$8.52	$8.54	$8.53	$8.56	$8.54	$8.54	$8.68	$8.65	$8.68	$8.72	$8.74
Seasonally adjusted	-	-	8.44	8.49	8.52	8.54	8.55	8.59	8.57	8.60	8.65	8.64	8.67	8.74	8.66
MINING	11.63	11.95	11.86	11.90	11.91	11.93	11.86	11.99	11.88	11.95	12.00	11.95	12.02	12.20	12.25
CONSTRUCTION	12.12	12.26	12.30	12.33	12.22	12.21	12.19	12.12	12.16	12.22	12.40	12.36	12.22	12.43	12.31
MANUFACTURING	9.18	9.52	9.43	9.43	9.45	9.46	9.48	9.50	9.53	9.48	9.55	9.54	9.61	9.72	9.69
Durable goods	9.74	10.09	9.99	9.99	10.01	10.03	10.04	10.08	10.10	10.05	10.15	10.14	10.21	10.33	10.28
Lumber and wood products	8.03	8.20	8.10	8.09	8.06	8.04	8.12	8.24	8.20	8.26	8.31	8.29	8.28	8.30	8.28
Furniture and fixtures	6.85	7.19	7.01	7.01	7.07	7.08	7.11	7.18	7.22	7.22	7.29	7.31	7.34	7.40	7.39
Stone, clay, and glass products	9.57	9.83	9.70	9.73	9.71	9.80	9.80	9.84	9.89	9.87	9.90	9.86	9.90	9.92	9.97
Primary metal industries	11.47	11.68	11.55	11.69	11.66	11.64	11.64	11.65	11.78	11.63	11.69	11.61	11.76	11.83	11.78
Blast furnaces and basic steel products	12.99	13.35	13.07	13.42	13.27	13.32	13.31	13.29	13.51	13.37	13.45	13.34	13.44	13.45	13.34
Fabricated metal products	9.38	9.66	9.59	9.50	9.62	9.64	9.63	9.65	9.66	9.61	9.70	9.68	9.73	9.86	9.82
Machinery, except electrical	9.96	10.29	10.13	10.14	10.15	10.17	10.22	10.26	10.31	10.27	10.39	10.41	10.48	10.55	10.51
Electrical and electronic equipment	9.04	9.47	9.33	9.33	9.39	9.40	9.39	9.46	9.47	9.50	9.55	9.56	9.61	9.70	9.66
Transportation equipment	12.22	12.71	12.67	12.63	12.59	12.63	12.63	12.66	12.65	12.65	12.78	12.77	12.83	13.03	12.92
Motor vehicles and equipment	12.74	13.44	13.41	13.35	13.29	13.40	13.38	13.39	13.38	13.34	13.51	13.46	13.55	13.83	13.72
Instruments and related products	8.85	9.19	9.00	9.11	9.10	9.11	9.13	9.15	9.20	9.22	9.28	9.27	9.30	9.42	9.36
Miscellaneous manufacturing	7.04	7.26	7.23	7.19	7.20	7.22	7.26	7.28	7.30	7.26	7.30	7.30	7.35	7.46	7.51
Nondurable goods	8.37	8.68	8.59	8.60	8.61	8.67	8.64	8.65	8.72	8.67	8.70	8.69	8.75	8.84	8.82
Food and kindred products	8.38	8.54	8.46	8.51	8.53	8.59	8.58	8.55	8.54	8.47	8.51	8.49	8.58	8.69	8.69
Tobacco manufactures	11.27	12.05	11.39	11.80	12.00	12.16	12.65	12.83	12.91	12.44	11.47	11.45	12.08	11.87	11.89
Textile mill products	6.46	6.71	6.59	6.60	6.64	6.70	6.68	6.69	6.69	6.72	6.75	6.76	6.79	6.83	6.84
Apparel and other textile products	5.55	5.73	5.73	5.70	5.73	5.74	5.69	5.70	5.70	5.68	5.75	5.73	5.75	5.81	5.85
Paper and allied products	10.41	10.82	10.63	10.64	10.64	10.72	10.75	10.79	10.91	10.86	10.90	10.91	10.97	11.05	10.97
Printing and publishing	9.40	9.69	9.58	9.50	9.61	9.60	9.60	9.61	9.67	9.73	9.79	9.75	9.81	9.90	9.80
Chemicals and allied products	11.08	11.57	11.39	11.39	11.37	11.48	11.46	11.52	11.60	11.62	11.67	11.72	11.82	11.88	11.89
Petroleum and coal products	13.43	14.04	13.96	13.99	14.06	14.18	14.00	13.97	14.03	13.99	14.07	13.97	14.06	14.20	14.31
Rubber and miscellaneous plastics products	8.29	8.53	8.49	8.46	8.46	8.48	8.45	8.50	8.54	8.51	8.55	8.53	8.62	8.73	8.67
Leather and leather products	5.70	5.82	5.82	5.79	5.82	5.84	5.83	5.83	5.83	5.80	5.82	5.76	5.83	5.81	5.88
TRANSPORTATION AND PUBLIC UTILITIES	11.11	11.38	11.26	11.27	11.24	11.27	11.24	11.32	11.35	11.40	11.52	11.46	11.57	11.61	11.60
WHOLESALE TRADE	8.96	9.26	9.16	9.22	9.19	9.24	9.24	9.28	9.27	9.25	9.33	9.25	9.32	9.41	9.39
RETAIL TRADE	5.88	5.97	5.97	5.99	5.97	5.96	5.97	5.94	5.93	5.91	5.99	5.97	6.00	5.99	6.05
FINANCE, INSURANCE, AND REAL ESTATE	7.62	7.93	7.77	7.87	7.87	7.85	7.83	7.95	7.87	7.90	8.03	8.00	8.05	8.14	8.13
SERVICES	7.64	7.95	7.84	7.87	7.87	7.89	7.88	7.91	7.86	7.87	8.04	8.04	8.10	8.18	8.19

- Data not available.
ᵖ = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

16. Average weekly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1985												1986
	1984	1985p	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.p	Jan.p
PRIVATE SECTOR															
Current dollars	$294.05	$301.16	$294.95	$294.79	$298.20	$298.05	$299.55	$303.02	$301.46	$302.32	$305.54	$303.62	$302.93	$307.82	$303.29
Seasonally adjusted	-	-	296.24	298.00	299.90	298.90	300.11	301.51	299.95	301.86	303.62	303.28	303.45	306.77	304.67
Constant (1977) dollars	173.48	171.60	171.28	170.50	171.66	170.80	170.50	172.56	171.48	171.66	173.01	171.54	170.47	172.74	-
MINING	503.58	519.63	508.79	514.06	519.28	516.57	515.91	523.96	509.65	517.44	524.40	518.24	520.47	536.02	535.33
CONSTRUCTION	456.92	462.20	447.72	451.26	460.69	461.54	464.44	461.77	469.36	468.03	477.40	472.15	446.47	459.91	457.93
MANUFACTURING															
Current dollars	373.63	385.56	380.03	374.37	381.78	380.15	382.04	385.70	382.15	382.99	389.64	388.28	393.05	404.35	393.41
Constant (1977) dollars	220.43	219.69	220.69	216.52	219.79	217.85	218.18	219.65	217.38	217.46	220.63	219.37	221.19	226.91	-
Durable goods	403.24	415.71	410.59	403.60	412.41	410.23	411.64	417.31	410.06	412.05	420.21	418.78	423.72	437.99	424.56
Lumber and wood products	320.40	328.36	315.90	309.85	317.56	317.58	325.61	336.19	325.54	333.70	337.39	334.92	327.06	332.83	327.89
Furniture and fixtures	271.95	283.29	276.19	270.59	277.85	276.83	275.16	281.46	276.53	285.19	280.14	292.40	292.13	303.40	291.91
Stone, clay, and glass products	401.94	411.86	392.85	393.09	404.91	411.60	415.52	418.20	418.35	418.49	420.75	416.06	413.82	413.06	408.77
Primary metal industries	478.30	484.72	473.55	478.12	481.56	480.73	479.57	486.97	485.34	480.32	487.47	480.65	491.57	503.96	486.87
Blast furnaces and basic steel products	527.39	548.69	517.57	544.85	540.09	547.45	543.05	552.86	559.31	550.84	554.14	545.61	557.76	566.25	542.94
Fabricated metal products	389.30	398.96	395.11	387.44	396.34	396.24	395.79	400.48	394.13	395.93	403.52	401.72	404.77	420.04	406.55
Machinery, except electrical	417.32	427.04	422.42	415.74	424.27	417.99	421.06	427.65	420.65	422.10	432.22	430.97	436.06	451.54	436.17
Electrical and electronic equipment	370.64	384.48	379.73	373.20	383.11	376.00	377.46	385.02	376.91	383.80	387.73	388.14	396.89	409.34	399.92
Transportation equipment	521.79	541.45	546.06	524.16	537.59	536.04	539.30	539.32	531.30	531.30	544.43	545.28	550.41	574.62	552.96
Motor vehicles and equipment	558.01	584.64	594.06	559.37	576.79	566.92	567.36	579.79	574.00	566.95	566.33	596.86	590.76	625.12	596.19
Instruments and related products	365.51	376.79	369.90	369.87	374.01	368.96	372.50	376.07	370.76	373.41	381.41	377.29	384.09	403.[illegible]	384.70
Miscellaneous manufacturing	277.38	288.83	279.06	276.82	282.24	280.86	285.36	286.10	281.76	284.59	292.00	294.19	295.47	302.88	296.65
Nondurable goods	331.45	343.73	336.73	333.68	338.37	337.28	339.55	342.54	341.82	344.20	348.00	346.73	350.00	358.02	350.15
Food and kindred products	333.52	341.60	334.96	331.89	335.23	336.73	343.20	340.29	341.80	341.34	347.21	343.00	344.92	353.68	344.99
Tobacco manufactures	436.40	447.06	424.85	442.50	452.40	424.38	469.32	483.69	437.65	461.52	436.15	448.84	439.71	451.06	437.55
Textile mill products	257.75	268.39	257.01	254.10	258.96	257.28	260.52	266.93	258.23	270.14	275.40	276.48	279.75	283.45	279.76
Apparel and other textile products	202.02	208.00	205.13	202.35	206.85	203.20	205.98	209.19	206.34	207.32	209.88	210.86	212.18	216.13	214.70
Paper and allied products	446.67	466.34	456.03	451.14	454.33	458.82	460.10	463.97	465.66	465.89	473.06	472.40	477.20	489.52	475.00
Printing and publishing	356.28	365.31	359.25	358.08	362.30	360.00	358.06	358.45	360.69	369.74	373.96	369.53	373.76	384.12	366.48
Chemicals and allied products	464.25	484.78	477.24	476.10	478.68	481.01	480.17	484.99	482.56	483.39	487.81	486.38	496.44	503.71	494.62
Petroleum and coal products	586.89	603.72	587.49	594.58	601.77	595.56	583.80	596.52	606.10	605.77	620.49	620.27	610.20	623.36	623.92
Rubber and miscellaneous plastics products	345.69	350.58	352.34	343.44	347.71	346.83	345.61	350.20	346.72	346.36	351.41	350.58	356.01	366.66	358.07
Leather and leather products	209.76	217.09	211.85	207.29	212.43	215.50	218.04	221.54	218.63	216.92	219.41	216.58	219.79	220.78	216.97
TRANSPORTATION AND PUBLIC UTILITIES	437.73	448.37	438.01	440.66	441.73	441.78	441.73	449.40	448.33	454.86	457.34	452.67	457.02	459.76	452.40
WHOLESALE TRADE	345.86	358.36	351.74	352.20	353.82	354.82	357.59	360.99	359.68	358.90	362.00	357.98	361.52	366.99	360.56
RETAIL TRADE	176.40	177.31	173.73	174.31	175.52	175.22	177.91	179.39	180.27	179.07	177.90	175.52	175.80	179.10	173.64
FINANCE, INSURANCE, AND REAL ESTATE	278.13	289.65	282.63	286.47	286.47	285.74	284.23	291.77	285.68	296.77	292.29	290.40	291.41	298.74	295.93
SERVICES	250.59	260.76	254.80	256.58	256.58	257.21	257.69	261.03	260.17	260.50	263.71	263.71	264.87	268.30	266.99

- Data not available.

p = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

17. The Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Not seasonally adjusted				Seasonally adjusted					
	Jan. 1985	Nov. 1985	Dec. 1985p	Jan. 1986p	Jan. 1985	Sept. 1985	Oct. 1985	Nov. 1985	Dec. 1985p	Jan. 1986p
PRIVATE SECTOR (in current dollars)	163.7	167.3	168.4	168.4	163.0	166.7	166.4	167.1	168.3	167.7
Mining[1]	177.4	180.0	181.5	181.2	-	-	-	-	-	-
Construction	149.4	149.0	151.1	149.6	149.2	150.0	149.4	148.9	150.7	149.5
Manufacturing	166.8	170.2	171.2	171.5	166.3	169.1	169.4	170.1	170.8	170.9
Transportation and public utilities	164.3	169.3	170.0	169.8	163.5	167.3	167.0	158.1	169.4	169.0
Wholesale trade[1]	169.2	172.2	173.8	173.3	-	-	-	-	-	-
Retail trade	155.1	156.9	158.8	157.4	154.5	157.2	156.7	157.4	158.0	156.8
Finance, insurance, and real estate[1]	168.2	174.2	176.1	176.0	-	-	-	-	-	-
Services	166.6	172.4	174.0	174.0	164.9	171.5	171.1	172.1	173.8	172.3
PRIVATE SECTOR (in constant dollars)	95.1	94.1	94.5	-	94.5	94.7	94.3	94.2	94.3	-

[1] This series is not seasonally adjusted because the seasonal component is small relative to the trend-cycle, irregular components, or both, and consequently cannot be separated with sufficient precision.

- Data not available.

p = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

18. Indexes of diffusion: Industries in which employment increased, data seasonally adjusted

(In percent)

Time span and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Over 1-month span												
1984	67.3	72.7	66.8	67.3	60.5	64.3	65.7	58.1	48.4	66.5	55.1	69.5
1985	57.6	50.3	55.9	44.6	50.3	47.0	54.9	56.8	45.7	63.5	61.6	63.2
1986	p65.4	p51.6	–	–	–	–	–	–	–	–	–	–
Over 3-month span												
1984	78.1	75.9	77.6	68.9	69.7	67.0	65.4	60.3	60.0	58.5	67.0	60.0
1985	58.6	54.1	46.8	45.9	44.1	49.7	50.5	49.2	53.8	52.7	65.1	p67.8
1986	p63.5	–	–	–	–	–	–	–	–	–	–	–
Over 6-month span												
1984	79.2	77.8	77.3	75.4	69.2	64.9	63.2	64.1	67.0	59.7	57.6	60.3
1985	52.2	49.5	44.3	44.6	44.3	42.4	46.8	50.0	56.8	p61.6	p58.1	–
1986	–	–	–	–	–	–	–	–	–	–	–	–
Over 12-month span												
1984	81.9	78.4	76.8	75.1	72.7	73.0	70.0	65.7	63.5	60.5	56.2	51.9
1985	50.8	48.4	49.5	47.3	46.2	47.3	p49.6	p48.4	–	–	–	–
1986	–	–	–	–	–	–	–	–	–	–	–	–

– Data not available.

NOTE: Figures are the percent of industries with employment rising. (Half of the unchanged components are counted as rising.) Data are centered within the spans. See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

19. Annual data: Employment status of the noninstitutional population

(Numbers in thousands)

Employment status	1977	1978	1979	1980	1981	1982	1983	1984	1985
Noninstitutional population	160,689	163,541	166,460	169,349	171,775	173,939	175,891	178,080	179,912
Labor force									
Total (number)	100,665	103,882	106,559	108,544	110,315	111,872	113,226	115,241	117,167
Percent of population	62.6	63.5	64.0	64.1	64.2	64.3	64.4	64.7	65.1
Employed									
Total (number)	93,673	97,679	100,421	100,907	102,042	101,194	102,510	106,702	108,856
Percent of population	58.0	60.0	60.0	60.0	59.0	58.0	58.0	60.0	60.0
Resident Armed Forces	1,656	1,631	1,597	1,604	1,645	1,668	1,676	1,697	1,706
Civilian									
Total	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005	107,150
Agriculture	3,283	3,387	3,347	3,364	3,368	3,401	3,383	3,321	3,179
Nonagricultural industries	88,734	92,661	95,477	95,938	97,030	96,125	97,450	101,685	103,971
Unemployed									
Total (number)	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539	8,312
Percent of labor force	6.[illegible]	6.0	5.8	7.0	7.5	9.5	9.5	7.4	7.1
Not in labor force (number)	60,025	59,659	59,900	60,806	61,460	62,067	62,665	62,839	62,744

20. Annual data: Employment levels by industry

(Numbers in thousands)

Industry	1977	1978	1979	1980	1981	1982	1983	1984	1985 p
Total employment	82,471	86,697	89,823	90,406	91,156	89,566	90,196	94,461	97,698
Private sector	67,344	71,026	73,876	74,166	75,126	73,729	74,330	78,477	81,403
Goods-producing	24,346	25,585	26,461	25,658	25,497	23,813	23,334	24,730	25,056
Mining	813	851	958	1,027	1,139	1,128	952	974	969
Construction	3,851	4,229	4,463	4,346	4,188	3,905	3,948	4,345	4,661
Manufacturing	19,682	20,505	21,040	20,285	20,170	18,781	18,434	19,412	19,426
Service-producing	58,125	61,113	63,363	64,748	65,659	65,753	66,862	69,731	72,642
Transportation and public utilities	4,713	4,923	5,136	5,146	5,165	5,082	4,954	5,171	5,300
Wholesale trade	4,708	4,969	5,204	5,275	5,358	5,278	5,268	5,550	5,769
Retail trade	13,808	14,573	14,989	15,035	15,189	15,179	15,613	16,584	17,426
Finance, insurance, and real estate	4,467	4,724	4,975	5,160	5,298	5,341	5,468	5,682	5,924
Services	15,303	16,252	17,112	17,890	18,619	19,036	19,694	20,761	21,929
Government	15,127	15,672	15,947	16,241	16,031	15,837	15,869	15,984	16,295
Federal	2,727	2,753	2,773	2,866	2,772	2,739	2,774	2,807	2,875
State	3,377	3,474	3,541	3,610	3,640	3,640	3,662	3,712	3,780
Local	9,023	9,446	9,633	9,765	9,619	9,458	9,434	9,465	9,640

NOTE: Data include Alaska and Hawaii beginning in 1959. See "Notes on the data" for a description of the most recent benchmark revision.

p = preliminary

21. Annual data: Average hours and earnings of production or nonsupervisory workers on nonagricultural payrolls, by industry

Industry	1977	1978	1979	1980	1981	1982	1983	1984	1985 p
Private sector									
Average weekly hours	36.0	35.8	35.7	35.3	35.2	34.8	35.0	35.3	35.1
Average hourly earnings	5.25	5.69	6.16	6.66	7.25	7.68	8.02	8.33	8.58
Average weekly earnings	189.00	203.70	219.91	235.10	255.20	267.26	280.70	294.05	301.16
Mining									
Average weekly hours	43.4	43.4	43.0	43.3	43.7	42.7	42.5	43.3	43.4
Average hourly earnings	6.94	7.67	8.49	9.17	10.04	10.77	11.28	11.63	11.95
Average weekly earnings	301.20	332.88	365.07	397.06	438.75	459.88	479.40	503.58	518.63
Construction									
Average weekly hours	36.5	36.8	37.0	37.0	36.9	36.7	37.1	37.7	37.7
Average hourly earnings	8.10	8.66	9.27	9.94	10.82	11.63	11.94	12.12	12.26
Average weekly earnings	295.65	318.69	342.99	367.78	399.26	426.82	442.97	456.92	462.20
Manufacturing									
Average weekly hours	40.3	40.4	40.2	39.7	39.8	38.9	40.1	40.7	40.5
Average hourly earnings	5.68	6.17	6.70	7.27	7.99	8.49	8.83	9.18	9.52
Average weekly earnings	228.90	249.27	269.34	288.62	318.00	330.26	354.08	373.63	385.56
Transportation and public utilities									
Average weekly hours	39.9	40.0	39.9	39.6	39.4	39.0	39.0	39.4	39.4
Average hourly earnings	6.99	7.57	8.16	8.87	9.70	10.32	10.79	11.11	11.38
Average weekly earnings	278.90	302.80	325.58	351.25	382.18	402.48	420.81	437.73	448.37
Wholesale trade									
Average weekly hours	38.8	38.8	38.8	38.5	38.5	38.3	38.5	38.6	38.7
Average hourly earnings	5.39	5.88	6.39	6.96	7.56	8.09	8.55	8.96	9.26
Average weekly earnings	209.13	228.14	247.93	267.96	291.06	309.85	329.18	345.86	358.36
Retail trade									
Average weekly hours	31.6	31.0	30.6	30.2	30.1	29.9	29.8	30.0	29.7
Average hourly earnings	3.85	4.20	4.53	4.88	5.25	5.48	5.74	5.88	5.97
Average weekly earnings	121.66	130.20	138.62	147.38	158.03	163.85	171.05	176.40	177.31
Finance, insurance, and real estate									
Average weekly hours	36.4	36.4	36.2	36.2	36.3	36.2	36.2	36.5	36.4
Average hourly earnings	4.54	4.89	5.27	5.79	6.31	6.78	7.29	7.62	7.93
Average weekly earnings	165.26	178.00	190.77	209.60	229.05	245.44	263.90	278.13	288.65
Services									
Average weekly hours	33.0	32.8	32.7	32.6	32.6	32.6	32.7	32.8	32.8
Average hourly earnings	4.65	4.99	5.36	5.85	6.41	6.92	7.31	7.64	7.95
Average weekly earnings	153.45	163.67	175.27	190.71	208.97	225.59	239.04	250.59	260.76

p = preliminary

22. Employment Cost Index, compensation,[1] by occupation and industry group

(June 1981 = 100)

Series	1983	1984				1985				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec., 1985	
Civilian workers [2]	117.8	119.8	120.8	122.4	123.9	125.5	126.4	128.4	129.2	0.6	4.3
Workers, by occupational group:											
White-collar workers	118.9	120.9	122.1	124.0	125.5	127.3	128.3	130.7	131.6	.7	4.9
Blue-collar workers	115.8	117.7	118.6	119.6	120.9	122.2	123.1	124.4	124.9	.4	3.3
Service workers	119.1	122.0	122.1	124.6	126.8	127.8	128.0	130.9	131.8	.7	3.9
Workers, by industry division:											
Manufacturing	116.0	117.9	119.1	120.4	122.0	123.9	124.6	125.5	126.0	.4	3.3
Nonmanufacturing	118.6	120.7	121.6	123.3	124.8	126.2	127.2	129.7	130.6	.7	4.6
Services	122.6	125.0	125.5	128.8	130.9	131.9	132.6	136.4	137.1	.5	4.7
Public administration [3]	121.4	122.9	123.7	126.9	128.6	130.1	130.3	134.2	134.8	.4	4.8
Private industry workers	117.0	119.0	120.1	121.1	122.7	124.2	125.2	126.8	127.5	.6	3.9
Workers, by occupational group:											
White-collar workers	117.9	119.9	121.4	122.4	123.9	125.8	127.1	128.8	129.8	.8	4.8
Blue-collar workers	115.7	117.5	118.4	119.3	120.6	121.9	122.8	124.0	124.4	.3	3.2
Service workers	117.9	121.5	121.2	123.2	125.7	126.3	126.5	128.8	129.5	.5	3.0
Workers, by industry division:											
Manufacturing	116.0	117.9	119.1	120.4	122.0	123.9	124.6	125.5	126.0	.4	3.3
Nonmanufacturing	117.5	119.6	120.7	121.6	123.1	124.4	125.6	127.6	128.4	.6	4.3
State and local government workers	122.0	122.9	124.4	128.8	130.1	131.7	132.0	136.5	137.5	.7	5.7
Workers, by occupational group:											
White-collar workers	122.6	124.5	125.0	129.7	131.1	132.5	132.9	137.6	138.6	.7	5.7
Blue-collar workers	119.2	121.9	122.3	125.0	125.9	128.1	128.5	131.9	132.7	.6	5.4
Workers, by industry division:											
Services	122.6	124.5	125.0	129.9	131.3	132.8	133.2	137.9	139.1	.9	5.9
Schools	122.6	124.5	124.7	130.6	132.0	133.4	133.7	139.1	140.3	.9	6.3
Elementary and secondary	123.9	125.4	125.7	132.1	133.5	134.4	134.6	140.9	142.0	.8	6.4
Hospitals and other services[4]	122.6	124.4	125.7	127.9	129.2	131.1	131.5	134.1	135.2	.8	4.6
Public administration[3]	121.4	122.9	123.7	126.9	128.6	130.1	130.3	134.2	134.8	.4	4.8

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[1] Cost (cents-per-hour worked) measured in the Employment Cost Index consists of wages, salaries and employer cost of employee benefits.

[2] Consist of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[3] Consists of legislative, judicial, administrative, and regulatory activities.

[4] Includes, for example, library, social, and health services.

23. Employment Cost Index, wages and salaries only, by occupation and industry group

(June 1981=100)

Series	1983	1984				1985				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec., 1985	
Civilian workers [1]	116.5	117.9	118.8	120.3	121.7	123.1	124.2	126.3	127.0	0.6	4.4
Workers, by occupational group:											
White-collar workers	117.9	119.3	120.4	122.2	123.5	125.2	126.4	128.8	129.8	.8	5.1
Blue-collar workers	114.0	115.3	116.1	117.0	118.2	119.3	120.5	122.0	122.3	.2	3.5
Service workers	117.4	120.0	119.6	122.3	124.3	124.8	125.3	128.0	128.6	.5	3.5
Workers, by industry division											
Manufacturing	114.5	115.7	116.8	118.0	119.5	121.0	122.3	123.2	123.8	.5	3.6
Nonmanufacturing	117.4	118.9	119.7	121.3	122.6	123.9	125.0	127.6	128.4	.6	4.7
Services	121.3	123.3	123.8	127.2	128.9	129.7	130.5	134.2	134.8	.4	4.6
Public administration [2]	119.4	120.4	121.3	124.4	125.7	127.0	127.2	131.4	132.0	.5	5.0
Private industry workers	115.8	117.2	118.2	119.2	120.6	122.0	123.3	124.9	125.6	.6	4.1
Workers, by occupational group:											
White-collar workers	117.2	118.5	119.9	120.9	122.3	124.0	125.5	127.3	128.3	.8	4.9
Professional and technical	120.4	122.2	123.8	125.2	127.3	127.7	128.7	131.2	131.5	.2	3.3
Managers and administrators	115.7	118.0	119.2	121.0	122.2	123.8	126.5	127.7	128.4	.5	5.1
Salesworkers	111.2	110.2	111.9	110.5	111.6	116.3	117.4	119.3	122.5	2.7	9.8
Clerical workers	118.3	119.8	120.7	122.0	122.9	124.7	125.6	127.1	127.9	.6	4.1
Blue-collar workers	113.9	115.1	115.9	116.7	118.0	119.1	120.3	121.7	122.0	.2	3.4
Craft and kindred workers	115.4	116.5	117.3	118.0	119.4	120.8	122.0	123.7	123.8	.1	3.7
Operatives, except transport	113.6	114.9	115.8	116.6	117.9	118.9	120.1	121.1	121.6	.4	3.1
Transport equipment operatives	110.2	111.7	112.7	113.4	114.0	114.5	115.7	117.7	117.8	.1	3.3
Nonfarm laborers	112.1	112.9	114.1	114.7	115.9	116.7	118.5	118.6	119.8	1.0	3.4
Service workers	116.5	119.6	119.3	121.2	123.7	123.8	124.4	126.3	126.6	.2	2.3
Workers, by industry division:											
Manufacturing	114.5	115.7	116.8	118.0	119.5	121.0	122.3	123.2	123.8	.5	3.6
Durables	114.4	115.7	116.6	117.7	119.1	120.6	122.0	122.7	123.4	.6	3.6
Nondurables	114.6	115.8	117.1	118.6	120.2	121.6	122.6	124.0	124.6	.5	3.7
Nonmanufacturing	116.5	118.0	119.0	119.9	121.2	122.6	123.9	125.9	126.6	.6	4.5
Construction	112.9	113.3	114.0	114.3	114.4	115.5	116.6	117.3	117.9	.5	3.1
Transportation and public utilities	116.8	118.5	119.3	119.9	120.7	121.7	122.8	124.8	125.2	.3	3.7
Wholesale and retail trade	112.3	114.3	116.0	116.5	118.1	118.8	121.1	122.7	123.7	.8	4.7
Wholesale trade	116.5	118.2	120.0	120.7	122.9	123.7	126.8	127.7	128.3	.5	4.4
Retail trade	110.6	112.8	114.4	114.9	116.2	116.9	118.9	120.8	121.9	.9	4.9
Finance, insurance, and real estate	116.9	116.1	116.9	115.3	115.8	122.0	121.7	124.1	126.5	1.9	9.2
Services	121.9	124.2	124.7	127.1	129.5	129.9	131.0	133.9	134.1	.1	3.6
State and local government workers	120.0	121.6	122.0	126.1	127.1	128.4	129.7	133.2	134.2	.8	5.6
Workers, by occupational group											
White-collar workers	120.6	122.2	122.5	127.1	128.0	129.3	129.6	134.3	135.3	.7	5.7
Blue-collar workers	116.9	118.1	119.6	121.9	122.5	124.2	124.5	127.9	128.4	.4	4.8
Workers, by industry division											
Services	120.6	122.2	122.5	127.2	128.1	129.4	129.7	134.5	135.6	.8	5.9
Schools	120.6	122.2	122.3	127.8	128.7	129.9	130.2	135.8	137.0	.9	6.4
Elementary and secondary	121.7	122.9	123.0	129.3	130.2	130.8	131.1	137.5	138.5	.7	6.4
Hospitals and other services [3]	120.6	121.8	123.1	125.1	125.9	127.7	128.0	130.2	130.9	.5	4.0
Public administration [2]	119.4	120.4	121.3	124.4	125.7	127.0	127.2	131.4	132.0	.5	5.0

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[1] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[2] Consists of legislative, judicial, administrative, and regulatory activities.

[3] Includes, for example, library, social and health services.

24. Employment Cost Index, private nonfarm workers, by bargaining status, region, and area size

(June 1981=100)

Series	1983	1984				1985				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec., 1985	
COMPENSATION											
Workers, by bargaining status[1]											
Union	118.8	120.6	121.7	122.6	123.9	124.8	125.5	126.5	127.1	0.5	2.6
Manufacturing	117.2	119.3	120.5	121.6	123.2	124.2	124.2	125.0	125.5	.4	1.9
Nonmanufacturing	120.4	121.9	122.8	123.8	124.5	125.3	126.6	127.8	128.6	.6	3.3
Nonunion	115.9	118.0	119.2	120.3	121.9	123.8	125.0	126.8	127.5	.6	4.6
Manufacturing	114.9	116.6	117.9	119.3	120.8	123.6	124.8	125.7	126.3	.5	4.6
Nonmanufacturing	116.4	118.8	119.8	120.7	122.4	123.9	125.1	127.3	128.1	.6	4.7
Workers, by region[1]											
Northeast	117.5	118.9	120.7	122.4	123.8	125.1	126.4	128.8	129.9	.9	4.9
South	117.1	119.7	120.7	120.7	122.2	124.2	125.2	126.5	127.2	.6	4.1
Midwest (formerly North Central)	114.7	117.2	117.9	119.7	120.8	122.0	122.7	124.2	124.6	.3	3.1
West	120.0	121.0	122.2	122.5	124.9	126.8	127.9	129.1	129.8	.5	3.9
Workers, by area size[1]											
Metropolitan areas	117.4	119.4	120.6	121.5	123.2	124.7	125.7	127.3	128.1	.6	4.0
Other areas	114.6	116.7	117.4	119.0	119.8	121.4	122.5	123.9	123.9	.0	3.4
WAGES AND SALARIES											
Workers, by bargaining status											
Union	116.9	118.1	119.0	119.8	120.9	121.7	123.0	124.1	124.7	.5	3.1
Manufacturing	114.8	116.1	117.1	118.1	119.5	120.4	121.7	122.8	123.3	.4	3.2
Nonmanufacturing	118.9	120.1	120.7	121.3	122.1	122.8	124.1	125.3	125.9	.5	3.1
Nonunion	115.2	116.7	117.8	118.8	120.4	122.1	123.4	125.2	125.9	.6	4.6
Manufacturing	114.2	115.4	116.5	117.9	119.5	121.5	122.8	123.7	124.4	.6	4.1
Nonmanufacturing	115.6	117.2	118.3	119.2	120.7	122.3	123.6	125.9	126.6	.6	4.9
Workers, by region[1]											
Northeast	116.6	117.4	118.9	120.5	121.9	123.0	124.6	126.8	128.1	1.0	5.1
South	115.7	117.9	119.0	119.0	120.2	122.3	123.4	124.8	125.4	.5	4.3
Midwest (formerly North Central)	113.6	115.5	116.0	117.8	118.7	119.6	121.1	122.5	122.9	.3	3.5
West	118.5	118.8	119.6	120.0	122.5	124.0	125.1	126.6	127.1	.4	3.8
Workers, by area size[1]											
Metropolitan areas	116.2	117.6	118.6	119.5	121.0	122.4	123.8	125.5	126.3	.6	4.4
Other areas	113.4	115.1	116.0	117.5	118.3	119.6	120.6	121.9	122.0	.1	3.1

[1] The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the *Monthly Labor Review* Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

25. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		Quarterly average							
			1984				1985			
	1984	1985	I	II	III	IV	I	II^p	III^p	IV^p
Specified adjustments:										
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:										
First year of contract	3.6	2.6	5.1	3.5	2.7	3.7	3.6	3.5	2.0	2.0
Annual rate over life of contract	2.8	2.7	4.7	3.2	3.1	2.0	2.7	3.4	3.0	1.4
Wage adjustments, settlements covering 1,000 workers or more:										
First year of contract	2.4	2.3	2.8	2.6	2.1	2.3	3.3	2.5	2.0	2.1
Annual rate over life of contract	2.4	2.7	3.3	2.7	2.6	1.5	3.2	2.8	3.1	1.9
Effective adjustments:										
Total effective wage adjustment [3]	3.7	3.3	.9	.9	1.2	.7	.8	.8	1.2	.5
From settlements reached in period	.8	.7	.1	.1	.2	.3	.1	.2	.2	.2
Deferred from settlements reached in earlier periods	2.0	1.8	.4	.7	.7	.2	.6	.5	.6	.2
From cost-of-living-adjustments clauses	.9	.8	.3	.2	.3	.2	.1	.1	.4	.1

[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases and no changes in compensation or wages.

[3] Because of rounding total may not equal sum of parts.

p = preliminary

26. Average specified compensation and wage adjustments, major collective bargaining settlements in private industry situations covering 1,000 workers or more during 4-quarter periods (in percent)

Measure	Average for four quarters ending–							
	1984				1985			
	I	II	III	IV	I	II^p	III^p	IV^p
Specified total compensation adjustments, settlements covering 5,000 workers or more, all industries:								
First year of contract	4.8	4.7	4.2	3.6	3.4	3.5	3.1	(1)
Annual rate over life of contract	3.6	3.5	3.2	2.8	2.6	2.7	2.7	2.8
Specified wage adjustments, settlements covering 1,000 workers or more:								
All industries								
First year of contract	3.5	3.5	3.2	2.4	2.4	2.4	2.4	2.3
Contracts with COLA clauses	4.0	4.6	4.5	2.9	2.5	2.3	1.9	1.8
Contracts without COLA clauses	3.0	2.7	2.3	2.1	2.4	2.4	2.7	2.7
Annual rate over life of contract	3.0	3.1	2.8	2.4	2.3	2.4	2.5	2.7
Contracts with COLA clauses	2.6	2.9	2.8	1.8	1.3	1.5	1.8	2.5
Contracts without COLA clauses	3.4	3.2	2.8	2.7	2.8	2.8	3.0	2.8
Manufacturing								
First year of contract	2.6	3.0	2.6	2.3	2.1	2.0	1.5	.8
Contracts with COLA clauses	2.4	3.2	1.5	2.1	2.0	1.9	1.5	.8
Contracts without COLA clauses	2.9	2.8	3.7	2.9	2.5	2.2	1.5	.9
Annual rate over life of contract	2.8	3.1	2.8	1.5	1.4	1.5	1.6	1.9
Contracts with COLA clauses	2.2	2.8	1.8	1.0	.9	1.0	1.4	2.1
Contracts without COLA clauses	3.7	3.6	3.6	3.3	3.2	3.0	2.4	1.6
Nonmanufacturing								
First year of contract	3.8	3.7	3.3	2.5	2.6	2.7	3.2	3.3
Contracts with COLA clauses	4.9	5.2	5.4	5.5	5.1	4.3	4.0	3.6
Contracts without COLA clauses	3.0	2.6	2.1	2.0	2.4	2.5	3.0	3.3
Annual rate over life of contract	3.1	3.0	2.8	2.9	2.8	2.9	3.3	3.3
Contracts with COLA clauses	2.9	3.0	3.1	4.8	4.0	3.8	3.8	3.6
Contracts without COLA clauses	3.3	3.0	2.6	2.6	2.7	2.8	3.2	3.3
Construction								
First year of contract	1.2	.8	.9	.5	.9	1.1	1.0	1.5
Contracts with COLA clauses	.1	−.4	4.0	4.0	4.6	9.2	(1)	(1)
Contracts without COLA clauses	1.4	.9	.9	.4	.8	1.0	(1)	(1)
Annual rate over life of contract	2.0	1.7	1.4	1.0	1.4	1.7	1.7	2.1
Contracts with COLA clauses	.7	.0	1.4	1.4	1.7	4.6	(1)	(1)
Contracts without COLA clauses	2.2	1.8	1.4	1.0	1.4	1.7	(1)	(1)

[1] Data do not meet publication standards.

p = preliminary

27. Average effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more during 4-quarter periods (in percent)

Effective wage adjustment	Average for four quarters ending–						
	1984			1985			
	II	III	IV	I	II[p]	III[p]	IV[p]
For all workers:[1]							
Total	4.3	4.2	3.7	3.6	3.5	3.5	3.3
From settlements reached in period	1.0	1.0	.8	.7	.9	.9	.7
Deferred from settlements reached in earlier period	2.2	2.1	2.0	2.2	1.9	1.8	1.8
From cost-of-living-adjustments clauses	1.1	1.2	.9	.7	.7	.8	.8
For workers receiving changes:							
Total	5.3	5.0	4.4	4.5	4.2	4.3	4.1
From settlements reached in period	3.6	3.7	3.0	2.9	2.9	2.8	3.4
Deferred from settlements reached in earlier period	4.9	4.2	4.0	4.2	3.9	3.7	3.7
From cost-of-living-adjustments clauses	4.0	3.2	2.7	2.3	2.3	2.8	2.2

[1] Because of rounding total may not equal sum of parts.

[p] = preliminary

28. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, State and local government collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		Second 6 months 1985[p]
	1984	1985	
Specified adjustments:			
Total compensation[1] adjustments,[2] settlements covering 5,000 workers or more:			
First year of contract	5.2	4.2	3.8
Annual rate over life of contract	5.4	5.2	5.3
Wage adjustments, settlements covering 1,000 workers or more:			
First year of contract	4.8	4.6	4.4
Annual rate over life of contract	5.1	5.4	5.6
Effective adjustments:			
Total effective wage adjustment[3]	5.0	5.8	4.1
From settlements reached in period	1.9	4.1	3.2
Deferred from settlements reached in earlier periods	3.1	1.6	.9
From cost-of-living-adjustment clauses	([4])	([4])	([4])

[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases and no changes in compensation or wages.

[3] Because of rounding total may not equal sum of parts.

[4] Less than .05 percent.

[p] = preliminary

29. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1985												1986
	1984	1985	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.[p]	Sept.[p]	Oct.[p]	Nov.[p]	Dec.[p]	Jan.[p]
Number of stoppages:															
Beginning in period	62	-	2	4	4	3	2	2	9	6	11	4	2	2	-
In effect during period	68	-	9	13	12	8	8	8	13	16	20	16	11	8	-
Workers involved:															
Beginning in period (in thousands)	376.0	-	4.7	29.3	15.2	6.2	6.9	15.7	52.3	15.3	68.5	74.6	25.0	8.2	-
In effect during period (in thousands)	391.0	-	16.0	43.9	48.2	14.1	14.8	28.5	60.2	66.8	90.9	117.3	64.6	38.1	-
Days idle:															
Number (in thousands)	8,499.0	-	278.3	259.3	698.5	229.5	203.3	454.3	500.2	868.7	931.4	1,433.0	651.2	665.4	-
Percent of estimated working time[1]	.04	-	.01	.01	.03	.01	.01	.02	.02	.03	.04	.06	.03	.03	-

[1] Agricultural and government employees are included in the total employed and total working time; private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time worked is found in "Total Economy" Measure of Strike Idleness, *Monthly Labor Review*, October 1968, pp. 54-56.

- Data not available.

[p] = preliminary

30. Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967 = 100, unless otherwise indicated)

Series	Annual average		1985												1986
	1984	1985	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS:															
All items	311.1	322.2	316.1	317.4	318.8	320.1	321.3	322.3	322.8	323.5	324.5	325.5	326.6	327.4	328.4
All items (1957-59 = 100)	361.9	374.7	367.8	369.1	370.7	372.3	373.7	374.8	375.5	376.2	377.4	378.5	379.9	380.8	381.9
Food and beverages	295.1	302.0	299.3	301.4	301.8	301.6	301.0	301.4	301.6	301.8	302.1	302.5	303.6	306.6	307.9
Food	302.9	308.8	307.3	309.5	309.7	308.8	308.0	308.3	308.5	308.7	308.9	308.6	311.0	313.2	315.6
Food at home	292.6	296.8	296.1	298.6	298.4	297.7	296.2	296.0	296.2	295.9	295.6	295.3	296.6	299.3	302.5
Cereals and bakery products	305.3	317.0	312.4	313.7	314.4	314.8	315.4	317.3	317.3	318.5	319.2	318.9	319.8	321.9	322.0
Meats, poultry, fish, and eggs	258.6	263.4	266.6	267.0	266.1	263.6	259.6	259.8	260.5	259.7	260.6	261.1	266.1	269.9	271.5
Dairy products	253.2	258.0	258.8	259.2	258.9	259.3	258.4	257.8	257.8	257.4	258.0	257.1	257.1	258.9	257.2
Fruits and vegetables	317.4	325.7	320.8	333.0	332.1	333.2	330.3	329.0	328.9	326.3	319.9	317.1	314.3	323.9	334.4
Other foods at home	352.2	361.1	359.0	359.8	360.5	360.8	361.3	360.6	360.6	361.7	362.6	363.0	362.2	361.3	365.7
Sugar and sweets	389.1	398.8	394.5	394.8	394.8	398.1	397.6	398.3	400.2	401.8	401.1	402.6	401.4	402.2	405.1
Fats and oils	298.0	294.4	295.9	295.1	294.9	294.0	294.0	296.0	297.8	297.1	294.8	291.2	292.1	293.3	292.1
Nonalcoholic beverages	443.0	451.7	449.4	452.7	454.0	454.0	454.1	451.5	448.2	448.6	452.8	454.1	451.7	448.8	450.7
Other prepared foods	284.9	294.2	289.6	291.5	292.2	292.8	293.4	293.4	294.5	295.8	296.3	296.8	296.8	297.3	298.0
Food away from home	333.4	346.8	339.9	341.4	342.6	343.9	345.1	346.9	347.3	348.4	349.9	350.3	351.3	352.1	353.1
Alcoholic beverages	222.1	229.5	224.3	225.9	226.5	226.7	227.7	227.8	227.9	228.9	229.5	230.4	236.2	236.2	237.5
Housing	336.5	349.9	342.0	343.6	344.7	345.9	348.5	350.4	351.6	352.0	353.6	354.4	355.0	355.8	358.8
Shelter	361.7	382.0	371.2	373.3	374.3	375.9	379.5	381.0	383.2	385.9	386.9	389.1	391.3	392.3	393.8
Renters' costs (12/82 = 100)	108.6	115.4	111.8	112.4	112.9	113.5	114.5	115.1	115.8	116.6	117.0	117.9	118.4	118.3	119.8
Rent, residential	249.3	264.6	257.1	258.4	258.2	260.4	262.6	263.6	265.0	266.6	267.7	269.8	271.7	272.4	273.4
Other renters' costs	373.4	398.4	378.5	381.9	386.1	389.9	398.5	401.6	405.1	409.9	410.7	412.5	408.7	398.1	401.1
Homeowners' costs (12/82 = 100)	107.3	113.1	110.0	110.7	110.8	111.3	112.4	112.8	113.5	114.3	114.8	115.1	115.8	116.3	116.7
Owners' equivalent rent (12/82 = 100)	107.3	113.2	110.0	110.7	110.9	111.3	112.5	112.8	113.5	114.3	114.6	115.1	115.9	116.3	116.7
Household insurance (12/82 = 100)	107.5	112.4	108.0	108.5	110.4	111.4	112.0	112.7	112.7	113.0	113.7	114.6	114.5	115.0	115.7
Maintenance and repairs	359.2	368.9	366.0	366.8	370.0	364.0	368.2	367.6	367.8	370.6	368.7	368.5	372.7	373.7	379.1
Maintenance and repair services	408.7	421.1	414.7	415.8	422.2	418.2	416.0	423.2	421.1	425.1	421.9	422.2	426.4	426.2	432.6
Maintenance and repair commodities	262.7	268.6	269.9	270.5	270.6	270.4	268.2	265.7	267.8	268.2	268.6	268.0	271.5	273.3	277.1
Fuel and other utilities	387.3	393.6	387.2	386.5	388.2	386.7	393.0	398.4	399.9	398.9	400.5	395.6	392.1	393.3	394.6
Fuels	485.5	488.1	481.2	480.8	482.2	483.0	493.0	497.7	497.3	494.4	498.8	488.4	481.5	485.6	484.7
Fuel oil, coal, and bottled gas	641.8	619.5	621.6	623.4	620.8	623.5	620.6	612.0	601.9	594.6	601.7	615.3	641.6	657.3	650.3
Gas (piped) and electricity	445.2	452.7	444.1	443.3	445.5	445.9	454.7	465.6	467.1	465.1	466.5	453.9	442.5	450.6	442.6
Other utilities and public services	230.2	240.7	235.3	234.3	236.3	236.4	238.8	241.1	242.6	244.2	244.6	244.7	245.9	245.9	247.3
Household furnishings and operations	242.5	247.2	244.2	246.2	246.9	247.9	247.8	247.1	248.5	247.0	247.1	248.4	248.9	249.0	249.8
Housefurnishings	199.1	200.1	198.8	200.7	200.6	201.7	201.2	200.0	198.8	199.1	199.0	200.3	200.6	200.1	199.6
Housekeeping supplies	303.2	313.6	309.9	311.5	311.8	312.6	312.9	313.6	313.1	313.5	313.9	315.7	316.4	317.7	318.3
Housekeeping services	327.5	336.9	331.3	333.9	337.4	337.6	338.0	338.3	338.8	340.7	341.5	342.2	342.7	340.2	343.8
Apparel and upkeep	200.2	206.0	199.8	201.8	205.3	205.9	205.3	204.6	202.6	205.3	209.0	211.1	211.2	208.0	205.0
Apparel commodities	187.0	191.6	185.7	187.5	191.3	191.8	191.0	190.2	188.0	190.6	195.3	196.7	196.0	194.2	189.5
Men's and boys' apparel	182.4	187.9	180.2	182.8	185.2	187.4	187.8	188.4	184.5	187.2	191.5	193.2	193.6	192.0	188.6
Women's and girls' apparel	163.6	169.5	161.3	164.1	169.9	170.0	169.0	166.5	163.4	167.7	176.1	177.9	176.5	172.8	164.4
Infants' and toddlers' apparel	287.0	299.7	290.3	298.8	302.1	295.3	298.3	303.7	294.5	300.6	302.0	302.1	307.0	304.1	313.9
Footwear	209.5	212.1	208.6	210.1	213.1	213.2	213.2	213.9	211.4	210.3	210.9	212.3	215.5	213.1	209.1
Other apparel commodities	216.4	215.5	212.2	215.5	216.9	215.8	215.1	216.3	216.7	217.5	215.2	214.9	214.9	214.6	215.5
Apparel services	305.0	320.9	312.5	316.0	317.1	318.4	318.4	319.9	321.4	322.9	324.1	325.7	326.3	326.5	328.4
Transportation	311.7	319.9	314.7	314.3	316.7	320.0	321.4	321.6	321.6	320.7	319.7	320.9	323.2	324.0	323.8
Private transportation	306.6	314.2	309.1	308.7	311.0	314.6	316.0	316.3	316.1	314.9	313.6	314.7	317.0	317.9	317.3
New vehicles	208.0	214.9	212.7	213.6	213.8	213.9	214.2	214.3	214.3	214.2	214.2	215.9	218.2	218.2	218.7
New cars	208.5	215.2	213.1	213.9	214.1	214.1	214.5	214.7	214.7	214.6	214.5	216.2	218.4	218.4	218.9
Used cars	375.7	379.7	382.8	384.6	386.1	386.4	384.2	380.3	376.7	374.0	374.3	375.3	376.4	375.6	374.1
Motor fuel	370.7	373.8	357.6	352.4	360.6	374.2	381.6	384.7	385.5	381.9	377.7	374.8	376.7	377.5	373.3
Gasoline	370.2	373.3	356.8	351.6	360.0	373.6	381.4	384.5	385.3	381.6	377.4	374.2	376.1	376.6	372.5
Maintenance and repair	341.5	351.4	346.9	348.2	348.5	348.2	349.6	350.4	351.1	351.9	353.5	355.7	355.6	357.5	357.9
Other private transportation	273.3	287.6	283.9	284.4	284.5	285.8	285.6	286.6	287.6	287.7	288.8	289.6	290.0	295.2	297.7
Other private transportation commodities	201.5	202.6	202.0	203.6	201.9	202.8	201.3	203.9	202.2	202.8	203.4	202.9	201.6	202.1	203.4
Other private transportation services	295.0	312.8	308.3	308.5	309.1	310.5	310.7	311.3	313.0	313.0	310.4	315.4	321.2	325.7	325.5
Public transportation	385.2	402.8	394.5	394.4	397.3	398.0	398.4	399.3	402.4	403.7	409.0	411.5	412.8	412.9	419.6
Medical care	379.5	403.1	391.1	393.6	396.5	398.0	399.5	401.7	404.0	406.6	408.3	410.5	413.0	414.7	419.2
Medical care commodities	239.7	256.7	249.2	249.8	251.5	253.9	255.2	257.0	257.8	258.3	260.2	261.3	262.7	262.9	264.1
Medical care services	410.3	435.1	422.4	425.3	428.1	429.4	430.9	433.0	435.8	436.6	440.5	443.0	445.8	448.0	451.9
Professional services	346.1	367.3	359.8	359.3	361.9	363.0	364.5	366.4	368.1	370.0	371.7	373.2	375.5	377.1	379.9
Other medical care services	488.0	517.0	501.7	505.2	508.0	508.6	511.2	512.9	517.6	521.8	523.9	527.4	530.8	533.6	540.3
Entertainment	256.1	265.0	261.0	261.3	262.2	263.3	263.6	264.8	265.7	262.7	266.8	266.4	266.0	266.3	270.8
Entertainment commodities	253.3	260.6	257.1	257.9	258.7	259.5	259.5	260.1	260.8	260.5	262.5	264.0	264.0	262.5	264.7
Entertainment services	258.3	271.8	267.0	266.7	267.6	269.2	269.9	272.0	273.3	273.6	273.3	275.2	276.6	277.1	279.9
Other goods and services	307.7	326.6	319.1	320.5	321.1	321.8	322.3	323.0	325.0	326.0	333.3	334.9	335.3	336.5	339.1
Tobacco products	310.0	328.5	321.0	323.2	323.7	324.0	324.1	324.6	330.0	331.5	332.8	334.4	334.7	337.4	342.7
Personal care	271.4	281.9	277.2	278.2	278.7	279.8	280.9	281.7	282.3	283.3	284.1	285.0	285.4	286.3	288.1
Toilet goods and personal care appliances	269.6	278.5	274.0	275.4	276.0	277.1	277.5	277.5	278.9	279.4	280.6	281.4	281.1	282.5	285.3
Personal care services	274.1	286.0	281.1	281.7	282.0	283.3	285.0	286.1	286.3	287.7	289.2	289.2	290.2	290.6	291.8
Personal and educational expenses	365.7	397.1	385.6	386.9	387.6	388.3	388.5	390.1	390.1	390.7	412.5	414.7	415.4	415.5	416.8
School books and supplies	322.8	350.8	340.7	343.8	343.9	344.5	344.5	344.9	345.5	348.1	362.1	364.5	364.7	364.7	371.0
Personal and educational services	375.6	407.7	395.9	396.9	397.8	398.5	398.6	399.4	400.4	401.1	423.9	426.2	426.9	427.0	427.6

See footnotes at end of table.

30. Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967=100, unless otherwise indicated)

Series	Annual average		1985												198
	1984	1985	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
All items	311.1	322.2	316.1	317.4	318.8	320.1	321.3	322.3	322.8	323.5	324.5	325.5	326.6	327.4	328.
Commodities	280.7	286.7	282.7	284.0	285.3	286.8	287.0	286.9	286.5	286.5	287.1	287.9	289.2	289.9	290.
Food and beverages	295.1	302.0	299.3	301.4	301.6	301.6	301.0	301.4	301.6	301.8	302.1	302.5	303.6	305.6	307.
Commodities less food and beverages	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nondurables less food and beverages	275.7	282.1	274.4	274.7	277.9	281.5	283.1	283.5	282.9	283.1	284.6	285.3	286.8	286.8	284.
Apparel commodities	187.0	191.6	185.7	187.5	191.3	191.8	191.0	190.2	188.0	190.6	195.3	196.7	196.8	194.2	189.
Nondurables less food, beverages, and apparel	325.8	333.3	324.5	324.2	327.1	332.3	335.1	336.2	336.4	335.4	335.3	335.6	337.8	339.1	338.
Durables	266.5	270.7	270.2	271.4	271.9	272.6	271.6	270.4	269.3	268.6	268.7	270.2	271.5	271.4	271.
Services	363.0	381.5	372.1	373.5	375.0	376.2	378.9	381.3	383.3	384.9	386.5	387.7	388.7	389.5	391.
Rent of shelter	107.7	113.9	110.6	111.3	111.5	112.0	113.2	113.6	114.3	115.1	115.4	116.1	116.7	117.0	117.4
Household services less rent of shelter	108.1	111.2	108.9	108.9	109.7	109.8	110.9	112.7	113.2	113.2	113.5	112.1	110.8	110.8	111.4
Transportation services	321.1	337.0	331.8	332.2	333.2	334.1	334.5	335.3	337.0	337.4	337.1	341.1	344.7	346.1	349.0
Medical care services	410.3	435.1	422.4	425.3	428.1	429.4	430.9	433.0	435.8	438.6	440.5	443.0	445.8	448.0	451.9
Other services	296.0	314.1	307.1	307.8	308.6	309.9	310.7	312.0	313.0	313.8	319.7	321.4	322.5	322.9	324.8
Special indexes:															
All items less food	311.3	323.3	316.3	317.4	319.1	320.8	322.4	323.6	324.2	325.0	326.2	327.4	328.5	328.9	329.5
All items less shelter	295.1	303.9	298.9	300.0	301.5	302.8	303.4	304.3	304.4	304.6	305.7	306.3	307.2	307.9	308.8
All items less homeowners' costs	106.3	109.7	107.8	108.2	108.7	109.2	109.5	109.8	109.9	110.1	110.4	110.7	111.1	111.3	111.6
All items less medical care	307.3	317.7	311.9	313.1	314.5	315.8	317.0	317.9	318.4	318.9	319.9	320.8	321.9	322.6	323.4
Commodities less food	267.0	272.5	267.8	268.6	270.6	272.8	273.4	273.1	272.4	272.3	273.1	274.4	275.7	275.7	274.7
Nondurables less food	270.8	277.2	269.7	270.2	273.2	276.5	278.0	278.4	277.9	278.1	279.6	280.7	282.0	282.0	280.4
Nondurables less food and apparel	311.9	319.2	310.9	310.8	313.5	318.1	320.7	321.7	321.9	321.1	321.0	322.0	324.0	325.1	324.9
Nondurables	286.6	293.2	288.0	289.2	291.0	292.7	293.3	293.7	293.5	293.7	294.6	295.1	296.4	297.4	297.7
Services less rent of shelter	108.5	113.5	111.1	111.3	111.9	112.2	112.8	113.7	114.2	114.5	115.0	115.1	115.2	115.4	116.2
Services less medical care	355.6	373.3	364.3	365.5	366.9	368.1	370.9	373.3	375.2	376.7	378.3	379.3	380.1	380.8	382.7
Energy	423.6	426.5	414.5	411.4	416.6	424.4	431.7	436.8	437.1	433.8	432.6	427.1	425.1	426.5	424.7
All items less energy	302.9	314.8	309.2	310.9	312.0	312.7	313.3	313.9	314.5	315.6	316.8	318.4	319.8	320.5	321.8
All items less food and energy	301.2	314.4	307.9	309.5	310.8	311.8	312.8	313.4	314.1	315.3	316.9	318.9	320.4	320.7	321.6
Commodities less food and energy	253.1	259.7	256.5	258.1	259.3	260.0	259.6	259.0	258.2	258.8	260.2	262.0	262.7	262.2	261.8
Energy commodities	409.8	409.9	395.7	391.3	398.3	410.8	417.0	418.7	418.1	414.0	411.2	410.1	415.2	417.9	413.2
Services less energy	356.4	375.9	366.4	368.0	369.4	370.7	372.9	374.6	376.6	378.6	380.2	382.5	384.8	385.8	387.9
Purchasing power of the consumer dollar:															
1967=$1.00	32.1	31.0	31.6	31.5	31.4	31.2	31.1	31.0	31.0	30.9	30.8	30.7	30.6	30.5	30.5
1957-59=$1.00	27.6	26.7	27.2	27.1	27.0	26.9	26.8	26.7	26.6	26.6	26.5	26.4	26.3	26.3	26.2
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS:															
All items	307.6	318.5	312.6	313.9	315.3	316.7	317.8	318.7	319.1	319.6	320.5	321.3	322.6	323.4	324.3
All items (1957-59=100)	357.7	370.4	363.6	365.1	366.7	368.3	369.6	370.6	371.2	371.8	372.7	373.7	375.1	376.1	377.1
Food and beverages	295.2	301.8	299.1	301.2	301.6	301.4	300.8	301.2	301.4	301.6	301.8	302.2	303.4	305.4	307.7
Food	302.7	309.3	306.9	309.0	309.3	309.2	308.4	308.8	309.0	309.1	309.3	309.3	310.6	312.8	315.1
Food at home	291.2	295.3	294.5	297.0	296.9	296.1	294.6	294.5	294.6	294.3	294.0	293.7	295.2	297.9	300.9
Cereals and bakery products	303.7	315.4	310.7	311.9	312.7	313.1	314.1	315.7	315.7	316.8	317.6	317.3	318.2	320.4	320.4
Meats, poultry, fish, and eggs	266.0	262.7	266.0	266.3	265.[illegible]	262.9	259.2	259.3	259.7	259.0	259.9	260.4	265.4	269.2	270.7
Dairy products	252.2	256.9	257.8	258.3	257.8	257.2	257.3	256.7	256.6	256.3	256.8	255.9	255.9	255.7	256.0
Fruits and vegetables	312.5	320.3	314.9	327.1	326.8	328.1	324.8	323.5	323.9	320.6	313.6	311.2	309.4	319.3	329.7
Other foods at home	352.7	361.5	358.3	360.2	361.0	361.3	361.6	361.3	361.1	362.2	362.9	363.4	362.5	361.6	366.1
Sugar and sweets	388.6	398.3	394.0	394.4	394.2	395.5	396.9	398.0	399.8	401.4	400.8	402.2	400.9	401.8	404.7
Fats and oils	287.5	293.9	295.3	294.7	294.3	293.7	293.6	295.6	297.3	296.5	294.1	290.6	291.8	289.6	291.6
Nonalcoholic beverages	444.4	453.2	450.9	454.2	455.5	455.6	455.4	453.0	449.8	451.2	454.1	455.6	453.1	450.4	461.0
Other prepared foods	286.4	295.7	290.9	292.9	293.7	294.2	294.9	295.0	296.1	297.3	297.7	298.3	2[illegible]3.3	298.7	299.4
Food away from home	336.7	349.7	343.0	344.6	345.8	347.1	348.4	350.1	350.4	351.5	353.0	353.4	354.4	355.2	356.2
Alcoholic beverages	225.3	232.6	227.6	229.1	229.9	229.9	230.8	231.0	231.0	232.2	232.6	239.1	238.8	239.1	240.1
Housing	329.2	343.3	335.7	337.2	338.2	339.5	342.1	344.0	345.0	346.2	347.2	347.5	348.3	349.1	350.1
Shelter	350.0	370.4	360.0	362.0	363.0	364.7	368.1	369.5	371.5	374.0	375.0	377.1	379.3	380.4	381.8
Renters' costs (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rent, residential	248.6	263.7	256.3	257.5	258.4	259.6	261.8	262.7	264.1	265.7	266.8	268.9	270.7	271.5	272.5
Other renters' costs	372 4	397.9	377.8	380.8	385.3	391.0	396.7	401.0	405.2	409.6	409.8	411.6	408.0	397.5	400.8
Homeowners' costs (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Owners' equivalent rent (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Household insurance (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maintenance and repairs	356.3	364.1	360.9	361.5	364.3	363.1	361.8	362.9	363.4	365.6	364.4	364.6	367.7	368.5	373.2
Maintenance and repair services	403.5	415.0	407.8	408.8	414.8	411.7	410.1	417.0	415.3	419.6	416.8	417.4	420.9	420.1	426.2
Maintenance and repair commodities	257.2	261.1	260.8	261.1	261.6	261.6	260.7	258.4	260.0	260.6	260.5	260.5	262.7	264.2	267.2
Fuel and other utilities	388.6	394.7	388.3	387.5	389.2	389.7	393.8	400.9	401.2	400.1	401.9	396.3	393.2	394.3	395.6
Fuels	485.0	487.5	480.7	480.3	481.6	482.3	488.9	497.7	497.0	494.0	496.7	487.2	481.0	483.1	484.1
Fuel oil, coal, and bottled gas	644.3	622.0	623.9	625.7	623.1	625.9	623.2	614.3	604.2	596.9	604.3	618.1	644.3	659.9	652.7
Gas (piped) and electricity	444.1	451.6	443.2	442.3	444.4	444.6	453.0	465.1	466.3	464.2	465.9	452.0	439.5	438.8	441.4
Other utilities and public services	231.2	241.6	236.3	235.1	237.2	237.3	237.7	242.0	243.7	245.1	245.6	245.7	246.8	246.7	248.3
Household furnishings and operations	239.1	243.4	240.4	242.6	243.2	244.1	244.0	243.3	242.6	243.1	243.2	244.5	245.1	245.2	245.1
Housefurnishings	197.0	197.6	196.3	198.3	198.2	199.2	198.9	197.6	196.2	196.6	196.5	197.7	198.3	197.8	197.3
Housekeeping supplies	300.2	310.7	306.9	308.5	308.9	309.8	310.0	310.8	310.3	310.4	311.0	312.7	313.5	315.0	315.8
Housekeeping services	328.0	340.2	331.8	334.9	338.5	339.0	339.2	339.5	341.0	342.2	342.9	343.9	344.5	345.0	345.6
Apparel and upkeep	199.1	205.0	198.5	200.7	204.2	204.9	204.2	203.7	201.8	204.3	208.7	210.2	210.2	208.1	204.1

See footnotes at end of table.

30. Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967=100, unless otherwise indicated)

Series	Annual average		1985												1986
	1984	1985	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Apparel commodities	186.6	191.3	185.1	187.2	190.9	191.5	190.7	190.0	187.8	190.4	195.1	196.6	196.5	194.1	189.4
Men's and boys' apparel	192.9	198.2	193.6	193.1	195.7	197.8	198.2	198.6	194.8	197.3	201.8	203.5	203.7	202.2	198.8
Women's and girls' apparel	165.0	171.3	162.1	165.8	171.5	172.0	169.7	168.4	165.5	169.9	178.2	180.0	178.3	174.5	166.1
Infants' and toddlers' apparel	297.6	311.7	299.7	310.1	314.5	306.4	310.6	313.5	306.4	311.2	314.9	314.8	320.7	317.3	332.7
Footwear	210.0	212.5	209.5	210.8	213.4	213.3	213.3	214.1	211.6	210.5	211.0	212.6	215.9	213.6	209.9
Other apparel commodities	204.5	203.1	199.9	203.0	204.2	203.3	202.7	204.0	204.5	205.2	202.5	202.4	202.5	202.4	203.5
Apparel services	302.9	318.5	310.2	313.6	314.7	316.1	317.0	317.6	319.0	320.5	321.6	323.2	323.6	324.4	327.2
Transportation	313.9	321.6	316.7	316.3	318.7	322.0	323.3	323.6	323.5	322.3	321.1	322.2	324.6	325.3	325.1
Private transportation	310.1	317.4	312.6	312.2	314.6	318.0	319.4	319.6	319.3	318.0	316.6	317.6	320.1	320.8	320.2
New vehicles	207.3	214.2	212.0	212.8	213.2	213.2	213.5	213.6	213.6	213.5	213.5	215.3	217.5	218.6	219.0
New cars	207.9	214.5	212.4	213.1	213.4	213.4	213.8	214.0	214.0	213.9	213.8	215.5	217.8	218.8	219.2
Used cars	375.7	379.7	382.8	384.6	386.2	386.4	384.2	380.3	376.7	374.0	374.3	375.3	376.4	375.6	374.1
Motor fuel	372.2	375.4	359.0	354.0	362.2	375.7	383.0	386.2	387.2	383.8	379.5	376.3	378.7	379.6	375.3
Gasoline	371.8	375.0	358.2	353.2	361.6	375.3	382.7	386.0	387.0	383.7	379.2	375.8	378.1	378.9	374.6
Maintenance and repair	342.2	352.6	347.9	349.2	349.6	349.3	350.6	351.5	352.2	352.9	354.5	356.9	357.2	359.0	359.4
Other private transportation	274.2	287.7	284.7	285.2	285.1	286.3	285.9	286.9	287.7	287.6	285.2	289.2	293.7	294.7	296.9
Other private transportation commodities	203.9	204.7	204.2	206.1	204.2	205.1	203.5	205.9	204.3	204.9	205.6	205.0	203.7	204.3	205.6
Other private transportation services	295.4	312.3	306.6	306.7	309.2	310.4	310.4	310.9	312.4	312.1	308.9	314.1	320.2	321.3	323.7
Public transportation	376.8	391.7	384.2	384.2	386.7	387.4	387.6	388.4	392.1	393.5	396.8	399.3	400.1	400.2	408.6
Medical care	377.7	401.2	389.3	392.0	394.6	396.1	397.7	399.8	402.0	404.5	406.3	408.5	410.9	412.6	416.0
Medical care commodities	239.7	256.3	248.0	249.6	251.5	253.5	254.8	256.7	257.4	259.0	259.8	260.9	262.2	262.3	264.1
Medical care services	407.9	432.7	420.1	423.1	425.7	427.1	428.7	430.7	433.3	436.1	438.1	440.6	443.2	445.4	449.2
Professional services	346.5	367.7	357.2	359.7	362.4	363.6	365.0	366.8	368.5	370.4	372.1	373.7	375.8	377.6	379.3
Other medical care services	484.7	513.9	498.8	502.3	505.0	506.6	508.2	510.5	514.4	518.4	520.7	524.4	527.5	530.4	536.9
Entertainment	251.2	260.1	256.6	256.9	257.3	258.6	258.9	260.1	260.9	260.8	261.6	263.0	263.7	263.0	265.4
Entertainment commodities	247.7	254.2	251.1	251.9	252.2	253.2	253.1	253.9	254.5	254.3	256.0	257.1	257.2	255.7	257.8
Entertainment services	258.5	271.6	267.4	268.8	267.4	269.2	270.0	272.0	273.2	273.3	272.6	274.6	276.3	276.8	280.0
Other goods and services	304.9	322.7	315.6	317.1	317.6	318.3	318.8	319.5	321.8	322.9	328.7	330.1	330.5	331.9	334.9
Tobacco products	309.7	328.1	320.8	323.0	323.4	323.6	323.6	324.4	329.7	331.1	332.4	334.0	334.3	337.1	342.4
Personal care	269.4	279.6	274.9	275.9	276.3	277.5	278.6	279.2	279.9	280.9	281.8	282.7	283.1	284.0	285.9
Toilet goods and personal care appliances	270.3	279.0	274.6	275.9	276.5	277.5	277.8	278.2	279.2	280.0	281.1	282.0	281.9	283.3	285.9
Personal care services	268.8	280.5	275.7	276.3	276.5	278.0	279.7	280.7	280.9	282.2	282.8	283.7	284.8	285.2	286.4
Personal and educational expenses	368.2	399.3	387.9	389.3	390.1	390.7	390.9	391.6	392.5	393.2	414.5	416.5	417.3	417.4	418.9
School books and supplies	327.5	355.7	345.5	348.7	348.8	349.4	349.5	349.9	350.6	351.2	366.9	369.2	369.3	369.4	375.6
Personal and educational services	378.2	410.1	398.3	399.4	400.3	401.0	401.2	401.9	402.9	403.6	426.1	428.1	428.9	429.1	429.7
All items	307.6	318.5	312.6	313.9	315.3	316.7	317.8	318.7	319.1	319.6	320.5	321.3	322.6	323.4	324.3
Commodities	280.4	286.5	282.5	283.8	285.2	286.7	286.8	286.8	286.4	286.3	286.8	287.5	288.9	289.7	289.8
Food and beverages	295.2	301.8	299.1	301.2	301.6	301.4	300.8	301.2	301.4	301.6	301.8	302.2	303.4	305.4	307.7
Commodities less food and beverages	269.3	-	270.7	271.4	273.6	276.3	277.5	277.7	-	-	-	-	-	-	-
Nondurables less food and beverages	277.5	283.8	275.8	276.2	279.4	283.2	284.9	285.4	285.0	285.1	286.5	287.0	288.5	288.7	286.9
Apparel commodities	186.6	191.3	185.1	187.2	190.9	191.5	190.7	190.0	187.8	190.4	195.1	196.6	196.5	194.1	189.4
Nondurables less food, beverages, and apparel	327.0	334.2	325.2	324.7	327.8	333.1	336.0	337.2	337.6	336.6	336.4	336.5	338.8	340.1	339.6
Durables	261.1	265.2	264.9	266.2	266.7	267.3	266.3	265.1	263.8	263.1	263.1	264.5	265.7	265.7	265.6
Services	358.0	377.3	368.3	369.6	371.0	372.2	374.9	377.4	379.2	380.7	382.0	383.0	384.2	385.1	387.2
Rent of shelter (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Household services less rent of shelter (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transportation services	317.2	332.2	327.7	328.1	328.8	329.6	329.9	330.6	332.2	332.4	331.4	335.5	339.3	340.5	343.3
Medical care services	407.9	432.7	420.1	423.1	425.7	427.1	428.7	430.7	433.3	436.1	438.1	440.6	443.2	445.4	449.2
Other services	292.9	310.1	303.5	304.2	304.9	306.2	307.2	308.4	309.3	310.1	315.0	316.7	317.8	318.3	320.4
Special indexes:															
All items less food	307.5	319.4	312.7	313.7	315.4	317.2	318.7	319.8	320.3	320.9	321.9	322.9	324.2	324.6	325.1
All items less shelter	295.1	303.4	298.6	299.7	301.1	302.4	303.0	303.9	304.0	304.0	304.8	305.4	306.4	307.2	307.9
All items less homeowners' costs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All items less medical care	304.0	314.3	308.7	309.9	311.3	312.6	313.7	314.6	314.9	315.3	316.1	316.9	318.1	318.9	319.6
Commodities less food	267.1	272.8	268.2	269.0	271.0	273.3	273.8	273.6	272.8	272.7	273.4	274.5	275.9	275.9	275.0
Nondurables less food	272.6	279.0	271.2	271.7	274.7	278.2	279.8	280.4	280.0	280.2	281.5	282.4	283.8	283.9	282.3
Nondurables less food and apparel	313.2	320.3	311.8	311.5	314.4	319.1	321.8	322.9	323.2	322.4	322.3	323.1	325.0	326.3	325.9
Nondurables	287.4	293.9	288.6	289.8	291.6	293.4	294.0	294.4	294.3	294.5	295.2	295.7	297.1	298.2	298.4
Services less rent of shelter (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Services less medical care	350.5	369.0	360.4	361.6	362.8	364.1	366.8	369.3	371.1	372.5	373.6	374.5	375.5	376.2	378.2
Energy	423.3	426.3	413.8	410.6	416.0	424.2	431.3	436.9	437.2	433.9	432.5	426.6	425.4	426.8	424.7
All items less energy	298.3	309.9	304.7	306.4	307.4	308.1	308.6	309.1	309.5	310.4	311.5	313.0	314.5	315.3	316.5
All items less food and energy	295.8	306.7	302.7	304.3	305.5	306.4	307.3	307.8	308.3	309.4	310.7	312.7	314.2	314.6	315.4
Commodities less food and energy	250.5	256.8	253.8	255.5	256.6	257.2	256.8	256.2	255.3	255.8	257.2	258.8	259.5	259.2	258.8
Energy commodities	410.5	410.9	396.2	391.8	399.0	411.6	418.0	419.9	419.6	415.7	412.6	411.2	416.3	418.9	414.1
Services less energy	350.8	371.1	362.0	363.6	364.9	366.2	368.4	369.9	371.9	373.7	374.9	377.3	379.8	380.8	382.9
Purchasing power of the consumer dollar:															
1967=$1.00	32.5	31.4	32.0	31.9	31.7	31.6	31.5	31.4	31.3	31.3	31.2	31.1	31.0	30.9	30.8
1957-59=$1.00	28.0	27.0	27.5	27.4	27.3	27.2	27.1	27.0	26.9	26.9	26.8	[illegible]	26.7	26.6	26.5

- Data not available.

31. Consumer Price Index: U.S. city average and available local area data: all items

(1967 = 100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1985						1986	1985						1986
			Jan.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Jan.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.
U.S. city average		–	316.1	317.4	324.5	325.5	326.6	327.4	328.4	312.6	313.9	320.5	321.3	322.6	323.4	324.3
Chicago, Ill.-Northwestern Ind.	M	–	315.1	316.7	326.3	322.6	324.2	325.9	326.3	302.5	304.0	312.1	308.9	310.9	312.6	312.9
Detroit, Mich.	M	–	310.9	313.7	320.5	319.7	323.1	323.1	323.1	301.2	304.0	310.3	309.7	313.2	313.1	313.4
Los Angeles-Long Beach, Anaheim, Calif.	M	–	313.0	314.1	323.8	326.1	325.0	326.1	326.8	308.1	309.1	317.7	320.0	319.1	320.1	320.9
New York, N.Y.-Northeastern N.J.	M	–	308.4	310.2	316.9	317.4	315.9	320.8	323.1	302.0	303.6	309.3	309.9	312.5	313.5	315.8
Philadelphia, Pa.-N.J.	M	–	306.3	309.2	316.5	317.4	318.8	319.7	320.3	309.4	312.4	319.1	320.3	321.5	322.5	323.0
Anchorage, Alaska (10/67 = 100)	1	10/67	278.3	–	284.5	–	286.9	–	287.1	271.7	–	277.3	–	280.1	–	280.2
Baltimore, Md.	1	–	315.2	–	327.5	–	327.3	–	332.0	315.1	–	326.3	–	326.3	–	331.1
Boston, Mass.	1	–	309.4	–	321.3	–	325.4	–	327.1	307.8	–	319.3	–	323.0	–	324.5
Cincinnati, Ohio-Ky.-Ind.	1	–	325.1	–	329.8	–	333.4	–	333.2	318.9	–	322.8	–	326.2	–	326.0
Denver-Boulder, Colo.	1	–	350.6	–	358.0	–	359.4	–	364.4	346.2	–	353.3	–	354.1	–	359.1
Miami, Fla. (11/77 = 100)	1	11/77	168.6	–	173.5	–	173.9	–	174.6	168.8	–	174.5	–	174.9	–	175.7
Milwaukee, Wis.	1	–	324.6	–	332.4	–	333.9	–	333.9	343.4	–	351.4	–	353.2	–	358.0
Northeast, Pa.	1	–	301.5	–	308.8	–	310.6	–	311.6	301.0	–	306.3	–	309.6	–	310.8
Portland, Oreg.-Wash.	1	–	306.8	–	314.9	–	317.1	–	321.3	297.4	–	305.4	–	307.3	–	311.0
St. Louis, Mo.-Ill.	1	–	313.3	–	321.6	–	321.6	–	322.4	310.4	–	318.5	–	318.5	–	319.1
San Diego, Calif.	1	–	364.1	–	377.3	–	375.0	–	381.9	329.1	–	340.3	–	341.9	–	344.7
Seattle-Everett, Wash.	1	–	319.5	–	321.8	–	324.0	–	327.0	306.7	–	308.9	–	310.8	–	313.5
Washington, D.C.-Md.-Va.	1	–	314.6	–	323.6	–	326.9	–	331.1	317.7	–	327.4	–	330.5	–	332.6
Atlanta, Ga.	2	–	–	322.6	–	333.0	–	335.3	–	–	320.3	–	330.0	–	332.6	–
Buffalo, N.Y.	2	–	–	301.3	–	309.3	–	309.8	–	–	288.1	–	295.3	–	295.9	–
Cleveland, Ohio	2	–	–	340.4	–	348.6	–	348.8	–	–	319.8	–	327.0	–	327.5	–
Dallas-Ft. Worth, Tex.	2	–	–	333.2	–	343.9	–	344.5	–	–	326.9	–	337.5	–	338.3	–
Honolulu, Hawaii	2	–	–	292.6	–	295.6	–	298.5	–	–	300.3	–	302.7	–	305.8	–
Houston, Tex.	2	–	–	333.6	–	337.6	–	336.8	–	–	331.1	–	335.0	–	334.1	–
Kansas City, Mo.-Kansas	2	–	–	314.8	–	323.1	–	321.8	–	–	304.4	–	312.9	–	311.7	–
Minneapolis-St. Paul, Minn.-Wis.	2	–	–	330.4	–	340.6	–	340.4	–	–	326.0	–	338.0	–	336.0	–
Pittsburgh, Pa.	2	–	–	323.8	–	328.4	–	331.5	–	–	306.0	–	309.9	–	312.8	–
San Francisco-Oakland, Calif.	2	–	–	326.7	–	336.7	–	336.4	–	–	324.2	–	331.0	–	331.3	–
Region[3]																
Northeast	2	12/77	–	168.2	–	172.5	–	174.3	–	–	168.4	–	170.3	–	172.1	–
North Central	2	12/77	–	171.2	–	174.9	–	176.0	–	–	168.1	–	171.4	–	172.6	–
South	2	12/77	–	171.5	–	175.7	–	176.3	–	–	171.3	–	175.3	–	176.0	–
West	2	12/77	–	171.3	–	176.9	–	177.2	–	–	169.6	–	174.8	–	175.2	–
Population size class[3]																
A-1	2	12/77	–	168.5	–	172.9	–	174.2	–	–	164.9	–	168.7	–	170.2	–
A-2	2	12/77	–	173.1	–	177.6	–	178.4	–	–	170.4	–	174.6	–	175.4	–
B	2	12/77	–	171.8	–	176.3	–	177.2	–	–	169.6	–	173.6	–	174.6	–
C	2	12/77	–	169.7	–	173.8	–	174.9	–	–	170.2	–	174.1	–	175.3	–
D	2	12/77	–	169.4	–	173.8	–	174.7	–	–	171.2	–	174.9	–	176.0	–
Region/population size class cross classification[3]																
Class A:																
Northeast	2	12/77	–	165.5	–	169.6	–	171.2	–	–	162.4	–	166.1	–	167.7	–
North Central	2	12/77	–	174.3	–	178.2	–	179.4	–	–	169.6	–	173.1	–	174.5	–
South	2	12/77	–	171.0	–	175.6	–	178.5	–	–	171.2	–	175.7	–	176.5	–
West	2	11/77	–	173.5	–	179.1	–	179.3	–	–	169.6	–	174.6	–	175.0	–
Class B:																
Northeast	2	12/77	–	171.5	–	174.9	–	176.7	–	–	168.7	–	171.8	–	173.5	–
North Central	2	12/77	–	169.7	–	173.4	–	174.2	–	–	168.4	–	169.5	–	170.5	–
South	2	12/77	–	173.0	–	177.4	–	178.0	–	–	169.9	–	173.9	–	174.7	–
West	2	12/77	–	172.0	–	177.9	–	178.4	–	–	172.7	–	178.4	–	178.9	–

See footnotes at end of table.

31. Continued— Consumer Price Index: U.S. city average and available local area data: all items

(1967 = 100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1985						1986	1985						1986
			Jan.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Jan.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.
Class C:																
Northeast	2	12/77	–	175.8	–	181.7	–	184.1	–	–	180.6	–	186.5	–	186.8	–
North Central	2	12/77	–	166.7	–	170.1	–	171.5	–	–	163.8	–	166.9	–	168.2	–
South	2	12/77	–	171.2	–	174.2	–	175.3	–	–	172.8	–	175.7	–	176.7	–
West	2	12/77	–	164.2	–	169.7	–	169.1	–	–	163.2	–	168.3	–	167.8	–
Class D:																
Northeast	2	12/77	–	170.3	–	175.6	–	176.1	–	–	170.6	–	175.3	–	177.7	–
North Central	2	12/77	–	168.2	–	171.6	–	172.6	–	–	170.5	–	173.1	–	174.2	–
South	2	12/77	–	170.1	–	174.6	–	174.5	–	–	172.0	–	176.2	–	176.1	–
West	2	12/77	–	170.0	–	174.5	–	176.2	–	–	171.5	–	176.0	–	177.7	–

[1] Area is generally the Standard Metropolitan Statistical Area (SMSA), exclusive of farms. L.A.-Long Beach, Anaheim, Calif. is a combination of two SMSA's, and N.Y., N.Y.-Northeastern N.J. and Chicago, Ill.-Northwestern Ind. are the more extensive Standard Consolidated Areas. Area definitions are those established by the Office of Management and Budget in 1973, except for Denver-Boulder, Colo. which does not include Douglas County. Definitions do not include revisions made since 1973.

[2] Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated:

M - Every month.

1 - January, March, May, July, September, and November.

2 - February, April, June, August, October, and December.

[3] Regions are defined as the four Census regions.

The population size classes are aggregations of areas which have urban population as defined:

A-1 - More than 4,000,000.

A-2 - 1,250,000 to 4,000,000.

B - 385,000 to 1,250,000

C - 75,000 to 385,000.

D - Less than 75,000.

Population size class A is the aggregation of population size classes A-1 and A-2.

– Data not available.

NOTE: Local area CPI indexes are byproducts of the national CPI program. Because each local index is a small subset of the national index, it has a smaller sample size and is, therefore, subject to substantially more sampling and other measurement error than the national index. As a result, local area indexes show greater volatility than the national index, although their long-term trends are quite similar. Therefore, the Bureau of Labor Statistics strongly urges users to consider adopting the national average CPI for use in escalator clauses.

32. Annual data: Consumer Price Index all items and major groups

Series	1977	1978	1979	1980	1981	1982	1983	1984	1985
Consumer Price Index for All Urban Consumers:									
All items:									
Index	181.5	195.4	217.4	246.8	272.4	289.1	298.4	311.1	322.2
Percent change	6.5	7.7	11.3	13.5	10.4	6.1	3.2	4.3	3.6
Food and beverages:									
Index	188.0	206.3	228.5	248.0	267.3	278.2	284.4	295.1	302.0
Percent change	6.0	9.7	10.8	8.5	7.8	4.1	2.2	3.8	2.3
Housing									
Index	186.5	202.8	227.6	263.3	293.5	314.7	323.1	336.5	349.9
Percent change	6.8	8.7	12.2	15.7	11.5	7.2	2.7	4.1	4.0
Apparel and upkeep:									
Index	154.2	159.6	166.6	178.4	186.9	191.8	196.5	200.2	206.0
Percent change	4.5	3.5	4.4	7.1	4.8	2.6	2.5	1.9	2.9
Transportation:									
Index	177.2	185.5	212.0	249.7	280.0	291.5	298.4	311.7	319.9
Percent change	7.1	4.7	14.3	17.8	12.1	4.1	2.4	4.5	2.6
Medical care:									
Index	202.4	219.4	239.7	265.9	294.5	328.7	357.3	379.5	403.1
Percent change	9.6	8.4	9.3	10.9	10.8	11.6	8.7	6.2	6.2
Entertainment:									
Index	167.7	176.6	188.5	205.3	221.4	235.8	246.0	255.1	265.0
Percent change	4.9	5.3	6.7	8.9	7.8	6.5	4.3	3.7	3.9
Other goods and services:									
Index	172.2	183.3	196.7	214.5	235.7	259.9	288.3	307.7	326.6
Percent change	5.8	6.4	7.3	9.0	9.9	10.3	10.9	6.7	6.1
Consumer Price Index for Urban Wage Earners and Clerical Workers:									
All items:									
Index	181.5	195.3	217.7	247.0	272.3	288.6	297.4	307.6	318.5
Percent change	6.5	7.6	11.5	13.5	10.2	6.0	3.0	3.4	3.5

33. Producer Price Indexes, by stage of processing

(1967 = 100)

Grouping	Annual average		1985											1986
	1984	1985	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Finished goods	291.1	293.8	292.6	292.1	293.1	294.1	294.0	294.8	293.5	289.9	294.8	296.7	297.2	296.2
Finished consumer goods	290.3	291.9	290.7	290.1	291.2	292.4	292.2	293.1	291.4	288.1	292.4	294.7	295.4	294.1
Finished consumer foods	273.3	271.2	275.6	273.7	272.2	269.5	268.7	271.2	268.7	265.7	268.7	272.0	274.4	274.9
Finished consumer goods excluding foods	294.1	297.4	293.5	293.6	295.9	299.0	299.0	299.2	297.8	294.5	299.4	301.1	301.1	298.8
Nondurable goods less food	337.3	339.4	332.7	333.4	337.4	342.4	342.1	342.4	340.0	340.3	340.2	343.3	343.7	340.3
Durable goods	236.8	241.5	240.9	240.4	240.7	241.4	241.9	241.9	241.8	234.0	244.9	245.0	244.4	243.6
Capital equipment	294.0	300.5	299.2	299.3	299.9	300.3	300.5	300.8	301.0	298.3	303.7	303.8	303.5	304.0
Intermediate materials, supplies, and components	320.0	318.7	318.7	318.6	319.3	319.9	319.3	318.6	317.9	317.7	317.8	318.1	318.8	317.2
Materials and components for manufacturing	301.8	299.4	300.5	300.0	300.6	300.5	300.3	299.6	299.1	298.4	298.0	297.6	297.6	297.0
Materials for food manufacturing	271.1	258.7	265.3	263.9	263.9	261.9	262.0	260.3	253.0	249.9	252.3	253.6	253.0	252.4
Materials for nondurable manufacturing	290.5	285.8	288.0	287.3	287.1	286.7	286.4	285.8	285.8	285.1	283.6	282.6	282.5	283.2
Materials for durable manufacturing	325.1	320.2	320.7	319.9	322.1	323.0	322.3	320.9	320.3	319.2	318.6	317.4	317.6	313.9
Components for manufacturing	287.5	291.5	290.8	291.0	291.1	291.1	291.3	291.6	291.9	292.1	292.2	292.4	292.4	292.9
Materials and components for construction	310.3	315.2	313.3	313.5	314.0	315.9	317.3	316.9	316.5	315.6	315.4	315.1	315.4	316.3
Processed fuels and lubricants	586.2	549.4	546.3	547.9	552.3	558.0	549.1	544.0	539.8	542.4	544.9	550.7	567.3	539.8
Containers	302.3	311.2	311.8	313.1	312.4	311.7	312.0	311.4	310.3	309.9	310.4	309.8	310.7	310.7
Supplies	283.4	284.2	283.8	283.8	283.7	283.4	283.3	283.6	284.1	284.5	285.0	285.8	285.9	286.7
Crude materials for further processing	330.8	306.2	318.1	312.3	311.0	309.1	305.6	303.9	295.3	296.8	298.0	305.6	304.7	301.3
Foodstuffs and feedstuffs	259.5	235.0	250.0	242.9	239.9	236.3	233.7	231.6	221.0	222.9	224.5	236.7	236.8	231.4
Nonfood materials[1]	380.5	355.4	358.2	356.4	360.2	357.7	354.0	353.5	351.2	352.2	353.3	352.3	351.1	351.2
Special groupings														
Finished goods, excluding foods	294.8	299.1	295.9	296.0	297.8	300.1	300.2	300.5	299.5	295.7	301.4	302.7	302.5	301.1
Finished energy goods	750.3	721.4	692.0	693.2	714.9	746.1	741.4	733.8	719.9	718.2	716.1	732.9	736.1	704.8
Finished goods less energy	265.1	269.2	269.3	268.8	268.8	268.4	268.4	269.7	269.0	265.3	270.6	271.7	272.1	272.7
Finished consumer goods less energy	257.8	261.3	261.8	261.1	260.9	260.3	260.3	261.9	260.9	257.5	262.2	263.5	264.1	264.8
Finished goods less food and energy	262.3	268.7	267.2	267.2	267.7	268.2	268.6	269.4	269.4	265.4	271.6	271.8	271.4	272.1
Finished consumer goods less food and energy	245.9	252.1	250.5	250.5	251.1	251.5	252.0	252.9	252.9	249.3	254.9	255.1	254.7	255.5
Consumer nondurable goods less food and energy	239.0	246.2	243.9	244.4	245.0	245.2	245.6	247.4	247.3	247.9	248.2	248.6	248.5	250.6
Intermediate materials less foods and feeds	325.0	325.0	324.5	324.7	325.5	326.4	325.7	325.0	324.5	324.4	324.3	324.5	325.2	323.5
Intermediate foods and feeds	253.1	232.7	239.2	236.7	235.4	232.6	232.2	231.7	227.1	225.4	228.5	231.0	231.7	232.4
Intermediate energy goods	545.0	528.8	526.0	527.5	531.5	536.7	528.6	523.8	519.8	522.3	524.4	529.5	536.3	519.1
Intermediate goods less energy	303.8	303.9	304.2	304.0	304.3	304.5	304.6	304.3	303.9	303.4	303.3	303.2	303.3	303.4
Intermediate materials less foods and energy	303.6	305.2	305.3	305.2	305.6	305.9	306.0	305.6	305.5	305.0	304.6	304.2	304.2	304.2
Crude energy materials	785.2	749.1	754.1	746.4	749.1	760.7	754.5	752.6	742.9	743.2	743.4	742.9	739.5	739.9
Crude materials less energy	255.5	233.2	245.9	240.4	238.6	234.8	231.7	230.1	221.8	223.5	224.8	233.4	232.9	229.1
Crude nonfood materials less energy	266.1	249.7	255.3	255.4	257.3	252.3	247.4	247.2	245.8	246.7	247.2	244.9	242.6	243.7

[1] Crude nonfood materials except fuel.

34. Producer Price Indexes, by durability of product

(1967 = 100)

Grouping	Annual average		1985											1986
	1984	1985	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Total durable goods	293.6	297.3	296.4	296.3	297.1	297.6	297.8	297.8	297.8	296.1	296.8	298.7	298.5	298.2
Total nondurable goods	323.3	317.3	319.0	317.7	318.4	318.9	317.5	317.3	314.1	313.8	314.6	317.9	318.7	316.9
Total manufactures	302.9	304.3	303.4	303.3	304.2	305.2	304.8	304.6	303.8	302.1	304.6	305.4	305.7	304.7
Durable	293.9	298.1	297.0	298.9	297.6	298.4	298.7	298.7	298.6	295.8	299.7	298.6	299.5	298.1
Nondurable	312.3	310.5	309.9	309.9	310.8	312.1	311.0	310.6	309.0	308.4	309.4	311.3	312.0	310.3
Total raw or slightly processed goods	346.6	328.2	338.8	332.2	332.1	329.8	327.3	327.5	320.2	320.8	320.9	327.7	329.8	326.9
Durable	296.7	252.2	259.2	261.2	262.1	255.4	247.3	247.6	249.7	249.7	248.8	245.9	243.8	247.6
Nondurable	351.4	332.8	341.4	336.4	336.2	334.3	332.1	332.3	324.4	325.1	325.2	332.7	334.0	331.7

35. Annual data: Producer Price Indexes, by stage of processing

(1967 = 100)

Index	1977	1978	1979	1980	1981	1982	1983	1984	1985
Finished goods:									
Total	181.7	195.9	217.7	247.0	269.8	280.7	285.2	291.1	293.8
Consumer goods	180.7	194.9	217.9	248.9	271.3	281.0	284.6	290.3	291.9
Capital equipment	184.6	199.2	216.5	239.8	264.3	279.4	287.2	294.0	300.5
Intermediate materials, supplies, and components:									
Total	201.5	215.6	243.2	280.3	306.0	310.4	312.3	320.0	318.7
Materials and components for manufacturing	195.4	208.7	234.4	265.7	286.1	289.8	290.4	301.8	299.4
Materials and components for construction	203.4	224.7	247.4	268.3	287.6	293.7	301.8	310.3	315.2
Processed fuels and lubricants	262.5	295.3	364.8	503.0	595.4	591.7	564.8	566.2	548.4
Containers	188.3	202.8	226.8	254.5	276.1	285.6	286.5	302.3	311.2
Supplies	188.7	198.5	218.2	244.5	263.8	272.1	277.1	283.4	284.2
Crude materials for further processing:									
Total	209.2	234.4	274.3	304.6	329.0	319.5	323.6	330.8	306.2
Foodstuffs and feedstuffs	192.1	216.2	247.9	259.2	257.4	247.8	252.2	259.5	235.0
Nonfood materials except fuel	212.2	233.1	284.5	346.1	413.7	376.8	372.2	380.5	355.4
Fuel	372.1	426.8	507.6	615.0	751.2	886.1	931.5	931.3	912.3

36. U.S. export price indexes by Standard International Trade Classification,

(June 1977=100, unless otherwise indicated)

Category	1974 SITC	1983			1984				1985			
		June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
ALL COMMODITIES (9/83=100)		–	100.0	99.5	100.2	101.5	99.3	98.1	97.5	97.5	96.5	96.2
Food (3/83=100)	0	106.1	113.1	108.8	109.2	109.6	103.5	96.5	95.8	94.0	90.2	90.6
Meat (3/83=100)	01	100.5	100.8	101.2	108.9	108.7	105.6	104.4	103.9	104.7	108.1	112.3
Fish (3/83=100)	03	96.5	97.7	100.4	99.8	98.7	98.0	98.7	101.0	103.6	102.6	101.8
Grain and grain preparations (3/80=100)	04	103.5	111.5	105.6	102.7	107.4	101.2	92.9	92.4	90.3	82.6	87.1
Vegetables and fruit (3/83=100)	05	105.8	114.8	118.1	118.2	128.8	125.5	114.6	119.4	120.1	128.8	118.8
Feedstuffs for animals (3/83=100)	08	100.6	121.4	117.4	106.9	98.8	83.5	82.4	72.8	68.6	75.7	80.4
Misc. food products (3/83=100)	09	101.1	102.6	101.7	104.9	110.6	109.5	108.4	110.6	109.2	108.1	107.7
Beverages and tobacco (6/83=100)	1	100.0	100.0	101.5	101.6	101.9	102.6	101.3	98.9	100.1	99.7	98.6
Beverages (9/83=100)	11	–	100.0	103.3	102.3	102.9	103.3	103.7	104.0	105.3	101.6	100.9
Tobacco and tobacco products (6/83=100)	12	100.0	100.0	101.4	101.6	101.6	102.7	101.1	99.5	99.6	99.5	98.4
Crude materials (6/83=100)	2	100.0	114.6	112.2	112.5	118.3	106.2	101.4	97.5	98.8	83.3	90.2
Raw hides and skins (6/80=100)	21	118.2	129.2	135.2	145.6	154.7	153.7	133.6	121.0	126.2	129.0	139.9
Oilseeds and oleaginous fruit (9/77=100)	22	75.0	105.6	98.8	93.9	104.3	79.9	74.8	71.0	71.2	64.2	83.9
Crude rubber (including synthetic and reclaimed) (9/83=100)	23	–	100.0	102.2	103.3	106.0	104.1	104.0	106.4	106.3	107.1	106.0
Wood	24	127.1	128.7	129.8	131.1	129.4	123.8	125.4	128.7	125.7	124.5	128.1
Pulp and waste paper (6/83=100)	25	100.0	103.5	106.0	112.5	122.1	120.8	114.2	100.5	96.1	93.8	92.7
Textile fibers	26	111.3	117.3	123.1	120.5	125.6	109.4	106.7	102.4	105.8	103.6	102.6
Crude fertilizers and minerals	27	145.0	144.8	144.8	148.6	147.7	163.0	163.2	165.6	167.9	169.4	165.5
Metalliferous ores and metal scrap	28	–	100.0	96.7	100.2	98.5	93.2	92.4	89.2	82.0	80.1	78.0
Mineral fuels	3	–	100.0	99.2	99.1	99.7	98.7	98.7	100.1	99.2	97.6	96.6
Animal and vegetables oils, fats, and waxes	4	100.0	125.6	122.0	129.8	164.5	145.7	147.9	142.0	144.5	114.5	101.4
Fixed vegetable oils and fats (6/83=100)	42	100.0	138.2	129.3	133.2	176.4	159.0	156.7	152.9	164.8	129.8	108.7
Chemicals (3/83=100)	5	96.4	97.0	98.6	101.4	99.7	98.3	97.7	97.0	96.8	97.1	96.6
Organic chemicals (12/83=100)	51	–	–	100.0	100.2	101.0	97.4	94.7	93.8	96.5	97.1	95.4
Fertilizers, manufactured (3/83=100)	56	88.9	88.8	98.8	108.3	98.9	97.4	94.8	92.5	87.9	88.8	90.0
Intermediate manufactured products (9/81=100)	–	100.4	100.8	100.0	101.0	101.3	102.0	100.4	99.4	99.2	99.2	99.2
Leather and furskins (9/79=100)	6	67.2	70.1	75.8	83.5	81.2	80.8	79.0	82.5	79.2	75.9	78.5
Rubber manufactures	61	144.8	145.0	145.0	146.7	147.5	148.9	148.5	150.2	149.0	148.3	148.7
Paper and paperboard products (6/78=100)	62	135.8	139.7	145.5	150.2	154.7	160.0	159.5	155.0	151.6	149.6	148.1
Iron and steel (3/82=100)	64	95.9	96.6	96.3	96.9	96.1	98.8	96.5	95.5	95.3	95.9	98.3
Nonferrous metals (9/81=100)	–	102.8	102.3	93.8	94.2	92.9	90.4	82.5	79.7	79.6	79.8	78.2
Metal manufactures, n.e.s. (3/82=100)	–	101.5	101.9	102.1	103.1	104.5	105.1	106.0	105.4	105.2	105.4	104.4
Machinery and transport equipment, excluding military and commercial aircraft (12/78=100)	67	135.3	136.9	137.0	138.5	138.4	140.1	141.5	142.3	143.0	143.1	143.3
Power generating machinery and equipment (12/78=100)	68	152.5	152.3	154.4	158.4	156.9	160.6	167.5	165.3	167.4	167.1	167.8
Machinery specialized for particular industries (9/78=100)	69	148.9	149.1	151.1	152.3	152.8	153.7	153.4	155.0	156.7	156.0	156.1
Metalworking machinery (6/78=100)	7	148.4	148.3	148.7	150.8	151.2	151.7	151.9	153.4	155.1	156.3	158.4
General industrial machines and parts n.e.s. 9/78=100)	71	145.0	145.4	145.9	148.6	149.0	149.3	150.2	152.4	152.0	152.4	152.2
Office machines and automatic data processing equipment	72	103.6	103.2	102.5	101.4	101.5	99.8	101.4	100.9	100.0	99.9	99.4
Telecommunications, sound recording and reproducing equipment	73	131.1	132.2	132.1	133.0	132.3	134.4	134.3	133.3	133.3	134.1	134.5
Electrical machinery and equipment	74	108.5	108.4	108.8	110.2	112.6	113.8	114.6	114.9	116.1	115.3	113.8
Road vehicles and parts (3/80=100)	75	125.6	127.5	128.8	130.2	131.2	131.0	131.8	133.1	133.9	133.8	135.0
Other transport equipment, excl. military and commercial aviation	76	175.8	176.4	179.3	183.1	187.7	189.6	191.7	195.5	198.9	196.6	201.0
Other manufactured articles	77	–	100.0	100.2	100.6	100.4	100.7	99.3	99.5	100.4	100.3	100.3
Apparel (9/83=100)	78	–	100.0	100.8	101.9	102.1	103.9	103.4	104.7	104.7	105.0	105.3
Professional, scientific, and controlling instruments and apparatus	79	169.8	169.0	171.5	171.8	172.0	175.8	171.7	175.5	178.3	178.7	178.8
Photographic apparatus and supplies, optical goods, watches and clocks (12/77=100)	8	129.8	130.0	132.0	132.0	131.3	132.7	130.3	128.0	129.1	127.5	128.5
Miscellaneous manufactured articles, n.e.s.	84	100.0	100.0	98.2	98.5	97.9	95.2	94.1	92.4	93.1	93.1	92.4
Gold, non-monetary (6/82=100)	971	–	–	–	–	–	–	–	–	–	–	–

– Data not available.

37. U.S. import price indexes by Standard International Trade Classification

(June 1977=100, unless otherwise indicated)

Category	1974 SITC	1983	1984				1985			
		Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
ALL COMMODITIES (9/82=100)		97.3	98.0	98.3	96.7	95.7	93.5	93.0	92.9	94.6
Food (9/77=100)	0	100.4	102.5	103.5	102.0	98.1	98.5	96.8	94.9	102.8
Meat	01	134.1	133.4	133.8	135.4	132.3	130.4	118.2	120.6	131.2
Dairy products and eggs (6/81=100)	02	99.6	100.8	99.8	98.9	98.4	96.3	97.9	99.1	100.5
Fish	03	136.0	132.7	134.2	134.2	133.9	132.9	129.4	129.7	132.7
Bakery goods, pasta products, grain and grain preparations (9/77=100)	04	132.7	136.5	134.8	132.9	132.8	131.8	132.3	136.3	141.9
Fruits and vegetables	05	125.0	136.1	135.8	135.4	117.2	127.1	129.4	120.2	131.2
Sugar, sugar preparations, and honey (3/82=100)	06	117.9	117.1	120.3	119.0	118.5	118.4	122.6	123.1	111.9
Coffee, tea, cocoa	07	59.6	61.4	62.4	60.3	58.4	57.0	56.0	54.4	64.6
Beverages and tobacco	1	155.4	155.3	156.3	157.1	156.5	156.2	157.1	158.0	161.6
Beverages	11	152.7	152.6	153.6	153.5	152.8	154.2	154.3	156.0	159.1
Crude materials	2	98.6	103.2	102.6	100.6	98.9	94.0	93.6	91.5	91.2
Crude rubber (inc. synthetic & reclaimed) (3/84=100)	23	-	100.0	93.7	90.7	83.8	77.6	76.4	68.9	73.2
Wood (9/81=100)	24	107.2	114.8	103.2	99.6	104.0	100.7	106.9	101.6	99.4
Pulp and waste paper (12/81=100)	25	80.9	87.6	96.1	96.3	93.2	84.0	80.4	76.8	75.8
Crude fertilizers and crude minerals (12/83=100)	27	100.0	100.0	96.2	98.0	96.6	100.3	101.7	102.7	102.1
Metalliferous ores and metal scrap (3/84=100)	28	-	100.0	102.8	100.1	95.6	90.4	87.6	89.5	90.1
Crude vegetable and animal materials, n.e.s.	29	-	100.0	100.8	101.1	106.4	104.3	104.9	102.5	102.5
Fuels and related products (6/82=100)	3	87.6	88.3	88.0	86.9	85.2	82.9	80.9	79.8	80.1
Petroleum and petroleum products (6/82=100)	33	87.6	88.2	88.1	87.0	85.2	83.8	81.6	80.3	81.1
Fats and oils (9/83=100)	4	100.4	117.4	141.8	124.4	114.9	89.9	76.7	57.6	50.6
Vegetable oils (9/83=100)	42	100.5	118.1	143.1	125.3	115.5	89.5	75.9	56.2	48.9
Chemicals (9/82=100)	5	99.5	101.1	100.6	98.8	97.1	95.7	94.9	94.5	94.2
Medicinal and pharmaceutical products (3/84=100)	54	-	100.0	98.5	96.4	94.6	91.6	95.1	95.3	96.7
Manufactured fertilizers (3/84=100)	56	-	100.0	101.7	98.5	92.9	94.2	82.0	80.8	78.5
Chemical materials and products, n.e.s. (9/84=100)	59	-	-	-	100.0	97.5	96.1	95.6	96.9	97.8
Intermediate manufactured products (12/77=100)	6	137.3	137.8	139.6	137.2	136.8	133.1	132.4	133.6	133.4
Leather and furskins	61	137.6	141.6	145.3	144.0	140.4	135.3	133.3	137.0	141.3
Rubber manufactures, n.e.s.	62	141.1	141.8	140.8	139.6	140.5	139.5	136.6	137.3	138.1
Cork and wood manufactures	63	134.7	130.1	131.0	126.4	126.1	121.3	121.2	123.4	124.0
Paper and paperboard products	64	147.0	148.0	150.4	156.1	157.5	157.6	157.2	157.8	156.5
Textiles	65	128.5	130.8	130.1	131.6	132.9	130.4	127.5	126.5	128.1
Nonmetallic mineral manufactures, n.e.s.	66	166.4	168.4	166.6	156.6	159.4	154.3	151.8	157.6	162.3
Iron and steel (9/78=100)	67	119.5	118.5	123.8	124.7	123.7	121.0	120.1	119.1	118.3
Nonferrous metals (12/81=100)	68	94.8	95.0	96.3	90.2	87.3	81.9	82.3	83.7	80.4
Metal manufactures, n.e.s.	69	118.9	119.7	120.5	119.3	119.3	117.4	117.8	119.5	121.6
Machinery and transport equipment (6/81=100)	7	104.1	104.0	104.1	102.6	102.9	101.6	102.6	103.5	107.2
Machinery specialized for particular industries (9/78=100)	72	100.8	100.4	100.0	98.8	98.0	96.2	97.0	101.4	104.7
Metalworking machinery (3/80=100)	73	95.7	94.3	93.8	92.1	89.9	86.3	90.5	94.2	98.1
General industrial machinery and parts, n.e.s. (6/81=100)	74	93.5	93.7	94.4	92.4	91.3	89.2	91.1	94.3	98.0
Office machines and automatic data processing equipment (3/80=100)	75	96.9	97.8	96.7	94.1	92.2	89.6	89.4	90.3	93.7
Telecommunications, sound recording and reproducing apparatus (3/80=100)	76	94.9	94.2	94.8	93.6	91.3	90.0	88.8	88.3	88.6
Electrical machinery and equipment (12/81=100)	77	95.9	94.2	91.2	87.0	86.4	82.1	83.9	81.4	83.3
Road vehicles and parts (6/81=100)	78	109.5	109.0	110.4	109.8	111.3	111.5	112.1	112.7	117.8
Misc. manufactured articles (3/80=100)	8	100.0	100.6	101.5	99.7	100.0	97.0	98.0	99.6	100.8
Plumbing, heating, and lighting fixtures (6/80=100)	81	106.2	109.5	112.0	110.7	111.6	113.9	114.1	117.8	115.0
Furniture and parts (6/80=100)	82	136.0	136.8	140.8	138.4	142.5	137.4	136.7	142.1	142.7
Clothing (9/77=100)	84	128.5	130.2	132.5	135.4	136.5	136.7	133.9	134.5	134.5
Footwear	85	136.0	136.8	140.8	138.4	142.5	137.4	136.7	142.1	142.7
Professional, scientific, and controlling instruments and apparatus (12/79=100)	87	97.6	98.7	97.8	95.6	92.9	89.2	92.3	98.8	102.4
Photographic apparatus and supplies, optical goods, watches, and clocks (3/80=100)	88	90.6	89.6	92.8	91.2	91.3	88.9	89.5	91.1	94.9
Misc. manufactured articles, n.e.s. (6/82=100)	89	104.9	105.2	104.0	98.3	96.3	91.2	95.2	96.4	97.9
Gold, non-monetary (9/82=100)	971	-	-	-	-	-	-	-	-	-

- Data not available.

38. U.S. export price indexes by end-use category

(September 1983 = 100 unless otherwise indicated)

Category	Percentage of 1980 Trade Value	1983	1984				1985			
		Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Foods, feeds, and beverages	16.294	95.0	92.8	98.5	88.8	83.0	81.5	80.9	76.2	7
Raw materials	30.696	100.7	102.2	102.5	100.5	99.1	97.6	97.2	96.5	9
Raw materials, nondurable	21.327	101.9	103.6	104.4	102.8	101.4	99.6	99.5	98.7	9
Raw materials, durable	9.369	97.7	98.8	97.7	95.0	93.3	92.6	91.6	91.1	91
Capital goods (12/82 = 100)	30.186	102.0	103.2	103.9	104.6	105.6	106.2	106.6	106.6	10
Automotive vehicles, parts and engines (12/82 = 100)	7.483	103.9	104.5	105.3	105.3	105.7	106.7	108.0	108.1	10
Consumer goods	7.467	99.6	100.9	100.9	101.3	100.8	100.9	101.1	101.9	101
Durables	3.965	98.9	100.1	99.6	99.4	99.3	99.1	99.2	100.4	100
Nondurables	3.501	100.3	101.8	102.1	103.0	102.3	102.7	103.0	103.3	103

39. U.S. import price indexes by end-use category

(December 1982 = 100)

Category	Percentage of 1980 Trade Value	1983	1984				1985			
		Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Foods, feeds, and beverages	7.477	104.0	106.0	107.2	105.6	101.8	102.1	100.4	99.0	106.0
Petroleum and petroleum products, excl. natural gas	31.108	88.1	88.8	88.5	87.5	85.7	84.4	82.1	80.9	81.5
Raw materials, excluding petroleum	19.205	–	–	–	–	–	–	–	–	–
Raw materials, nondurable	9.391	99.0	100.7	102.1	101.7	100.7	95.0	93.9	93.5	91.8
Raw materials, durable	9.814	104.7	106.5	106.7	103.3	101.6	97.7	97.8	97.4	96.2
Capital goods	13.164	101.3	100.8	99.8	98.0	97.8	94.8	96.3	97.6	100.0
Automotive vehicles, parts and engines	11.750	103.8	103.6	104.9	104.0	105.2	105.4	105.9	108.4	111.4
Consumer goods	14.250	100.4	101.0	101.9	100.6	101.1	99.5	99.4	101.0	102.5
Durable	5.507	101.1	101.1	101.4	98.8	98.5	97.0	97.0	98.9	100.8
Nondurable	8.743	99.5	100.9	102.5	103.0	104.6	103.0	102.5	103.9	104.7

– Data not available.

40. U.S. export price indexes by Standard Industrial Classification[1]

Industry group	1983	1984				1985			
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Manufacturing:									
Food and kindred products (6/83 = 100)	108.3	109.0	112.7	105.6	103.3	99.5	99.5	96.7	98.1
Tobacco manufactures	–	–	–	–	–	–	–	–	–
Textile mill products	–	–	–	–	–	–	–	–	–
Apparel and related products	–	–	–	–	–	–	–	–	–
Lumber and wood products, except furniture (6/83 = 100)	101.0	101.5	100.1	97.0	97.9	99.9	99.5	98.3	101.2
Furniture and fixtures (9/83 = 100)	100.9	101.8	103.1	103.5	104.9	105.2	106.5	107.1	108.4
Paper and allied products (3/81 = 100)	94.7	98.6	104.3	106.2	103.6	97.1	94.7	93.2	92.1
Printing, publishing, and allied products	–	–	–	–	–	–	–	–	–
Chemicals and allied products (12/84 = 100)	101.4	103.3	102.3	101.3	100.7	100.3	99.6	99.7	99.2
Petroleum and coal products (12/83 = 100)	100.0	101.6	102.1	100.7	100.4	101.3	102.7	102.0	99.1
Rubber and miscellaneous plastic products	–	–	–	–	–	–	–	–	–
Leather and leather products	–	–	–	–	–	–	–	–	–
Stone, clay, glass, and concrete products	–	–	–	–	–	–	–	–	–
Primary metal products (3/82 = 100)	105.0	105.1	104.0	100.0	95.8	91.2	92.7	93.6	93.6
Fabricated metal products	–	–	–	–	–	–	–	–	–
Machinery, except electrical (9/78 = 100)	135.8	137.4	137.9	138.0	139.9	140.4	140.5	140.6	140.5
Electrical machinery (12/80 = 100)	107.6	108.0	109.5	110.7	111.1	111.3	112.4	111.9	111.2
Transportation equipment (12/78 = 100)	153.6	155.7	157.2	157.8	158.9	160.5	162.0	162.8	164.4
Scientific instruments; optical goods; clocks (6/77 = 100)	152.8	153.1	153.2	156.0	153.0	154.9	156.6	156.2	156.7
Miscellaneous manufactured commodities	–	–	–	–	–	–	–	–	–

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[1] SIC - based classification.

– Data not available.

41. U.S. import price indexes by Standard Industrial Classification[1]

Industry group	1983	1984				1985			
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Manufacturing:									
Food and kindred products (6/77=100)	120.8	122.3	126.6	124.1	122.6	118.8	115.0	114.2	115.1
Tobacco manufactures	-	-	-	-	-	-	-	-	-
Textile mill products (9/82=100)	103.3	104.4	103.8	104.3	104.7	102.8	101.0	100.4	101.8
Apparel and related products (6/77=100)	126.5	128.1	129.6	133.9	138.2	135.6	133.0	133.9	134.4
Lumber and wood products, except furniture (6/77=100)	125.0	129.4	121.1	117.3	120.0	116.3	120.6	117.5	115.8
Furniture and fixtures (6/80=100)	95.5	95.7	96.9	96.2	95.6	93.9	96.1	97.7	98.2
Paper and allied products (6/77=100)	132.9	136.5	141.9	146.0	145.5	141.5	139.8	138.7	137.4
Printing, publishing, and allied products	-	-	-	-	-	-	-	-	-
Chemicals and allied products (9/82=100)	99.5	101.8	101.8	99.8	98.2	95.3	93.9	93.3	95.8
Petroleum and coal products	-	-	-	-	-	-	-	-	-
Rubber and miscellaneous plastic products (12/80=100)	97.4	98.1	98.5	97.8	98.0	96.9	96.7	96.6	97.5
Leather and leather products	139.1	140.3	143.7	141.6	144.2	139.1	138.9	142.3	144.0
Stone, clay, glass, concrete products	-	-	-	-	-	-	-	-	-
Primary metal products (6/81=100)	90.5	90.1	91.9	88.3	86.6	82.2	83.0	83.4	81.9
Fabricated metal products (12/84=100)	-	-	-	-	100.0	99.0	99.1	101.0	102.6
Machinery, except electrical (3/80=100)	98.0	97.8	97.1	95.5	94.1	91.8	93.4	98.6	100.0
Electrical machinery (9/84=100)	-	-	-	100.0	98.6	95.1	95.8	94.5	95.9
Transportation equipment (6/81=100)	110.3	110.6	111.6	110.7	112.9	113.1	114.2	114.8	119.6
Scientific instruments; optical goods; clocks (12/79=100)	94.3	94.0	95.5	94.4	93.2	90.7	91.7	94.8	99.0
Miscellaneous manufactured commodities (9/82=100)	99.7	99.8	99.1	95.6	96.4	95.1	95.1	96.6	98.7

[1] SIC - based classification.

- Data not available.

42. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

(1977=100)

Item	Annual average	Quarterly indexes										
	1983	1983				1984				1985		
		I	II	III	IV	I	II	III	IV	I	II	III
Business:												
Output per hour of all persons	103.7	102.2	103.6	104.3	104.7	105.7	107.0	107.2	108.0	106.9	107.3	108.3
Compensation per hour	161.7	160.2	161.0	161.8	164.2	166.7	167.5	169.3	171.1	173.1	174.5	176.8
Real compensation per hour	98.4	99.0	98.5	97.9	98.4	98.6	98.2	98.3	98.5	98.9	98.6	99.4
Unit labor costs	156.0	156.8	155.4	155.1	156.8	157.7	156.5	158.0	158.4	161.9	162.6	163.2
Unit nonlabor payments	145.5	139.8	144.6	147.9	149.1	151.6	157.2	158.5	160.2	159.1	159.9	160.5
Implicit price deflator	152.4	151.0	151.7	152.7	154.2	155.6	156.7	158.1	159.0	160.9	161.7	162.3
Nonfarm business:												
Output per hour of all persons	103.4	101.6	103.6	104.1	104.4	105.2	106.6	106.3	106.9	106.0	106.3	106.9
Compensation per hour	162.0	160.1	161.5	162.4	164.0	166.5	168.0	169.5	171.0	173.1	174.6	176.2
Real compensation per hour	98.6	99.0	98.8	98.3	98.3	98.4	98.4	98.4	98.5	98.9	98.7	99.0
Unit labor costs	156.6	157.6	155.9	155.9	157.1	158.3	157.6	159.5	160.0	163.3	164.1	164.8
Unit nonlabor payments	147.0	140.6	146.4	149.4	151.4	152.2	156.8	158.0	160.3	160.3	161.8	163.0
Implicit price deflator	153.4	151.9	152.7	153.8	155.2	156.3	157.3	159.0	160.1	162.3	163.4	164.2
Nonfinancial corporations:												
Output per hour of all employees	106.1	104.0	105.8	107.2	107.2	108.1	108.9	108.2	108.8	109.1	109.1	109.2
Compensation per hour	161.0	159.2	160.6	161.8	162.6	164.8	165.8	167.1	168.7	170.3	171.6	173.0
Real compensation per hour	97.9	98.4	98.2	97.9	97.4	97.5	97.2	97.1	97.1	97.3	97.0	97.2
Total unit costs	156.2	156.7	155.2	154.4	154.7	155.0	156.0	157.5	158.0	160.2	161.6	161.1
Unit labor costs	151.8	153.1	151.7	150.9	151.7	152.5	152.3	154.5	155.0	157.5	158.8	158.3
Unit nonlabor costs	164.9	167.0	165.1	164.4	163.3	162.0	162.8	165.9	166.4	166.1	169.8	168.8
Unit profits	117.2	92.5	111.8	126.6	135.9	143.2	151.1	145.3	150.7	150.4	148.9	160.1
Unit nonlabor payments	149.1	142.3	147.4	151.9	154.2	156.7	158.9	159.1	161.2	162.2	162.9	165.9
Implicit price deflator	150.9	149.4	150.2	151.2	152.6	153.6	154.6	156.1	157.1	159.1	160.2	160.9
Manufacturing:												
Output per hour of all persons	111.6	110.0	110.9	113.0	112.7	114.2	114.8	116.7	116.5	116.7	118.6	119.7
Compensation per hour	163.4	162.7	163.0	163.5	164.6	167.1	168.3	169.9	172.1	174.4	176.5	177.8
Real compensation per hour	99.4	100.6	99.6	98.9	98.6	98.8	98.6	98.7	99.1	99.6	99.7	99.9
Unit labor costs	146.4	147.9	147.0	144.7	146.1	146.3	146.6	145.5	147.7	149.5	148.8	148.6

43. Annual indexes of multifactor productivity and related measures selected years

(1977 = 100)

Item	1950	1960	1970	1973	1975	1976	1978	1979	1980	1981	1982	1983
Private business												
Productivity:												
Output per hour of all persons	49.7	64.8	86.2	94.8	94.5	97.6	100.5	99.3	98.7	100.8	100.8	103.7
Output per unit of capital services	98.5	98.4	98.5	103.0	92.0	96.1	101.8	100.3	95.6	94.1	89.5	92.3
Multifactor productivity	63.6	75.4	90.2	97.5	93.6	97.1	101.0	98.7	97.6	98.3	95.8	99.6
Output	39.5	53.3	78.3	91.8	88.0	93.7	105.5	107.9	106.4	109.2	106.3	111.1
Inputs:												
Hours of all persons	79.4	82.2	90.8	96.8	93.1	95.9	105.0	108.6	107.8	108.5	105.4	107.2
Capital services	40.1	54.1	79.4	89.1	95.7	97.5	103.6	107.5	111.4	116.0	118.8	120.4
Combined units of labor and capital input	62.1	70.7	86.7	94.1	94.0	96.5	104.5	109.2	109.0	111.0	109.9	111.6
Capital per hour or all persons	50.5	65.9	87.4	92.0	102.8	101.6	98.7	98.9	103.3	106.9	112.7	112.3
Private nonfarm business												
Productivity:												
Output per hour of all persons	55.6	68.0	87.7	95.3	94.8	97.6	100.6	99.0	98.2	99.6	99.6	103.5
Output per unit of capital services	98.1	98.4	98.6	103.2	91.7	96.1	101.9	100.1	95.2	93.2	89.7	91.9
Multifactor productivity	68.1	77.6	90.7	97.9	93.6	97.2	101.0	99.4	97.2	97.4	95.9	99.4
Output	38.3	52.3	77.8	91.7	87.6	93.6	105.7	108.0	106.4	108.7	105.9	111.3
Inputs:												
Hours of all persons	69.0	77.0	88.7	96.2	92.4	95.7	105.1	109.1	108.4	109.1	106.3	107.6
Capital services	39.1	53.2	78.9	88.8	95.6	97.4	103.7	107.9	111.7	116.6	118.4	121.1
Combined units of labor and capital input	56.3	67.4	85.8	93.6	93.5	96.3	104.6	108.7	109.5	111.6	110.4	112.0
Capital per hour of all persons	56.6	69.1	89.0	92.4	103.4	101.8	98.7	98.9	103.1	106.8	112.6	112.6
Manufacturing												
Productivity:												
Output per hour of all persons	49.4	60.0	79.2	93.0	93.4	97.6	100.9	101.6	101.7	104.9	107.1	111.6
Output per unit of capital services	94.2	87.9	91.8	108.2	89.4	96.1	101.5	99.5	90.7	89.9	82.9	87.6
Multifactor productivity	59.8	67.0	82.3	96.6	92.2	97.1	101.1	101.0	98.8	100.8	100.3	104.9
Output	38.6	50.7	77.0	95.9	85.4	93.6	105.3	109.2	103.5	106.1	99.3	104.4
Inputs:												
Hours of all persons	78.2	84.4	97.3	103.1	91.4	95.9	104.4	106.5	101.7	101.1	92.7	93.5
Capital services	41.0	57.6	83.9	88.6	95.5	97.4	103.8	109.8	114.1	118.0	119.8	119.2
Combined units of labor and capital inputs	64.6	75.6	93.5	99.0	92.6	96.3	104.2	107.1	104.8	105.2	99.0	99.5
Capital per hour of all persons	52.5	68.3	86.2	85.9	104.5	101.6	99.4	102.1	112.2	116.7	129.2	127.5

44. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years

(1977 = 100)

Item	1951	1961	1971	1974	1976	1977	1979	1980	1981	1982	1983	1984	1985
Business:													
Output per hour of all persons	53.9	69.9	91.2	93.9	98.3	100.0	99.6	99.2	100.7	100.3	102.9	105.0	–
Compensation per hour	21.6	34.9	61.5	77.6	92.8	100.0	119.1	131.5	143.7	154.9	161.5	167.8	–
Real compensation per hour	50.5	70.7	92.0	95.4	98.7	100.0	99.4	96.7	95.7	97.3	99.2	97.9	–
Unit labor costs	40.1	49.9	67.4	82.7	94.3	100.0	119.6	132.6	142.7	154.5	157.0	159.8	–
Unit nonlabor payments	41.6	46.7	64.5	76.4	93.4	100.0	112.5	118.8	134.7	136.8	145.8	156.8	–
Implicit price deflator	40.6	48.6	66.4	80.5	94.0	100.0	117.0	127.6	139.8	148.1	153.0	158.7	–
Nonfarm business:													
Output per hour of all persons	59.6	73.1	91.8	94.3	98.5	100.0	99.2	98.8	99.8	99.2	102.6	104.3	–
Compensation per hour	23.3	36.4	61.9	78.0	92.8	100.0	118.9	131.3	143.6	154.8	162.1	168.1	–
Real compensation per hour	54.3	73.8	92.6	95.9	98.8	100.0	99.2	96.6	95.7	97.2	98.6	98.1	–
Unit labor costs	39.0	49.8	67.4	82.7	94.2	100.0	119.8	132.9	144.0	156.0	158.0	161.2	–
Unit nonlabor payments	40.2	46.9	65.0	74.0	93.1	100.0	110.5	118.5	133.5	136.6	147.4	156.6	–
Implicit price deflator	39.4	48.8	66.6	79.7	93.8	100.0	116.5	127.8	140.3	149.2	154.2	159.6	–
Nonfinancial corporations:													
Output per hour of all employees	–	75.7	93.6	94.6	98.4	100.0	99.8	99.1	99.6	100.4	103.9	106.1	–
Compensation per hour	–	38.0	63.0	78.2	92.9	100.0	118.7	131.1	143.3	154.3	160.6	166.0	–
Real compensation per hour	–	77.1	94.2	96.1	98.9	100.0	99.1	96.4	95.5	96.9	97.7	96.9	–
Unit labor costs	–	50.3	67.3	82.6	94.3	100.0	119.0	132.3	143.6	153.6	154.5	156.4	–
Unit nonlabor payments	–	52.1	65.4	73.1	93.8	100.0	108.4	118.6	137.8	142.1	152.2	161.4	–
Implicit price deflator	–	50.9	66.6	79.4	94.2	100.0	115.4	127.6	141.7	149.6	153.7	158.1	–
Manufacturing:													
Output per hour of all persons	53.1	64.0	85.3	90.6	97.1	100.0	101.4	101.4	103.6	106.9	112.9	118.5	–
Compensation per hour	23.5	37.5	60.8	76.2	92.1	100.0	118.6	132.4	145.2	157.5	163.2	169.1	–
Real compensation per hour	54.8	76.0	91.0	93.6	98.1	100.0	99.1	97.4	96.7	98.9	99.3	98.7	–
Unit labor costs	44.3	58.7	71.3	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.8	–
Unit nonlabor payments	55.6	60.5	71.9	67.7	93.5	100.0	98.9	97.8	111.8	114.0	132.4	140.5	–
Implicit price deflator	47.6	59.2	71.5	79.3	94.5	100.0	111.7	121.0	131.8	136.6	141.0	142.1	–

– Data not available.

45. Unemployment rates in nine countries, quarterly data seasonally adjusted

Country	Annual average		1984			1985			
	1984	1985	II	III	IV	I	II	III	IV
Total labor force basis									
United States	7.4	7.1	7.4	7.3	7.1	7.2	7.2	7.1	6.9
Canada	-	-	11.3	11.2	11.1	11.1	10.5	10.2	10.1
Australia	-	-	8.1	8.8	8.5	8.5	8.4	8.1	-
Japan	-	-	2.7	2.8	2.7	2.6	2.6	2.6	-
France	-	-	9.7	9.9	10.0	10.2	10.1	10.1	9.9
Germany	-	-	7.7	7.8	7.7	7.8	7.8	7.8	7.7
Great Britain	-	-	12.7	13.0	12.8	13.0	13.1	13.4	13.0
Italy [1], [2]		-	5.9	5.7	5.7	5.8	5.8	6.0	6.2
Sweden	-	-	-	-	-	-	-	-	-
Civilian labor force basis									
United States	7.5	7.2	7.5	7.4	7.2	7.3	7.3	7.2	7.0
Canada	-	-	11.4	11.2	11.1	11.1	10.6	10.3	10.2
Australia	-	-	8.2	8.8	8.6	8.5	8.5	8.2	-
Japan	-	-	2.7	2.8	2.7	2.6	2.6	2.7	-
France	-	-	9.9	10.1	10.3	10.4	10.3	10.4	10.1
Germany	-	-	7.9	8.0	7.9	7.9	8.0	7.9	7.9
Great Britain	-	-	12.9	13.2	13.0	13.1	13.3	13.5	13.1
Italy	-	-	6.0	5.8	5.8	5.9	5.9	6.2	6.3
Sweden	-	-	-	-	-	-	-	-	-

[1] Quarterly rates are for the first month of the quarter.

[2] Major changes in the Italian labor force survey, introduced in 1977, resulted in a large increase in persons enumerated as unemployed. However, many persons reported that they had not actively sought work in the past 30 days, and they have been provisionally excluded for comparability with U.S. concepts. Inclusion of such persons would more than double the Italian unemployment rate shown.

- Data not available.

NOTE: Quarterly and monthly figures for France, Germany, and Great Britain are calculated by applying annual adjustment factors to current published data and therefore should be viewed as less precise indicators of unemployment under U.S. concepts than the annual figures.

46. Annual data: Employment status of the civilian working-age population, ten countries

(Numbers in thousands)

Employment status and country	1976	1977	1978	1979	1980	1981	1982	1983	1984
Labor force									
United States	96,158	99,009	102,251	104,962	106,940	108,670	110,204	111,550	113,544
Canada	10,203	10,500	10,895	11,231	11,573	11,904	11,958	12,183	12,399
Australia	6,244	6,358	6,443	6,519	6,693	6,810	6,910	6,997	7,133
Japan	53,100	53,820	54,610	55,210	55,740	56,320	56,980	58,110	58,480
France	22,010	22,320	22,490	22,680	22,810	22,950	23,170	23,110	23,260
Germany	25,900	25,870	26,000	26,240	26,500	26,610	26,640	26,640	26,700
Great Britain	25,290	25,430	25,620	25,710	25,870	25,870	25,880	25,980	26,390
Italy	20,300	20,530	20,630	20,910	21,210	21,410	21,450	21,610	21,600
Netherlands	4,890	4,950	5,010	5,100	5,290	5,500	5,560	5,720	5,740
Sweden	4,149	4,168	4,203	4,262	4,312	4,326	4,350	4,369	4,385
Participation rate									
United States	61.6	62.3	63.2	63.7	63.8	63.9	64.0	64.0	64.4
Canada	61.1	61.6	62.7	63.4	64.1	64.8	64.1	64.4	64.8
Australia	62.7	62.7	62.0	61.7	62.2	62.0	61.8	61.5	61.5
Japan	62.4	62.5	62.8	62.7	62.6	62.6	62.7	63.1	62.7
France	57.4	57.6	57.6	57.5	57.2	57.1	57.1	56.5	56.6
Germany	53.8	53.4	53.3	53.3	53.2	52.9	52.5	52.8	53.1
Great Britain	63.2	63.2	63.3	63.2	63.2	62.2	61.9	62.2	62.7
Italy	47.8	48.0	47.7	47.8	48.0	48.0	47.4	47.2	47.5
Netherlands	49.1	49.0	48.8	49.0	50.0	51.3	51.2	52.4	52.3
Sweden	65.0	65.9	66.1	66.6	67.0	66.8	66.8	66.9	67.0
Employed									
United States	88,752	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005
Canada	9,477	9,651	9,987	10,395	10,708	11,006	10,644	10,734	11,000
Australia	5,946	6,000	6,038	6,111	6,284	6,416	6,415	6,300	6,490
Japan	52,020	52,720	53,370	54,040	54,600	55,060	55,620	56,550	56,870
France	21,020	21,200	21,280	21,310	21,330	21,220	21,290	21,150	20,940
Germany	25,010	24,970	25,130	25,460	25,730	25,520	25,060	24,650	24,610
Great Britain	23,810	23,840	24,040	24,360	24,100	23,190	22,820	22,650	22,960
Italy	19,600	19,800	19,870	20,100	20,380	20,480	20,430	20,470	20,400
Netherlands	4,630	4,700	4,750	4,830	4,960	4,990	4,930	4,860	4,880
Sweden	4,083	4,093	4,109	4,174	4,226	4,218	4,213	4,218	4,249
Employment-population ratio									
United States	56.8	57.9	59.3	59.9	59.2	59.0	57.8	57.9	59.5
Canada	56.7	56.6	57.5	58.7	59.3	59.9	57.0	56.7	57.4
Australia	59.7	59.2	58.1	57.9	58.4	58.4	57.3	55.4	56.0
Japan	61.1	61.2	61.3	61.4	61.3	61.2	61.2	61.4	61.0
France	54.8	54.7	54.5	54.0	53.5	52.8	52.4	51.7	50.9
Germany	52.0	51.6	51.5	51.7	51.6	50.7	49.4	48.8	48.9
Great Britain	59.5	59.3	59.4	59.8	58.9	55.8	54.6	54.2	54.6
Italy	46.1	46.3	45.9	45.9	46.1	45.9	45.2	44.7	44.8
Netherlands	46.5	46.5	46.3	46.4	46.9	46.5	45.4	44.8	44.5
Sweden	64.9	64.8	64.8	65.3	65.6	65.1	64.7	64.4	64.7
Unemployed									
United States	7,406	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539
Canada	726	849	908	836	865	898	1,314	1,448	1,399
Australia	298	358	405	408	409	394	495	697	642
Japan	1,080	1,100	1,240	1,170	1,140	1,260	1,360	1,560	1,610
France	990	1,120	1,210	1,370	1,470	1,730	1,880	1,960	2,320
Germany	890	900	870	780	770	1,090	1,580	1,990	2,090
Great Britain	1,480	1,590	1,580	1,350	1,770	2,680	3,060	3,330	3,430
Italy	700	740	760	810	830	920	1,020	1,140	1,200
Netherlands	260	250	260	270	330	510	630	850	860
Sweden	66	75	94	88	86	108	137	151	136
Unemployment rate									
United States	7.7	7.1	6.1	5.8	7.1	7.6	9.7	9.6	7.5
Canada	7.1	8.1	8.3	7.4	7.5	7.5	11.0	11.9	11.3
Australia	4.8	5.6	6.3	6.3	6.1	5.8	7.2	10.0	9.0
Japan	2.0	2.0	2.3	2.1	2.0	2.2	2.4	2.7	2.8
France	4.5	5.0	5.4	6.0	6.4	7.5	8.3	8.5	10.0
Germany	3.4	3.5	3.4	3.0	2.9	4.1	5.9	7.5	7.8
Great Britain	5.9	6.3	6.2	5.3	6.8	10.4	11.8	12.8	13.0
Italy	3.4	3.6	3.7	3.9	3.9	4.3	4.8	5.3	5.9
Netherlands	5.3	5.0	5.2	5.3	6.2	9.3	11.3	14.5	15.0
Sweden	1.6	1.8	2.2	2.1	2.0	2.5	3.1	3.5	3.1

47. Annual indexes of productivity and related measures, twelve countries

(1977 = 100)

Item and country	1960	1970	1973	1975	1976	1978	1979	1980	1981	1982	1983	1984
Output per hour												
United States	60.0	79.2	93.0	93.4	97.6	100.9	101.6	101.7	104.9	107.1	111.6	115.6
Canada	50.3	78.8	91.3	91.0	96.2	101.4	104.2	101.9	104.0	101.1	107.6	111.9
Japan	22.0	61.4	80.2	85.3	93.3	107.9	117.4	128.6	135.7	145.4	152.8	167.4
Belgium	32.8	58.9	78.3	88.0	95.0	106.4	112.0	119.7	126.5	128.6	137.0	-
Denmark	36.4	65.3	82.8	94.4	98.0	102.4	108.3	114.3	116.2	115.3	118.8	123.6
France	38.5	69.3	82.0	88.4	94.9	105.9	110.6	112.4	116.0	123.5	128.8	135.2
Germany	39.8	70.9	83.4	89.8	96.2	102.5	107.4	108.4	110.3	111.6	116.8	122.3
Italy	38.5	72.7	90.8	91.1	98.9	103.0	110.5	116.9	121.0	123.4	126.4	134.4
Netherlands	31.7	63.0	80.1	85.1	98.1	106.6	112.1	114.6	118.7	121.6	130.4	-
Norway	54.6	81.7	94.7	98.6	99.7	101.8	107.2	109.3	109.7	112.7	119.4	121.4
Sweden	42.3	80.7	94.6	100.2	101.7	102.8	110.9	112.7	113.2	116.5	126.4	134.9
United Kingdom	53.8	77.6	93.1	94.5	99.4	101.6	102.1	99.9	106.1	110.9	115.3	123.0
Output												
United States	50.7	77.0	95.9	85.4	93.6	105.3	108.2	103.5	106.1	99.3	104.4	115.3
Canada	41.5	75.1	94.6	92.3	98.1	104.9	110.9	107.7	108.8	96.4	102.2	110.6
Japan	17.9	65.3	87.4	82.2	93.2	107.3	118.0	130.7	139.0	148.6	160.1	180.3
Belgium	41.6	79.0	95.7	92.1	99.4	101.6	104.2	107.3	104.8	104.8	106.2	-
Denmark	48.2	81.7	95.4	94.8	99.4	100.7	107.2	112.1	108.5	108.2	115.0	123.6
France	35.4	73.3	88.6	90.0	96.1	103.4	106.1	106.6	104.9	105.1	106.4	108.0
Germany	49.2	86.0	95.2	90.4	97.6	101.3	106.1	106.6	104.6	101.4	102.5	106.5
Italy	37.4	78.0	90.5	86.9	97.9	101.8	108.6	115.4	114.3	111.6	109.0	113.1
Netherlands	44.1	82.7	94.2	91.7	99.1	102.8	105.5	107.3	107.3	105.2	106.3	-
Norway	55.1	87.0	99.5	101.0	101.4	98.2	100.3	101.3	100.1	99.9	98.7	101.2
Sweden	52.6	92.5	100.3	106.1	106.1	97.3	103.6	104.0	100.6	100.1	106.0	113.2
United Kingdom	71.0	94.6	104.6	96.1	98.1	100.6	100.6	91.8	86.2	86.8	89.0	92.0
Total hours												
United States	84.4	97.3	103.1	91.4	95.9	104.4	106.5	101.7	101.1	92.7	93.5	99.8
Canada	82.6	97.7	103.6	101.4	102.0	103.4	106.4	105.7	104.6	95.4	94.9	98.9
Japan	81.5	106.4	109.0	96.4	99.9	99.5	100.5	101.6	102.4	102.2	104.8	107.7
Belgium	127.1	130.2	122.3	107.1	104.6	95.6	93.0	89.7	82.8	81.6	77.5	-
Denmark	132.4	125.1	115.2	100.4	101.4	98.3	99.0	98.0	93.4	93.9	96.8	99.9
France	97.6	105.7	108.0	101.9	101.3	97.6	95.9	94.8	90.4	85.0	82.6	79.9
Germany	123.6	121.3	114.2	100.6	101.5	98.8	98.8	98.4	94.8	90.8	87.7	87.0
Italy	102.3	107.4	99.6	95.4	99.0	98.8	98.2	98.7	94.5	90.5	86.2	84.2
Netherlands	139.1	131.1	117.7	107.8	103.1	96.4	94.1	93.7	90.4	86.5	81.5	-
Norway	101.0	106.4	105.1	104.3	101.7	96.5	93.6	92.6	91.3	88.6	82.7	83.4
Sweden	124.4	114.6	105.7	105.9	104.3	94.6	93.4	92.3	88.9	85.9	83.9	83.9
United Kingdom	131.8	121.9	112.4	101.7	98.7	99.0	98.6	91.9	81.3	78.2	75.2	74.8
Compensation per hour												
United States	36.7	57.6	69.0	85.5	92.3	108.3	118.8	132.7	145.2	156.0	163.4	169.4
Canada	27.1	46.5	58.2	78.2	89.9	106.7	118.3	130.6	151.5	167.2	178.5	181.4
Japan	8.9	33.9	55.7	85.4	91.1	105.9	112.8	121.2	130.2	136.9	141.5	146.0
Belgium	13.9	34.7	53.6	79.0	89.4	107.9	117.5	130.2	144.7	152.0	164.9	-
Denmark	12.6	36.3	56.1	81.0	90.4	110.2	123.2	135.9	149.7	165.4	172.6	182.8
France	15.1	36.5	52.1	76.6	88.8	113.7	129.7	148.1	171.3	202.7	227.4	247.5
Germany	18.8	48.1	67.6	84.8	91.4	107.7	115.4	125.0	133.8	140.9	146.7	152.1
Italy	8.3	26.1	43.7	70.2	84.1	114.5	134.7	160.2	197.1	237.3	277.0	306.0
Netherlands	12.2	38.5	60.1	81.9	92.1	108.7	117.3	123.5	130.3	139.4	147.3	-
Norway	15.8	37.9	54.6	77.2	88.9	110.0	118.0	128.0	142.8	156.1	173.8	185.6
Sweden	14.7	38.5	54.2	77.3	91.5	111.4	120.1	133.6	148.1	158.9	173.2	192.0
United Kingdom	14.9	30.9	45.0	75.1	88.9	116.8	137.1	162.8	185.6	201.8	216.2	233.4
Unit labor costs: National currency basis:												
United States	61.1	72.7	74.2	91.5	94.6	107.3	117.0	130.5	138.4	147.6	146.4	146.5
Canada	53.9	60.6	64.8	86.0	93.5	105.3	113.5	128.1	145.7	165.4	165.9	162.1
Japan	40.5	55.2	69.4	100.1	97.7	98.2	96.1	94.2	95.9	94.1	92.6	87.2
Belgium	42.4	57.9	68.5	91.9	94.1	101.4	104.9	108.9	114.4	118.3	120.4	-
Denmark	34.5	55.6	67.6	85.8	92.3	107.6	113.7	118.9	128.8	143.5	145.3	147.8
France	41.6	52.6	63.6	88.7	93.6	107.4	117.3	131.7	147.7	164.1	176.5	183.1
Germany	47.3	67.9	81.0	94.4	95.0	105.0	107.5	115.3	121.3	126.2	125.6	124.3
Italy	22.8	36.0	48.1	77.1	85.1	111.2	121.9	137.0	162.9	192.4	219.2	227.7
Netherlands	38.3	61.1	75.1	96.2	95.9	101.9	104.7	107.8	109.8	114.6	113.0	-
Norway	29.0	48.4	57.8	79.7	89.1	106.1	108.2	117.0	130.2	138.5	145.6	152.9
Sweden	34.8	47.7	57.2	77.1	90.0	108.4	108.3	118.6	130.9	136.3	137.1	142.3
United Kingdom	27.6	39.8	48.3	79.4	88.5	114.9	134.3	163.0	174.9	181.9	182.8	189.8
Unit labor costs: U.S. dollar basis:												
United States	61.1	72.7	74.2	91.5	94.6	107.3	117.0	130.5	138.4	147.6	146.4	146.5
Canada	59.0	61.7	66.8	89.8	100.7	96.1	103.0	116.4	129.1	142.3	143.1	133.0
Japan	30.2	41.3	68.6	90.4	88.2	126.2	117.9	111.8	116.4	101.2	104.4	98.4
Belgium	30.4	41.8	63.2	80.8	87.4	115.6	128.1	133.6	110.7	92.6	84.4	-
Denmark	30.1	44.5	67.6	88.8	91.7	117.3	129.7	126.8	108.4	103.2	95.3	85.7
France	41.7	46.8	70.4	99.5	96.3	117.3	135.5	153.4	133.4	122.6	113.9	103.0
Germany	26.3	43.2	71.0	89.2	87.6	121.6	136.2	147.5	124.9	120.7	114.1	101.4
Italy	32.5	50.6	73.1	104.3	90.5	115.6	129.5	141.4	126.3	125.4	127.4	114.5
Netherlands	24.9	41.4	66.3	93.5	89.0	115.7	128.1	133.2	108.2	105.2	97.2	-
Norway	21.7	34.5	53.4	81.4	86.9	109.7	113.8	126.2	120.8	114.1	106.2	96.7
Sweden	30.1	41.1	58.7	83.2	92.3	107.2	112.9	125.3	115.4	96.9	79.8	76.9
United Kingdom	44.5	54.6	67.9	101.1	92.6	126.4	163.4	217.2	202.9	182.2	158.8	145.4

- Data not available.

48. Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]								
	1977	1978	1979	1980	1981	1982	1983	1984	1985
PRIVATE SECTOR[3]									
Total cases	–	–	–	–	8.3	7.7	7.6	8.0	–
Lost workday cases	–	–	–	–	3.8	3.5	3.4	3.7	–
Lost workdays	–	–	–	–	61.7	58.7	58.5	63.4	–
Agriculture, forestry, and fishing[3]									
Total cases	–	–	–	–	12.3	11.8	11.9	12.0	–
Lost workday cases	–	–	–	–	5.9	5.9	6.1	6.1	–
Lost workdays	–	–	–	–	82.8	86.0	90.8	90.7	–
Mining									
Total cases	–	–	–	–	11.6	10.5	8.4	9.7	–
Lost workday cases	–	–	–	–	6.2	5.4	4.5	5.3	–
Lost workdays	–	–	–	–	146.4	137.3	125.1	160.2	–
Construction									
Total cases	–	–	–	–	15.1	14.6	14.8	15.5	–
Lost workday cases	–	–	–	–	6.3	6.0	6.3	6.9	–
Lost workdays	–	–	–	–	113.1	115.7	118.2	128.1	–
General building contractors:									
Total cases	–	–	–	–	15.1	14.1	14.4	15.4	–
Lost workday cases	–	–	–	–	6.1	5.9	6.2	6.9	–
Lost workdays	–	–	–	–	107.1	112.0	113.0	121.3	–
Heavy construction contractors:									
Total cases	–	–	–	–	14.9	15.1	15.4	14.9	–
Lost workday cases	–	–	–	–	6.0	5.8	6.2	6.4	–
Lost workdays	–	–	–	–	106.0	113.1	122.4	131.7	–
Special trade contractors:									
Total cases	–	–	–	–	15.2	14.7	14.8	15.6	–
Lost workday cases	–	–	–	–	6.6	6.2	6.4	7.1	–
Lost workdays	–	–	–	–	119.3	118.6	119.0	130.1	–
Manufacturing									
Total cases	–	–	–	–	11.5	10.2	10.0	10.6	–
Lost workday cases	–	–	–	–	5.1	4.4	4.3	4.7	–
Lost workdays	–	–	–	–	82.0	75.0	73.5	77.9	–
Durable goods									
Lumber and wood products:									
Total cases	–	–	–	–	17.6	16.9	18.3	19.6	–
Lost workday cases	–	–	–	–	9.0	8.3	9.2	9.9	–
Lost workdays	–	–	–	–	158.4	153.3	163.5	172.0	–
Furniture and fixtures:									
Total cases	–	–	–	–	15.1	13.9	14.1	15.3	–
Lost workday cases	–	–	–	–	6.2	5.5	5.7	6.4	–
Lost workdays	–	–	–	–	91.9	85.6	83.0	101.5	–
Stone, clay, and glass products:									
Total cases	–	–	–	–	14.1	13.0	13.1	13.6	–
Lost workday cases	–	–	–	–	6.9	6.1	6.0	6.6	–
Lost workdays	–	–	–	–	122.2	112.2	112.0	120.8	–
Primary metal industries:									
Total cases	–	–	–	–	14.4	12.4	12.4	13.3	–
Lost workday cases	–	–	–	–	6.7	5.4	5.4	6.1	–
Lost workdays	–	–	–	–	121.3	101.6	103.4	115.3	–
Fabricated metal products:									
Total cases	–	–	–	–	17.5	15.3	15.1	16.1	–
Lost workday cases	–	–	–	–	7.5	6.4	6.1	6.7	–
Lost workdays	–	–	–	–	109.9	102.5	96.5	104.9	–
Machinery, except electrical:									
Total cases	–	–	–	–	12.9	10.7	9.6	10.7	–
Lost workday cases	–	–	–	–	5.1	4.2	3.6	4.1	–
Lost workdays	–	–	–	–	74.9	66.0	58.1	65.8	–
Electric and electronic equipment:									
Total cases	–	–	–	–	7.4	6.5	6.3	6.8	–
Lost workday cases	–	–	–	–	3.1	2.7	2.6	2.8	–
Lost workdays	–	–	–	–	48.4	42.2	41.4	45.0	–
Transportation equipment:									
Total cases	–	–	–	–	9.8	9.2	8.4	9.3	–
Lost workday cases	–	–	–	–	4.6	4.0	3.6	4.2	–
Lost workdays	–	–	–	–	78.1	72.2	64.5	68.8	–
Instruments and related products:									
Total cases	–	–	–	–	6.5	5.6	5.2	5.4	–
Lost workday cases	–	–	–	–	2.7	2.3	2.1	2.2	–
Lost workdays	–	–	–	–	39.2	37.0	35.6	37.5	–
Miscellaneous manufacturing industries:									
Total cases	–	–	–	–	10.7	9.9	9.9	10.5	–
Lost workday cases	–	–	–	–	4.4	4.1	4.0	4.3	–
Lost workdays	–	–	–	–	66.3	69.9	66.3	70.2	–

See footnotes at end of table.

48. —Continued Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]								
	1977	1978	1979	1980	1981	1982	1983	1984	1985
Nondurable goods									
Food and kindred products:									
Total cases	–	–	–	–	17.8	16.7	16.5	16.7	–
Lost workday cases	–	–	–	–	8.6	8.0	7.9	8.1	–
Lost workdays	–	–	–	–	130.7	129.3	131.2	131.6	–
Tobacco manufacturing:									
Total cases	–	–	–	–	8.2	7.2	6.5	7.7	–
Lost workday cases	–	–	–	–	3.9	3.2	3.0	3.2	–
Lost workdays	–	–	–	–	56.8	44.6	42.8	51.7	–
Textile mill products:									
Total cases	–	–	–	–	8.6	7.6	7.4	8.0	–
Lost workday cases	–	–	–	–	3.2	2.8	2.8	3.0	–
Lost workdays	–	–	–	–	59.2	53.8	51.4	54.0	–
Apparel and other textile products:									
Total cases	–	–	–	–	6.3	6.0	6.4	6.7	–
Lost workday cases	–	–	–	–	2.2	2.1	2.4	2.5	–
Lost workdays	–	–	–	–	35.0	36.4	40.6	40.9	–
Paper and allied products:									
Total cases	–	–	–	–	11.6	10.6	10.0	10.4	–
Lost workday cases	–	–	–	–	5.4	4.9	4.5	4.7	–
Lost workdays	–	–	–	–	103.6	99.1	90.3	93.8	–
Printing and publishing:									
Total cases	–	–	–	–	6.7	6.6	6.6	6.5	–
Lost workday cases	–	–	–	–	3.0	2.8	2.9	2.9	–
Lost workdays	–	–	–	–	47.4	45.7	44.6	46.0	–
Chemicals and allied products:									
Total cases	–	–	–	–	6.6	5.7	5.5	5.3	–
Lost workday cases	–	–	–	–	3.0	2.5	2.5	2.4	–
Lost workdays	–	–	–	–	46.1	39.4	42.3	40.8	–
Petroleum and coal products:									
Total cases	–	–	–	–	6.7	5.3	5.5	5.1	–
Lost workday cases	–	–	–	–	2.9	2.5	2.4	2.4	–
Lost workdays	–	–	–	–	51.2	46.4	46.8	53.5	–
Rubber and miscellaneous plastics products:									
Total cases	–	–	–	–	14.6	12.7	13.0	13.6	–
Lost workday cases	–	–	–	–	7.2	6.0	6.2	6.4	–
Lost workdays	–	–	–	–	117.4	100.9	101.4	104.3	–
Leather and leather products:									
Total cases	–	–	–	–	11.5	9.9	10.0	10.5	–
Lost workday cases	–	–	–	–	5.1	4.5	4.4	4.7	–
Lost workdays	–	–	–	–	82.6	86.5	87.3	94.4	–
Transportation and public utilities									
Total cases	–	–	–	–	9.0	8.5	8.2	8.8	–
Lost workday cases	–	–	–	–	5.3	4.9	4.7	5.2	–
Lost workdays	–	–	–	–	100.6	96.7	94.9	105.1	–
Wholesale and retail trade									
Total cases	–	–	–	–	7.3	7.2	7.2	7.4	–
Lost workday cases	–	–	–	–	3.1	3.1	3.1	3.3	–
Lost workdays	–	–	–	–	45.3	45.5	47.8	50.5	–
Wholesale trade:									
Total cases	–	–	–	–	7.7	7.1	7.0	7.2	–
Lost workday cases	–	–	–	–	3.6	3.4	3.2	3.5	–
Lost workdays	–	–	–	–	54.7	52.1	50.6	55.5	–
Retail trade:									
Total cases	–	–	–	–	7.1	7.2	7.3	7.5	–
Lost workday cases	–	–	–	–	2.9	2.9	3.0	3.2	–
Lost workdays	–	–	–	–	41.1	42.6	46.7	48.4	–
Finance, insurance, and real estate									
Total cases	–	–	–	–	1.9	2.0	2.0	1.9	–
Lost workday cases	–	–	–	–	.8	.9	.9	.9	–
Lost workdays	–	–	–	–	11.6	13.2	12.6	13.6	–
Services									
Total cases	–	–	–	–	5.0	4.9	5.1	5.2	–
Lost workday cases	–	–	–	–	2.3	2.3	2.4	2.5	–
Lost workdays	–	–	–	–	35.9	35.8	37.0	41.1	–

---

[1] Total cases include fatalities.

[2] The incidence rates represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as: (N/EH) X 200,000, where:

N = number of injuries and illnesses or lost workdays.

EH = total hours worked by all employees during calendar year.

200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year.)

[3] Excludes farms with fewer than 11 employees since 1976.

– Data not available.

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109/4

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U.S. wages, U.S. prices,
and international prices in 1985

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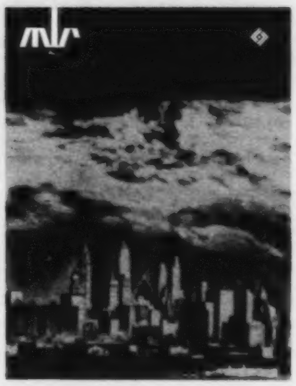

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Labor Month In Review

COMPETITIVENESS. Can America balance human values with industries' need to remain competitive? National leaders from business, labor, and academia addressed that question on March 5, at a Washington, D.C., conference cosponsored by the George Washington University and the U.S. Department of Labor. Professors Thomas A. Kochan and Robert McKersie of the Massachusetts Institute of Technology and Richard E. Walton of Harvard University helped lead the discussion. Excerpts:

Human values (Kochan). Democratic societies face the dual challenge of achieving competitiveness while at the same time attending to the human values of their citizens. In the 1930's, American policymakers addressed this challenge by enacting legislation supporting collective bargaining, minimum wages, unemployment compensation, and so forth. Later legislation covered occupational safety and health, equal employment opportunity, and pension security. Over the years, these policies were supported by economic and trade policies that promoted expansion of world and domestic markets. This encouraged the development of private collective bargaining and human resource management practices that provided management with the stability needed to capture expanding market opportunities and labor with the means to share in the benefits of economic growth.

But the intensified competitive pressures experienced by many American firms and industries in recent years have raised questions about the ability of management and labor to meet this dual challenge within the existing policy framework and the institutional practices that have evolved since the 1930's.

One of the hallmarks of collective bargaining has always been its capacity to adapt to different market settings in ways that "took wages out of competition." This stimulated American management to search for strategies that gave their businesses a comparative advantage on bases other than being the lowest wage rate competitor. One of the pressures for change in industrial relations in recent years is that, given the growth of international competition and the rise of domestic nonunion competition, collective bargaining has experienced difficulty in performing this function. Some employers have responded to this situation in the short run by decentralizing bargaining structures, shifting wage criteria to focus more directly on local ability to pay, and demanding wage concessions and work rule changes in an effort to close the gap in labor costs with their competitors.

Employment security (McKersie). If the twin objectives of competitiveness and human values are to be linked in a constructive manner, then employment security is one of the most important themes for achieving this integration. Certainly, if either objective is pursued without reference to the other, then significant distortions emerge in the social fabric and economic relations in the United States. For example, if employers seek to realize shortrun cost savings, they may be prompted to "dump" large numbers of workers (often older workers) into the labor market and pursue aggressive restructuring that ignores the human costs that are involved. On the other hand, if workers (and especially their union representatives) are able to exercise bargaining power to the point that they achieve job protection, of the sort that has existed for long periods of time in the railroad industry, then the enterprise as well as generations of potential workers (and indirectly the communities involved) suffer the consequences of protection at the price of economic viability.

Clearly, the "best way" is to realize a balance and to fashion concepts, principles, and programs that bring about a creative synthesis of competitiveness and human values.

Commitment (Walton). When we think of commitment in the workplace we usually focus on worker commitment to the organization and the benefits of this commitment for competitiveness. Is it not also true that additional worker commitment to the welfare of the employing organization must be matched by additional organizational commitment to the employees' welfare?

The commitment of workers to the enterprise can take many forms, including initiatives to improve quality, reduce scrap and other waste, and increase the productivity of their labor.

Similarly the enterprise's commitment to workers can be expressed in a variety of policy areas—strong employment assurances, meaningful opportunities to participate in decisions, provisions for training and retraining, information, challenging jobs, and a management style that treats workers as adults.

How is *union* commitment to the success of the enterprise reciprocated? Does it not imply commitment by the management of the enterprise to respect the union as an institution? If so, what actions and institutional forms express the reciprocal commitments of management and unions to the other?

If workers and unions are to accept more responsibility for the competitiveness of the enterprise and exercise more influence within it they will require more timely information. If workers make economic sacrifice to keep the enterprise competitive, new principles governing economic sharing must be developed.

Information about the conference is available from the Bureau of Labor-Management Relations and Cooperative Programs, Room N5416, U.S. Department of Labor, Washington, D.C. 20210 ☐

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Import, export prices reflect declining dollar and oversupply in 1985

After falling during the first three quarters of the year, import prices rose as the effects of the weakening dollar were finally felt; meanwhile, fierce competition and oversupply forced down U.S. export prices

SHELLEY MEISTER AND THOMAS A. SHERMAN

U.S. import prices, as measured by the BLS International Price Program, continued to fall in 1985, marking their third consecutive year of decline. The 1.1-percent decrease for the year followed a 1.5-percent drop in 1984. Most of the 1985 decline was registered in the first quarter, when import prices fell 2.3 percent. The dollar's depreciation moderated import price decreases in the second and third quarters, and contributed to a 1.8-percent price rise for imports during the fourth quarter. (See chart 1.)

During 1985, price increases for imports of finished goods and food could not offset declines for raw materials and intermediate goods. Prices rose 4.2 percent for machinery and transport equipment, 0.8 percent for miscellaneous manufactured goods, and 4.8 percent for food. Prices for beverages and tobacco also rose 3.3 percent for the year. However, decreases were recorded in the other four components of the all-import price index. Energy, intermediate goods, and crude material prices were down 6.0 percent, 2.5 percent, and 7.8 percent, respectively. The fats and oils index, which represents only 0.2 percent of the all-import index, plunged 56.0 percent. These declines are largely attributable to oversupplies of basic commodities, such as crude petroleum, rubber, steel, and certain nonferrous metals.

The U.S. dollar reached an all-time high in March 1985, and then began a gradual decline, falling 9 percent by September. In late September, the decline was accelerated after a group of the Nation's major trading partners agreed to intervene in the foreign exchange market to curb the dollar's strength. The immediate effect was a further 5.1-percent decline in the value of the dollar, bringing the total drop to 13.6 percent for the year.[1]

Product areas in which the major industrialized nations supply a large percentage of U.S. imports appeared particularly susceptible to last year's changes in exchange rates. For example, the machinery and transport equipment index, which accounted for nearly 40 percent of total imports in 1985, declined 1.3 percent in the first quarter of 1985. However, as the dollar began to fall, import prices rose modestly in the middle of the year, and then jumped 3.6 percent in the fourth quarter, the strongest quarterly advance in 4 years.

The dollar's decline did not immediately affect all import prices. Some suppliers deferred price increases to see if the dollar's downward trend would be sustained. In other cases, traders were bound to long-term supply contracts and thus could not adjust prices immediately. Also, the dollar re-

---

Shelley Meister and Thomas A. Sherman are economists in the Division of International Prices, Bureau of Labor Statistics.

mained strong against some currencies, especially those of Mexico and Latin America. For example, the Mexican peso depreciated 54.3 percent against the U.S. dollar in 1985.[2] Meanwhile, the currencies of Canada and some of the newly industrialized nations of the Far East depreciated slightly against the dollar last year. All of these factors contributed to the record $361 billion of foreign goods imported by the United States in 1985.[3] That was 6.0 percent greater than the previous record high set in 1984.

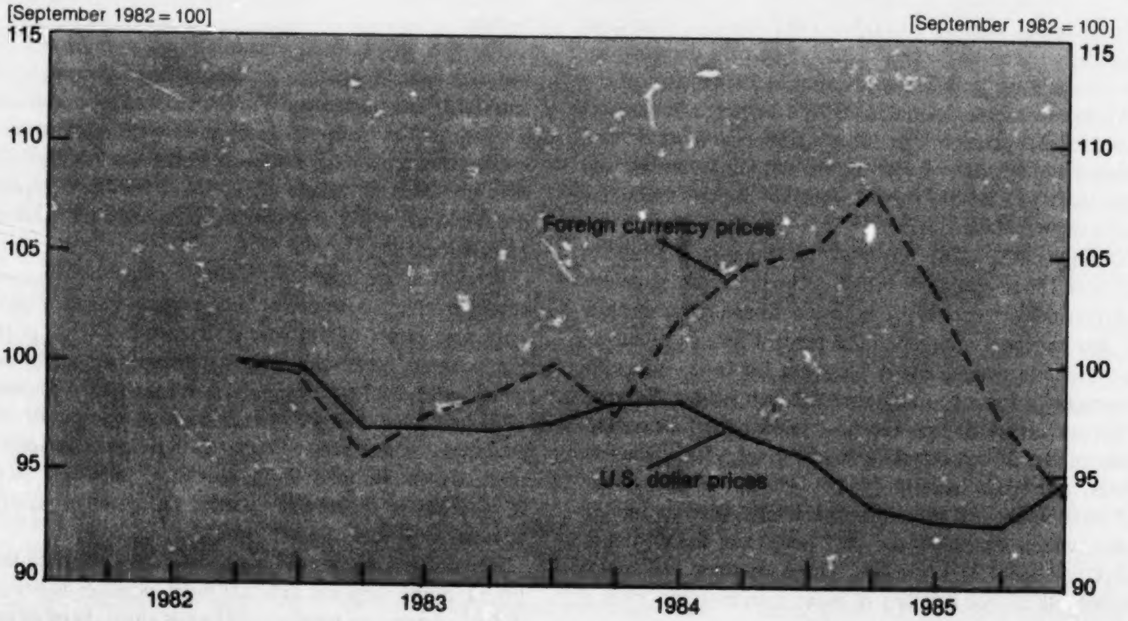
U.S. export prices declined in 1985 for the second year running. The 1.3-percent drop nearly matched the 1.4-percent decline observed in 1984. (See chart 2.) Major declines occured in the indexes for crude materials (−8.1 percent), energy (−3.1 percent), and agricultural products (−3.0 percent). The fats and oils index plummeted 31.4 percent but this index represents less than 1 percent of U.S. export trade. Declines of 1.2 percent, 1.1 percent, and 2.7 percent were registered for intermediate manufactured goods, chemicals, and beverages and tobacco. Moderating these declines were a 1.3-percent price increase for machinery and transport equipment and a 1.0-percent advance for miscellaneous manufactured goods.

Many of the same factors that caused import prices to decrease also held down export prices. Excess global stocks of food, crude materials, and fats and oils depressed prices for those commodities. The strong competition encountered by U.S. exporters, especially from producers in the Far East, kept any price increases to a minimum. Also, the strength of the U.S. dollar continued to have a dampening effect on export prices, despite the weakening during the last three quarters of the year. Although U.S. export prices dropped, the Nation's export volume was down in 1985. U.S. exporters shipped $213 billion in merchandise, or 2.2 percent less than the previous year's total.[4]

The Nation's merchandise trade deficit hit a record $148.5 billion in 1985,[5] 16 percent above the 1984 total. (See chart 3.) The largest U.S. merchandise trade deficit was held with Japan—$49.75 billion, up 35 percent from 1984. The Nation also had significant trade deficits with Canada, Taiwan, and West Germany of $22.2 billion, $13.1 billion, and $12.2 billion respectively.[6] In contrast, the United States continued to maintain a healthy trade surplus of $21.4 billion in the service sector.[7] Service trade includes income of U.S. foreign subsidiaries. The dollar's 1985 decline tended to push up earnings in this area.[8]

The strong dollar has been a major cause of the trade deficit. Although the real value of the trade-weighted dollar declined 13 percent between March and December 1985, at yearend it remained 32 percent higher than its July 1980 low.[9] (See chart 4.) Roughly one-third of the recent drop in the trade-weighted dollar followed the historic "Group of Five" meeting on September 22 in New York, at which

Chart 1. Quarterly indexes of U.S. dollar and foreign currency prices for U.S. imports, 1982-85



SOURCE: Bureau of Labor Statistics, based on data from the Bureau and from the Morgan Guaranty Trust Co.

Table 1. Changes in import Price Indexes for selected categories of goods, December 1984–1985

SITC Category	Description	Percent change						
		Annual			Quarterly			
		Percentage of 1980 trade value	Dec. 1983 to Dec. 1984	Dec. 1984 to Dec. 1985	Dec. 1984 to March 1985	March 1985 to June 1985	June 1985 to Sept. 1985	Sept. 1985 to Dec. 1985
	All commodities [1]	100.000	−1.7	−1.1	−2.3	−0.5	−0.1	1.8
	All commodities, except fuels and related products	67.223	−1.0	0.9	−2.2	0.3	0.4	2.4
0	Food	6.554	−2.3	4.8	0.4	−1.7	−2.0	8.3
01	Meat	.977	−1.3	−0.8	−1.4	−9.4	2.0	8.8
06	Sugar, sugar preparations, and honey	.925	0.5	−5.6	−0.1	3.5	0.4	−9.1
07	Coffee, tea, cocoa	2.241	−2.0	10.6	−2.4	−1.8	−2.9	18.7
1	Beverages and tobacco	1.082	0.7	3.3	−0.2	0.6	0.6	2.3
2	Crude materials	4.275	−0.2	−7.8	−5.0	−0.4	−2.2	−0.3
23	Crude rubber including synthetic and reclaimed	.410	([2])	−12.6	−7.4	−1.5	−9.8	6.2
24	Wood	.865	−3.0	−4.4	−3.2	6.2	−5.0	−2.2
25	Pulp and waste paper	.708	15.2	−18.7	−9.9	−4.3	−4.5	−1.3
28	Metalliferous ores and metal scrap	1.465	([2])	−5.8	−5.4	−3.1	2.2	0.7
3	Fuels and related products	32.776	−3.0	−6.0	−2.7	−2.4	−1.4	0.4
33	Crude petroleum and petroleum products	30.653	−3.1	−4.8	−1.6	−2.6	−1.6	1.0
4	Fats and oils	.226	14.4	−56.0	−21.8	−14.7	−24.9	−12.2
5	Chemicals and related products	3.475	−2.4	−3.0	−1.4	−0.8	−0.4	−0.3
6	Intermediate manufactured products	13.520	−0.4	−2.5	−2.7	−0.5	0.9	−0.1
67	Iron and steel	3.127	3.5	−4.4	−2.2	−0.7	−0.8	−0.7
68	Nonferrous metals	3.123	−7.9	−7.9	−6.2	0.5	1.7	−3.9
7	Machinery and transport equipment	25.442	−1.2	4.2	−1.3	1.0	0.9	3.6
73	Metalworking machinery	.755	−6.1	9.1	−4.0	4.9	4.1	4.1
75	Office machines and automatic data processing equipment	1.217	−4.9	1.6	−2.8	0.2	1.0	3.8
76	Telecommunications, sound recording and reproducing equipment	2.785	−3.8	−3.0	−1.4	−1.3	−0.6	0.3
77	Electric machinery and equipment	3.396	−9.3	−3.6	−5.0	2.2	−3.0	2.3
78	Road vehicles and parts	10.887	1.6	5.8	0.2	0.5	0.5	4.5
8	Miscellaneous manufactured articles	9.794	−0.1	0.8	−3.0	1.0	1.6	1.2
84	Clothing	2.666	7.8	−2.9	−1.3	−2.0	0.4	0.0
85	Footwear	1.232	4.8	0.1	−3.6	−0.5	4.0	0.4
87	Professional, scientific, and controlling instruments and apparatus	.628	−4.8	10.2	−4.0	3.5	7.0	3.6
88	Photographic apparatus and supplies, optical goods, watches and clocks	1.162	0.8	3.9	−2.6	0.7	1.8	4.2
89	Miscellaneous manufactured articles, n.e.s.	3.286	−8.4	1.7	−5.3	4.4	1.3	1.6

[1] This category includes indexes in addition to those shown here. For all of the indexes available in each category, see *U.S. Import and Export Indexes*, USDL–86–38 (Bureau of Labor Statistics), January 30, 1986.

[2] Data not available.

n.e.s.=not elsewhere specified.

Japan, West Germany, the United Kingdom, and France agreed to cooperate in a plan to force down the value of the dollar through intervention in foreign exchange markets. As of December, however, this decline had not retarded U.S. imports or stimulated exports, as the record trade deficit showed.

Another reason for the large trade deficit has been the rapid industrialization of Far Eastern nations following in Japan's footsteps. Besides the massive trade deficit with Japan, the United States also ran large trade deficits with other nations in the Far East. The combined trade surplus of South Korea, Taiwan, Hong Kong, and Singapore with the United States reached an estimated $25 billion in 1985.[10] These nations are aggressively entering automobile, consumer electronics, and semiconductor markets.[11] This has led to lower prices for many of these goods on world markets.

The Latin American debt problem also had a negative effect on U.S. foreign trade in 1985. It is estimated that the region's total foreign debt will reach $360 billion for the year.[12] Brazil is most heavily in debt, owing $100 billion, with Mexico not far behind at $97 billion.[13] All the debtor nations need hard currency to repay loans from Western banks and The International Monetary Fund. In an effort to obtain the currency, these countries have curtailed imports, which has dramatically hurt U.S. export trade. U.S. exporters to Latin America are further hampered by the appreciation of the dollar against many of these nations' currencies.

Price developments discussed in this article are based on data from the BLS International Price Program. That program produces import and export price indexes based on the Standard Industrial Trade Classification scheme. Both indexes use a modified Laspeyres formula. Price data are collected for more than 14,000 products, and are not seasonally adjusted. Import price indexes are weighted by the 1980 Tariff Schedule of the United States Annotated (TSUSA). Export price indexes are weighted using the 1980 Schedule B classification system of the U.S. Bureau of the Census. In addition, the International Price Program, in 1985, also started producing SIC-based indexes and Bureau of Economic Analysis "end-use" price indexes.

Import price developments

Energy. The decline in world energy prices continued to lower U.S. import prices. This was reflected in the price index for imported fuels and related products, which decreased 6.0 percent for the year after a 3-percent drop in 1984. This index comprises 32.78 percent of the all-import index. The crude petroleum index fell 3.8 percent and the natural gas index decreased 23.9 percent. (These two index movements represent prices through November 1985.)

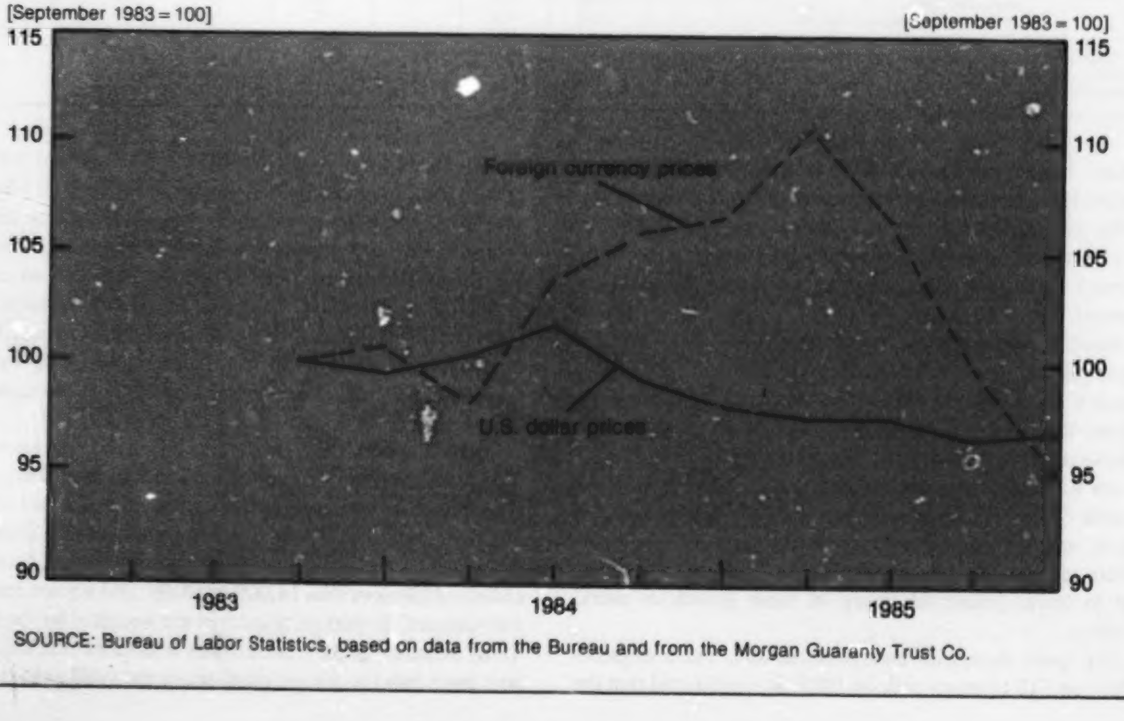
U.S. average monthly imports of crude oil and petroleum products declined 7 percent from their 1984 level, and 27 percent since August 1980.[14] (See chart 5.) Much of this decrease can be attributed to greater fuel efficiency in automobiles and a switch from crude oil to coal and natural gas by many industrial consumers.[15] The decline in U.S. crude oil imports has greatly affected many OPEC nations, especially Saudi Arabia. From 325 thousand barrels of crude oil a day in 1984, Saudi Arabian imports had declined to 167 thousand barrels a day by 1985. Total U.S. imports of OPEC crude oil in 1985 were 1,825 thousand barrels a day, down 11 percent from 1984 and 58 percent from 1980.[16]

Since 1982, the United States' major source of foreign crude and petroleum products has been non-OPEC producers. Imports of crude oil and petroleum products from these nations were 23 percent greater in 1985 than in 1980, but were down 5 percent from 1984 levels. The number of barrels of Canadian and Mexican crude imports increased during 1985, but imports of U.K. crude fell 22 percent over the year.[17]

In September, OPEC representatives met in Switzerland and decided to drop the cartel's official price 50 cents per barrel for heavy crude and 20 cents per barrel for medium crude. The cartel's previous official price of $26.50 a barrel for heavy crude had been $2 above the spot market price.[18] Saudi Arabia was the only OPEC member to actually sell heavy crude for that amount. As a result, in July, Saudi output hit its lowest production level in 20 years. For several years, the other OPEC members have routinely sold their crude at a discount or through barter agreements and so have captured potential Saudi Arabian sales.[19]

As of October 1, 1985, Saudi Arabia decided that it was no longer going to follow the cartel's official prices. In order to get production up, Saudi Arabia began the practice of "net-backing" prices. This involves the linking of crude oil prices to those of refined products. With Saudi Arabia cutting prices to some $2 below the official cartel price, that nation's production increased to 4.2 million barrels a day

Chart 2. Quarterly indexes of U.S. dollar and foreign currency prices for U.S. exports, 1983-85



SOURCE: Bureau of Labor Statistics, based on data from the Bureau and from the Morgan Guaranty Trust Co.

from 2 million barrels a day. At year's end, Sheik Yamani, the Saudi Arabian oil minister, announced plans to keep production at the higher levels even if it forced prices below \$20 a barrel, which it did in January 1986.[20]

Most non-OPEC oil producing nations cut their prices for crude throughout 1985. In November, however, Mexico and two Canadian companies increased their prices for crude oil. Since 1983, Mexico had conformed to OPEC pricing and production policies. This situation existed until July 1985, when that country cut its prices for Isthmus light crude by \$1.24 and for heavy crude by 77 cents a barrel.[21] But in November, Mexico responded to a firming up of oil prices and increased demand for light crudes by raising the price of its Isthmus light crude by 76 cents. In the same month, Canada's Imperial Oil Ltd. and Petro Canada raised their prices for Alberta 40-degree light crude oil by \$1.58 and \$1.20 respectively.[22] Throughout November, crude oil prices rose on the spot market as oil companies kept inventories low in expectation of price decreases in December or early 1986. At that time, the full impact of Saudi Arabia's increased production was expected to cause a glut of oil on the world market.

By December, U.S. stocks of heating oil for the winter season were at an all-time low. Because domestic refineries had extra capacity and foreign heating oil was available, there was no concern about a shortage in heating oil when seasonal demand picked up.[23] However, spot market prices for heating oil had increased in the last half of the year. In July, heating oil was selling on the spot market for \$28.50/bbl, but by the end of November, the price had reached \$38.50/bbl.[24] This resulted from high European demand, and the fact that the Europeans were offering a premium to refiners. In September, inventories were 18 million barrels below 1984 levels and just 13 million barrels above spot shortage levels.[25]

During the winter of 1984–85, U.S. natural gas use was 1.9 percent below the previous year's levels. The forecast for winter 1985–86 is for an increase in natural gas consumption in the 3-percent range, with a concomitant growth in imports of 0.04 trillion cubic feet.[26] Practically all of the increase in imports will be coming from Canada.

From 1975 to 1984, Canadian natural gas prices were set by the government. However, in November 1984, Canada started deregulating natural gas prices, with the wholesale price of natural gas in Toronto serving as the benchmark for sales to the United States. Prices fell as a result of the deregulation, and Canadian natural gas exports to this country increased.[27] Further deregulation in November 1985 was designed to help Canadian producers become price competitive with Western U.S. natural gas producers. According to Canadian law, an exporter cannot sell natural gas to the United States at prices below those offered to purchasers in neighboring provinces. Still, at a floor of \$2.19 per thousand cubic feet, yearend 1985 prices were 26 percent less than the previous Toronto benchmark price.[28]

Table 2. Percent change in Export and Import Price indexes by end-use category, December 1984–85

End-use category	Quarterly				Annual	
	Dec. 84 to March 85	March 85 to June 85	June 85 to Sept. 85	Sept. 85 to Dec. 85	Dec. 83 to Dec. 84	Dec. 84 to Dec. 85
Imports						
Food, feeds, and beverages	0.3	−1.7	−1.4	7.1	−2.1	4.1
Raw materials, except petroleum	−4.7	−0.5	−0.4	−1.6	−0.7	−7.1
Raw materials, durable	−3.8	0.1	−0.4	−1.2	−3.0	−5.3
Raw materials, nondurable	−5.7	−1.2	−0.4	−1.8	1.7	−8.8
Petroleum and petroleum products	−1.5	−2.7	−1.5	0.7	−2.7	−4.9
Capital goods, except auto.	−3.1	1.6	1.3	2.5	−3.5	2.2
Nonelectrical machinery	−2.6	1.3	3.2	3.3	−2.5	5.1
Automotive, including parts	0.2	0.5	0.5	4.7	1.3	5.9
Consumer goods	−1.6	−0.1	1.6	1.5	0.7	1.4
Consumer goods, durable	−1.5	0.0	2.0	1.9	−2.6	2.3
Manufactured, durable	−1.3	0.5	1.7	2.1	−1.8	3.0
Consumer goods, nondurable	−1.5	−0.5	1.4	0.8	5.1	0.1
Exports						
Food, feeds, and beverages	−1.8	−0.7	−5.8	1.7	−12.6	−6.6
Raw materials	−1.5	−0.4	−0.7	−0.3	−1.6	−2.9
Raw materials, durable	−0.8	−1.1	−0.5	−0.1	−4.5	−2.5
Raw materials, nondurable	−1.8	−0.1	−0.8	−0.4	−0.5	−3.1
Capital goods, except auto.	0.6	0.4	0.0	0.0	3.5	0.9
Automotive, including parts	0.9	1.2	0.1	1.0	1.7	3.3
Consumer goods	0.1	0.2	0.8	−0.2	1.2	0.9
Consumer goods, durable	−0.2	0.1	1.2	−0.4	0.4	0.7
Consumer goods, nondurable	0.6	0.4	0.2	0.0	2.0	1.2

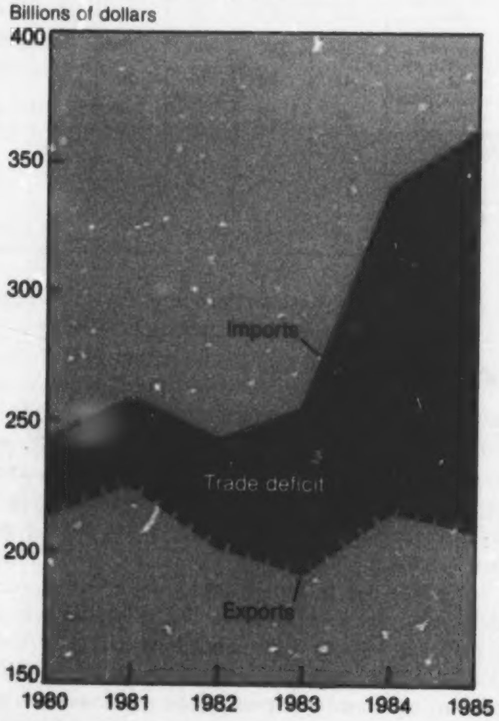
Machinery and transport equipment. Prices for imported machinery and transportation equipment were up 4.2 percent in 1985, after slipping 1.2 percent in 1984. (See chart 6.) This index is heavily influenced by fluctuations in the value of the U.S. dollar. Much of the machinery and transportation equipment imported to the United States comes from Japan and West Germany, nations whose currencies appreciated against the dollar in 1985. The weakening of the dollar was reflected in the rise of the index through the last three quarters of the year.

The index for imported machinery and transportation equipment represents 25 percent of the all-import index. In 1985, the value of these imports reached \$141.7 billion, up from \$123.1 billion the previous year.[29] As the U.S. economy continued to expand, albeit at a slower rate than in 1984, domestic demand for capital goods such as looms, lathes, pumps, and pistons, and for consumer items such as vehicles, video cassette recorders, and microwave ovens, continued to grow. Much of this demand was met by imports. Indeed, import penetration in the U.S. machinery, electronics, and mechanical components markets has been growing steadily for more than a decade.[30]

Import penetration in the automobile industry also increased in 1985. Despite Detroit's big late summer sales campaign, both Japan and West Germany managed to capture larger shares of the domestic market. Overall, car and truck sales hit record highs, with total units sold reaching 15.7 million.[31] Of these, 74.3 percent were American made, 20.2 percent Japanese, and 3.8 percent German. Comparable 1984 shares were 76.5, 18.4, and 3.3 percent respectively.[32]

The ceiling on the voluntary restraint agreement covering Japanese auto exports to the United States was raised substantially in April of last year. From April 1984 to April 1985, Japanese manufacturers had limited auto shipments to the United States to 1.85 million units. In April 1985, however, they announced that they would raise the yearly limit to 2.3 million vehicles. As a result, Japanese auto shipments to this country as of October 1985 were 36 percent greater than comparable 1984 figures.[33] The yearend strengthening of the yen prompted Japanese producers to raise prices, but analysts doubt this will stem strong sales gains.[34]

Chart 3. Annual volume of U.S. exports and imports of merchandise, 1980-85



SOURCE: U.S. Department of Commerce.

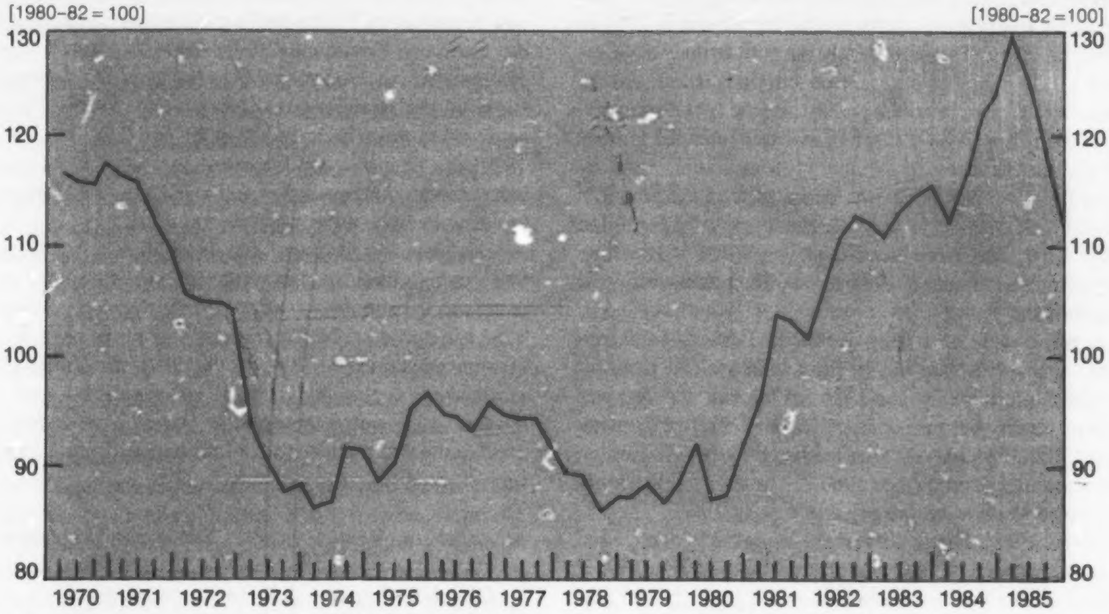
With fuel costs no longer rising rapidly, and disposable incomes increasing, U.S. demand for larger, more luxurious cars has risen in the last few years. The Japanese have altered their import product mix to reflect this change in tastes. With supply limited by the voluntary export restraints, Japanese auto makers have improved comfort and performance features in order to raise prices and profits.[35] This is not completely reflected in the automobile import index, which tracks a fixed basket of automotive styles and factors out price increases due to quality changes in the products priced. Thus the index advanced 6.1 percent for 1985, mirroring moderate price increases for comparable base models. Consumers, however, saw higher prices, and sportier cars, in dealer showrooms.

In recent years, domestic auto makers have responded to increased competition by cutting costs, modernizing plant and equipment, and forming joint ventures with their Japanese rivals. These joint ventures will provide U.S. manufacturers firsthand exposure to Japanese production, inventory, and managerial techniques which have made them leaders in small car production. In turn, the Japanese gain a solid foothold in the lucrative U.S. market. Should the U.S. Congress enact domestic content or import quota legislation, the Japanese will continue to profit from the estimated 1.2 million vehicles that the joint ventures will produce annually in this country by the end of the decade.

Electrical machinery and equipment imports decreased in volume and price last year. U.S. firms imported $18.2 billion worth of these goods in 1985, a 3.3-percent drop from 1984.[36] The import price index for this product group fell 3.6 percent for the year, continuing its downward trend.

Semiconductors constitute roughly 40 percent of the weight of this index. Spurred by increases in spending on personal computers, home electronics, aerospace, and defense in 1984, electronics components manufacturers here and abroad churned out millions of memory chips, transistors, rectifiers, and similar devices. Advances in technology and increasing economies of scale resulted in sizable per-unit cost savings for these products. The explosion in personal computer spending eased in 1985, however, leaving semiconductor supply far ahead of demand. This glut has depressed prices worldwide, causing the import price index for electrical components to fall 14.6 percent for 1985. The glut is expected to last well into 1986.[37] Prices for some specialty items and memory devices began rising late in 1985 as inventories were slowly depleted and buyers feared possible shortages in the spring.[38] In addition, Japanese firms raised their semiconductor prices late in 1985 in response to allegations by the U.S. industry that Japanese goods were being sold in this country at less than cost.[39] The yen's appreciation against the dollar in the fourth quarter also contributed to the price increases. These factors, however, were not enough to reverse the index's downward trend.

Chart 4. Index of the effective real exchange rate of the U.S. dollar, quarterly data, 1970-85



NOTE: Quarter is represented by data for the last month.
SOURCE: International Economics Department, Morgan Guaranty Trust Co.

Price increases were welcome news to U.S. chip makers. In recent years they have been operating under ever lower price ceilings imposed by the large volume of Japanese chips on world markets. For example, one estimate puts Japan in control of 90 percent of the world market for 256K dynamic RAM chips.[40] Domestic chip manufacturers suffered heavy losses and many plants were closed this past summer.[41]

Computer and automated data processing equipment sales growth slowed markedly in 1985, after 25-percent annual growth in the previous 3 years.[42] Some sectors of the market, such as personal computers, actually suffered sales declines.[43] A slowdown in capital spending by the manufacturing sector, which usually accounts for a third of computer sales, and uncertainty surrounding tax reform and its effect on investment contributed to the sales slump.[44] In addition, many of the computers already in use have not delivered promised increases in productivity, which has tended to slow investment in new equipment.[45] Overall, import prices rose 1.6 percent for the year. Prices rebounded modestly in the last half of the year as the dollar weakened against the currencies of our major suppliers, primarily the Japanese.

Prices of imported metalworking and machine tool equipment rose strongly in 1985, boosting the index for those goods 9.1 percent. Buyers stressed reliability, fast delivery, and good service among their reasons for selecting imports over domestic equipment.[46] Indeed, imports rose 23 percent over the first three quarters of the year, capturing over half the U.S. market.[47] Because Japan is America's main supplier of foreign made machine tools, the yearend strengthening of the yen increased prices substantially.

New orders placed with U.S. machine tool manufacturers declined 13.2 percent in 1985,[48] further evidence of the failure of the manufacturing sector to expand in line with the economy as a whole. The curtailing of Federal investment tax credits and the lengthening of depreciation schedules also has made domestic producers apprehensive, as they feel such changes could stall economic growth throughout industry.

Food. Prices for imported food rose 4.8 percent in 1985 after the previous year's decline of 2.3 percent. This index makes up roughly 6.6 percent of the all-import price index. Price increases for coffee, tea, and cocoa and for fruits and vegetables were offset by price declines for meat, sugar, and fish. In fiscal 1985, U.S. food imports were valued at $19.77 billion. Because of declining agricultural exports, the Nation's agricultural trade surplus shrank from $19.10 billion in fiscal 1984 to $11.42 billion in fiscal 1985.[49]

After three quarters of modest declines, imported coffee prices soared 26.4 percent in the last quarter of 1985. This resulted in a 16.7-percent increase in coffee prices for the year. However, U.S. coffee consumption was down from 1.99 cups per person per day in 1984 to 1.83 cups per day.

Last year was also the first year that more soft drinks were consumed than coffee.[50]

The International Coffee Organization (ICO), which is composed of both producing and consuming nations, had increased the export quotas for producing nations in 1984 to 61 million bags. These more liberal quotas may have resulted in the large glut of coffee on the market and an 8-percent reduction in coffee prices over the first three quarters of 1985. The 1984 ICO agreement was intended to keep coffee prices between $1.20 and $1.40 a pound,[51] but by September 1985 the price was down to $1.17 a pound.[52] This prompted the ICO to decrease the quota to 58.0 million bags.[53] This, and more importantly, news of a Brazilian drought in the summer of 1985 sent coffee prices soaring at the end of the year.

Tea prices were on a steep decline in 1985, as an exceptionally good 1984 harvest in Sri Lanka yielded plentiful supplies. Unfortunately, the 1985 Sri Lankan tea crop was of a poor quality because of heavy rains during the growing season. The 1985 harvest was predicted to be 208 million kilos, the smallest crop since 1960.[54] The shortfall in supply is expected to drive up the price of teas in 1986.

In fiscal 1985, the quantity of tea imported by the United States decreased 8 percent from the previous year's level.[55] Demand in this country centers upon the lower priced teas and herbal teas. Thus Argentina, a grower of lower priced teas, exports more of the commodity to the United States than do traditional suppliers such as Indonesia. Tea consumption in the United States declined 2 percent for the year, as cooler weather in the spring and a late summer reduced consumption of iced tea, the most popular form of the product consumed in this country.[56]

Cocoa prices were also down in 1985. The Ivory Coast, Brazil, Malaysia, Ecuador, and Indonesia all had harvests of record proportions during crop year 1984–85. Because of these developments and prospects of an equally large 1985–86 harvest, cocoa prices for the first three quarters of 1985 fell to $2,155 per ton from $2,342 per ton in calendar 1984.[57]

In 1985, prices for imported meat continued their decline. The meat import price index decreased 0.8 percent after the previous year's 1.3-percent drop. Although cow slaughter was down in 1985, the weights of U.S. cattle reached a record level.[58] This caused higher than expected domestic beef supplies, and thus sharp declines in imported meat prices, especially early in the year.[59] This situation was corrected by the fourth quarter of the year.

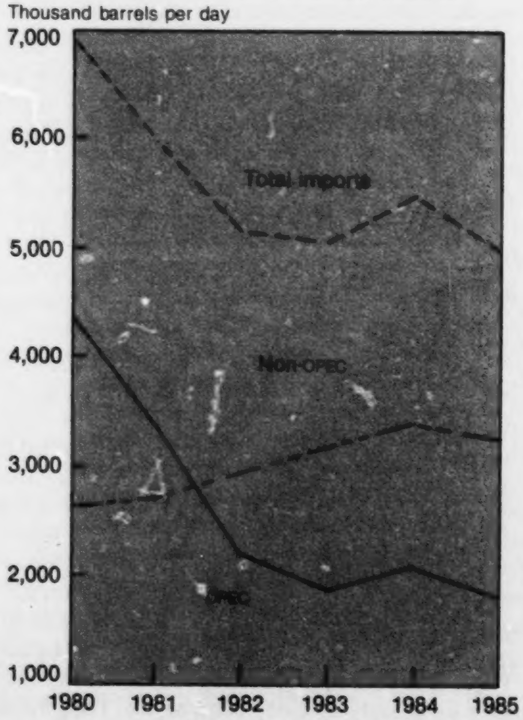
More beef exports come to this country than to any other. However, in recent years, meat imports have leveled off because of the strength of the U.S. Meat Import Law, a lowering of the amount of exportable beef worldwide, and agreements with foreign beef producers to reduce their exports to this country.[60] In 1985, the amount of meat imported into the United States increased only 4.0 percent.[61] Pork imports were 1,128 million pounds, up 15 percent from 1984.[62] Canada and Denmark should account for the greatest increase in pork exports to the United States.

Sugar and sweetener import prices decreased 5.6 percent in 1985. The United States imports one-third of all the sugar that it consumes.[63] The leading sugar exporters are Cuba, the European Community (EC), Australia, Brazil, and the Philippines. In recent years, there has been an oversupply of sugar on the world market. Much of the large buildup of sugar stocks can be traced to policies of the EC. Prior to 1977, the EC was a net importer of sugar, but because of increased production and export subsidies, the Community has now become a net sugar exporter.

U.S. demand for sugar has been decreasing in recent years as high fructose corn syrup (HFCS) and artificial sweeteners are substituted for sugar. Total domestic demand in 1985 is expected to be 8 million tons, 6 percent less than the amount consumed in 1984.[64] In 1981, the United States established quotas for imports of sugar, because their cheaper price was detrimental to domestic producers. The 1985 quota was reduced to 1.8 million tons from 2.5 million tons.

Miscellaneous manufactures. The import price index for

Chart 5. Annual U.S. imports of crude oil and petroleum products, total and for OPEC and non-OPEC sources, 1980-85



SOURCE: U.S. Department of Energy, Energy Information Administration.

miscellaneous manufactured articles rose 0.8 percent in 1985, having declined a scant 0.1 percent in 1984. A 2.9-percent decrease in clothing prices could not offset the increases recorded for footwear; professional, controlling, and scientific instruments; and photographic instruments and supplies.

The U.S. Congress passed a bill in late 1985 that would have restricted imports of textiles, apparel, and footwear. The bill was designed to maintain imports' share of the U.S. textile and apparel market at the level they would have held had the 1974 Multi-Fiber Arrangement been strictly enforced. It is estimated that Far East exporters have increased shipments to the United States 19 percent over the past 4 years.[65] The textile bill, which would have reduced imports by 40 percent, was vetoed by President Reagan in late December. Prior to the veto, however, some of the smaller foreign manufacturers were cutting prices to acquire a larger market share before the proposed quotas could take effect. Also, there were reports of overproduction by South Korean apparel manufacturers.

After several investigations, the U.S. International Trade Commission (ITC) ruled in June 1985 that the domestic footwear industry was being injured by imports of nonrubber footwear. The ITC recommended that the market share of imported footwear be reduced from 71 percent to 68 percent. Lower labor costs have helped foreign shoe manufacturers capture the major share of the U.S. market: the average hourly wage of a shoemaker is $6.71 in the United States, but in Brazil and Taiwan, both major shoe exporters, the averages are $0.85 and $0.91 per hour, respectively.[66] The import price index for footwear declined during the first two quarters of 1985 and then increased during the last half of the year. Prices for U.S. wetblue hides, the main source of shoeleather, began to rise at midyear, boosting the costs of world shoe production. However, the fluctuation in footwear prices resulted in only a 0.1-percent index increase in 1985.

Import prices for photographic apparatus and supplies, optical goods, and watches and clocks increased 3.9 percent. The surge in consumer spending has spurred demand for photographic equipment. The amateur photography market has shifted away from instant and 110 cartridge cameras toward 35 mm cameras, especially compact cameras priced under $100.[67] The 35 mm market is dominated by Japan. In the past 2 years, there has been a great deal of product innovation in this area. Also, increased competition among Japanese firms and their desire to increase U.S. market share caused prices to decline early in 1985. As the year wore on, however, the weakening of the dollar and the approaching Christmas shopping season caused prices to increase. The price for imported photographic supplies slid in 1985 as domestic and Japanese firms competed aggressively in the U.S. market for sensitized film, paper, and plates.

The import price index for collectors' pieces, including gold and silver coins, registered a 4.8-percent decrease in 1985. Prices took a 12.3-percent tumble in the first quarter as investors switched to U.S. dollar denominated investments such as bonds. Prices rebounded in the second quarter as a South African gold mine strike cut gold supplies. In late September, the U.S. Government announced that it was suspending the importation of the South African krugerrand in retaliation for the South African policy of apartheid. Though this should have affected demand for gold coins, prices fell in the fourth quarter, in part because domestic interest rates hit a 6-year low in November.[68]

Table 3. Changes in Export Price Indexes for selected categories of goods, December 1984–1985

SITC Category	Description	Percent change						
		Annual			Quarterly			
		Percentage of 1980 trade value	Dec. 1983 to Dec. 1984	Dec. 1984 to Dec. 1985	Dec. 1984 to March 1985	March 1985 to June 1985	June 1985 to Sept. 1985	Sept. 1985 to Dec. 1985
	All commodities[1]	100.000	−1.4	−1.3	−0.6	0.0	−1.0	0.3
0	Food	12.768	−11.3	−3.0	−0.7	−1.9	−4.0	3.8
04	Grain and grain preparations	8.341	−12.0	−6.2	−0.5	−2.3	−8.5	5.4
08	Animal feeds, except unmilled cereals	1.332	−30.0	1.2	−11.7	−5.8	10.3	10.2
1	Beverages and tobacco	1.229	−0.2	−2.7	−1.4	0.2	−0.4	−1.1
2	Crude materials	10.948	−9.6	−8.1	−3.8	−0.7	−3.6	−0.1
3	Fuels and related products	3.691	0.5	−3.1	0.4	−0.9	−1.6	−1.0
4	Fats and oils	.911	21.2	−31.4	−4.0	1.8	−20.8	−11.4
5	Chemicals and related products	9.578	−0.9	−1.1	−0.7	−0.2	0.3	−0.5
51	Organic chemicals	2.289	−5.3	0.7	−1.0	2.9	0.6	−1.8
56	Fertilizers, manufactured	1.036	−2.1	−5.1	−2.4	−5.0	2.2	0.2
6	Intermediate manufactured products	10.544	0.4	−1.2	−1.0	−0.2	0.0	0.0
7	Machinery and transport equipment, except military and commercial aircraft	35.261	3.3	1.3	0.6	0.5	0.1	0.1
71	Power generating machinery and equipment	3.943	8.5	0.1	−1.3	1.3	−0.2	0.3
72	Machinery specialized for particular industries	5.784	1.5	1.8	1.0	0.5	0.2	0.1
73	Metalworking machinery	.829	2.2	4.3	1.0	1.1	0.8	1.3
75	Office machines and automatic data processing equipment	3.990	−1.1	−2.0	−0.5	−0.9	−0.1	−0.5
77	Electrical machinery and equipment	4.738	4.4	−0.7	0.3	1.0	−0.7	−1.3
78	Road vehicles and parts	8.726	2.3	2.4	1.0	0.6	−0.1	0.9
8	Miscellaneous manufactured articles	7.397	−0.9	1.0	0.2	0.9	−0.1	0.0

[1] This category includes indexes in addition to those shown here. For all of the indexes available in each category, see *U.S. Import and Export Indexes*, USDL–86–38 (Bureau of Labor Statistics), January 30, 1986.

Crude materials. The crude materials import index, which represents 4.2 percent of all imports, declined 7.8 percent for the year because of oversupply of basic commodities. Global stocks of rubber, lumber, and metalliferous ores all exceeded demand.

Indonesia and Thailand continued expanding rubber output despite flat demand. The increasing switch from bias ply to radial tires has left excess rubber on world markets. Longer wearing radial tires require less frequent replacement, and hence, less rubber than their bias ply counterparts. The resulting oversupply of rubber has driven prices down. The imported crude rubber index declined 12.6 percent for the year despite some price firming in the fourth quarter. In response to declining prices, Malaysian growers are switching from rubber to palm planting in order to increase future earnings.

Despite mill closings, the U.S. lumber industry continued to suffer from overcapacity in 1985. This dampened corporate profits and import prices alike.[69] The index for wood imports fell 4.4 percent for the year, reflecting a number of developments here and abroad. In 1985, an estimated 1.736 million homes were started in the United States, slightly less than the 1984 total of 1.749 million units.[70] The decrease in housing starts may reflect the decision of potential homebuyers to wait for mortgage rates to bottom out.[71] In addition, the strong building boom of 1982–84 may have satisfied pent-up housing demand.

The pulp and waste paper index plunged nearly 20 percent for the year, as Brazil, Chile, Spain, Portugal, and South Africa stepped up pulp production in order to earn foreign currency.[72] Lack of profits in the U.S. lumber industry, coupled with the prospect of tax reform which would raise the cost of farming timberland, forced many U.S. firms to abandon all or part of their lumber business in 1985.

Imported metalliferous ore prices also declined, as domestic aluminum and stainless steel production decreased last year. In 1985, primary aluminum production in the United States was 14.6 percent below 1984's volume of 4.518 million short tons.[73] Meanwhile, U.S. stainless steel production for the year was 4 percent lower than 1984 levels.[74] These declines dampened demand for bauxite and alumina used in aluminum production, and for ores of tantalum, zinc, columbium, and other metals used in steel alloying. Imported metalliferous ore prices fell 5.8 percent as a result.

Intermediate manufactures. In October 1984, the Reagan administration negotiated voluntary export restraints with 15 nations supplying steel to the United States. The goal of these restraints was to limit foreign suppliers to 18.5 percent of the U.S. steel market. Through the first three quarters of 1985, imports from these countries were 14.4 percent below the previous year's 9-month mark.[75] But imports from other nations continued to rise. In fact, 18 nations without any known steelmaking facilities were listed as suppliers to the United States last year, including such small countries as Antigua, the Netherlands Antilles, New Caledonia, and the Bahamas. Some of these shipments were in the form of processed steel products, which had been finished at facilities in the exporting nations. In other cases, however, U.S. steelmakers charged that major producing countries had violated their quota agreements by shipping steel through neighboring nations in order to avoid exceeding their own quotas.[76] Altogether, foreign steel captured an estimated 25.2 percent of the U.S market last year, down slightly from 26.4 percent in 1984.[77]

These imports encountered falling prices in the United States, as a result of overcapacity and declining demand. By one estimate, annual Free World steel production capacity currently is 625 million metric tons, whereas Free World demand is only 440 million metric tons.[78] This excess supply comes at a time when American users are reducing demand for steel,[79] because of an increase in automobile imports and a continuation of the switch from steel to plastics and other metals in the manufacture of packaging and automotive products. Reduced consumption led to price cutting by suppliers. The import price index for iron and steel declined 4.4 percent over the course of the year.

The nonferrous metals fared little better last year. In late October, the International Tin Council announced it could no longer afford to purchase excess tin stocks from producers in order to shore up the metal's price on the London Metal Exchange.[80] This decision sent tremors through the Exchange; tin trading was suspended, and prices of nickel, zinc, and other metals fell as dealers sold contracts for those commodities quickly to raise funds to cover their potential tin losses. At the time of the trading suspension, metals dealers held contracts for more than 50,000 tons of tin at the Exchange's price of $12,100 per ton.[81] The extent of traders' losses will not be known until trading resumes. Off the London Metals Exchange, tin was selling for $2,000 below the Exchange price. If prices fall rapidly once trading is resumed, the world's major metals traders could be forced into bankruptcy. In the United States, prices for imported tin fell 19.6 percent in the fourth quarter of 1985, and 16.5 percent for the year as a whole.

Platinum and silver prices were depressed early in the year, as continued low rates of inflation in the United States reduced the appeal of the two metals as inflationary investment hedges. As interest rates declined, however, platinum and silver became more attractive for investors whose return on paper assets was falling. Also, demand from the U.S. auto industry, which uses platinum in emissions control devices, increased during the second quarter as Detroit reported its highest quarterly output for the year. Fears that supplies from the Republic of South Africa, the world's number one platinum producer, might be interrupted, drove up prices late in the year.[82] Altogether, the index finished the year down 9.7 percent.

Copper import prices rose slightly in 1985, as U.S. metals firms continued to reduce capacity and to rely heavily on imports. Third World nations such as Chile and Zambia have been exporting copper extensively in order to obtain foreign exchange to service foreign debt.[83] U.S. copper imports as a percentage of consumption reached an estimated 27 percent last year, after claiming 23 percent of the

U.S. market in 1984.[84]

Nickel import prices rose in the beginning of 1985, as output failed to keep pace with demand.[85] The United States imports most of the nickel that it uses in petroleum refining, and in chemical, electrical, construction, and aircraft industries. Although activity in these industries remained vigorous late in the year, uncertainty surrounding the fate of the London Metal Exchange and its dealers caused the metal's price to fall by yearend. Overall, the import index for nickel was down 5.5 percent for the year.

Fats and oils. The fats and oils import index plummeted 56 percent for the year, reflecting abundant stocks of Malaysian palm oil, Philippine coconut oil, Argentinian sunflower seed oil, and Brazilian cottonseed oil.[86] Malaysian palm oil production, for example, was 24 percent higher in October 1985 than in October 1984.[87]

Export price trends

Machinery and transport equipment. Price advances in exports of U.S.-made machinery and transport equipment moderated in 1985. After rising 3.3 percent in 1984, the export index for these products increased a mere 1.3 percent last year. The index encompasses more than a third of the all-export index.

Prices for exported general industrial machinery, metal working machinery, specialized machinery, power generating machinery, and autos all rose. On the other hand, prices of exported semiconductors and automated data processing equipment were lower. Telecommunications equipment export prices were virtually unchanged for the year.

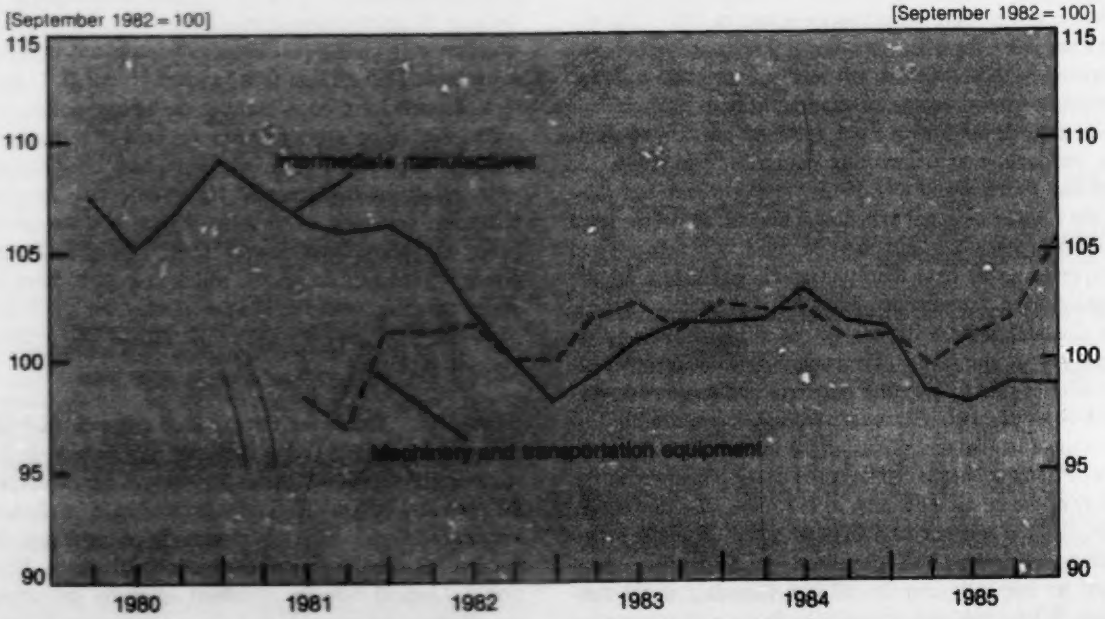
The dollar volume of machine tool exports in the first three quarters of 1985 was 12 percent higher than for the comparable period of the previous year.[88] Prices for these items advanced 4.3 percent for 1985 as a whole, continuing their strong upward trend.

The index for power generating machinery advanced a slight 0.1 percent, fueled by the 2.4-percent price rise for engine replacement parts.

The road vehicles and parts index advanced 2.4 percent for the year. This also was largely attributable to price increases for parts. In the fourth quarter, however, automobile export prices rose 2.1 percent, reflecting new model year price increases. For the year as a whole, automobile export prices advanced 4.2 percent, and parts prices increased 1.8 percent.

Automated data processing equipment, telecommunications equipment, and semiconductor export prices were constrained by several factors in 1985. First, the emergence of South Korea as a low-cost producer in these fields limited the pricing power of U.S. firms in global markets. Secondly, delivery delays and uncertainty concerning the new products developed by U.S. producers for the year caused many overseas buyers to adopt a "wait and see" attitude

Chart 6. U.S. import price indexes for selected commodity groups, quarterly data, 1980-85



toward new equipment purchases.[89] Lastly, rapid advances in technology have shortened product lifespans in these areas. Fiber optics, gallium arsenide integrated circuits, and small, personal-computer-compatible hard disk drives are steadily replacing existing product lines. This resulted in price cutting to move inventories before they become obsolete.

Food. For U.S. agricultural exporters, 1985 was a difficult year. Large crop yields caused an oversupply of grain on the market, and forced export prices down. This was reflected in the U.S. export price index for food, which declined 3.0 percent in 1985. This index comprises 12.8 percent of the all-export index. A 6.2-percent decline was recorded in the grain and grain preparations index, but the index for animal feeds was up 1.2 percent. Those two indexes account for 80 percent of the export food price index. Export prices for wheat, rice, barley, yellow corn, and yellow sorghum declined.

Record yields of corn, oats, sorghum, and rice were produced in the United States in 1985, the year of the second highest total crop production ever recorded. This occured even though 7 million fewer acres of land were in production than during the previous year.[90] Coupled with large existing inventories from 1984, this development meant supply exceeded demand.[91] In addition, two of the Nation's large customers, the Soviet Union and China, increased agricultural production last year. With the competition from agricultural exporting countries strong, the U.S. share of world agricultural exports is expected to show a decline again in 1985, following a drop to $31 billion in 1984.[92]

Wheat prices were significantly lower in 1985. The export price index for wheat declined 4.9 percent for the year, compared with a decrease of only 0.2 percent in 1984. Worldwide import demand in marketing year 1985–86 was expected to be the lowest since 1979–80 because of abundant yields in many importing countries.[93] In 1984–85, there had been a record worldwide yield of wheat. In 1985–86, the yield is expected to be lower but still above the level recorded in 1983–84. Although the 1985 U.S. wheat yield is expected to be near the 1984 level, production by the United States' four major competitors (Australia, Argentina, Canada, and the EC) is expected to be 10 million tons below year-earlier levels. The declining yields of competitors were caused by planting problems and a switch to different types of crops. However, excess accumulated inventory should negate the effects of the lower yields.[94]

Both Canada and the EC experienced problems with the quality of the wheat they grew in 1985. Because of weather problems, the amount of Canadian wheat in the top two grades was down. This prompted the Canadian Wheat Board to suspend sales to all but Canada's usual customers.[95] To combat their quality problem with wheat, the EC released bread wheats from their stockpiles.

Some of the EC's agricultural policies are undermining the United States' export trade. In 1985, the Community increased export subsidies on sales to countries targeted in the U.S. export enhancement program, especially those of North Africa.[96] The U.S. program, The Bonus Incentive Commodity Program (BICEP), which was announced May 15, 1985, is designed to allow government commodity stocks to be given as bonuses to importers of designated U.S. agricultural commodities over the next 3 years.[97]

The 1984–85 worldwide production of coarse grains was 810.24 million tons. Coarse grains include barley, sorghum, corn, rye, and oats, which are primarily used as animal feeds. For 1985–86, production is expected to reach 844 million tons.[98] The United States produces one-third of the world's coarse grains, and within that, one-half of all corn grown. The corn export index was down 7.6 percent in 1985. The U.S. supplies of coarse grains were very large because of good weather and increased planting; the Nation's total 1985 production is estimated to be 271 million tons.[99] The yield of the United States' major competitors is also expected to be large. Although production by Australia and Argentina may be down, Canada, Thailand, and South Africa expect a good output. In fact, corn yields from Canada's eastern provinces are expected to exceed all previous records.[100]

Demand for coarse grains is expected to decrease by 8 percent in 1985–86.[101] This is largely attributable to lower purchases by the Soviet Union, which both boosted coarse grain production in 1985 and had a decrease in livestock. Purchases by that nation may drop as much as 10 million tons.[102] The United States' second leading export market is Japan. Although U.S. sales to Japan decreased in 1984 because of competition from Chinese and Thai corn, this situation may change as Japanese imports are expected to increase to 21.5 million tons in 1985.[103] All U.S. agricultural exports have been hurt by the strong dollar, which makes the Nation's products more expensive in foreign currencies. Also, coarse grain sales have been affected by austerity programs implemented by some of the developing countries, declining EC imports of corn and increased exports of barley, and higher U.S. agricultural support prices.[104] The support prices, which keep U.S. farm prices higher than they would be in a free market, have encouraged many nations to develop their farm sectors and to increase agricultural output.

Chemicals. The index for exported chemicals decreased 1.1 percent in 1985, after declining 0.9 percent in 1984. Historically, the United States has enjoyed a trade surplus in the chemical industry due to its leadership in product innovation. Similarly, large investments in research and development have led to greater production efficiency. The Nation's chemical industry remained relatively unscathed by the effects of the strong U.S. dollar, with exports decreasing only 2.5 percent in 1985. However, the industry is facing stiffer competition worldwide. For example, many of the oil-producing nations have set up petrochemical operations. With abundant supplies of low-cost inputs, these producers are further contributing to world oversupply and lower prices.[105]

The problem of worldwide oversupply greatly affected the fertilizer industry in 1985. A 12- to 15-percent oversupply of phosphate chemicals and phosphate rock on world markets resulted in price cutting early in the year.[106] Producers claimed to be selling at or below production costs, and a number of high-cost U.S. manufacturers were forced out of business. Prices for fertilizer components also fell over the year. Anhydrous ammonia, a major input in fertilizer production, experienced a drastic reduction in export prices. The index in which this compound is included—inorganic elements, oxides, and salts—declined 13.7 percent in 1985. Toward the end of 1985, the oversupply of fertilizer began to diminish as stocks were depleted, and prices subsequently rose. In the last two quarters of the year, the export index for fertilizers rose 2.4 percent.

In 1985, the United States enjoyed an increase in exports of propylene, which is used chiefly for organic synthesis. In the past, U.S. exports of propylene have been limited to Canada and Mexico because overseas shipment of the substance requires the use of refrigerated gas carriers. In 1985, a fire in an ethylene/propylene plant in Italy significantly reduced supplies in southern Europe. This, along with the tremendous price differential between European and U.S. propylene gave U.S. producers an incentive to expand into European markets. (European prices are estimated to be $410–$415 per metric ton while U.S. prices are running about $345–$350.[107]) A Far East market also appears to be opening up. The increased demand for propylene caused prices in the export index for hydrocarbons to rise 1.8 percent for the year. □

——FOOTNOTES——

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Inflation remained mild again during 1985

Consumer prices rose by less than 4 percent, about the same as during 1982–84; the rate of increase for producer prices of finished goods was less than 2 percent, as inflation continued to be moderate for the fourth consecutive year

CRAIG HOWELL AND ANDREW CLEM

The rate of inflation in the American economy continued to be moderate for the fourth consecutive year. For the 12 months ended in December 1985, the Consumer Price Index for All Urban Consumers (CPI–U) advanced 3.8 percent, about the same as during 1982–84. Once again, the rate of increase in the Producer Price Index (PPI) for Finished Goods was even lower than the CPI's, moving up only 1.8 percent over the same 12 months. (See table 1.)

As in 1984, small increases in prices for food, energy, and other consumer goods kept the all items CPI advance moderate. Although 1985 energy prices rose more than in 1984, the increase was still under 2 percent. The indexes both for food and for commodities other than food and energy slowed noticeably, to increases of less than 3 percent. However, several categories of consumer services, such as shelter, medical care, and education, continued to register above-average increases. The CPI for services other than energy rose 5.7 percent, approximately the same as in 1984.

In 1985, the PPI for Finished Goods rose less than 2 percent for the third consecutive year, having increased 1.7 percent in 1984 and 0.6 percent in 1983. Producer prices for intermediate and crude goods actually decreased in 1985. After moving up less than 2 percent in both 1983 and 1984, the intermediate materials, supplies, and components index fell 0.3 percent, the first calendar year drop in this series since 1962. The index for crude materials for further processing fell rapidly through the first 9 months of 1985, before recovering somewhat in the fourth quarter to finish the year 5.5 percent below its December 1984 level. This was not only more than the 1.6-percent decrease recorded between December 1983 and December 1984, it was also the largest annual decline in crude material prices in a third of a century.

Much of the moderation in 1985 price movements was related to competition from imported goods. The price index for All Imports published by the Bureau of Labor Statistics fell 1.1 percent in 1985, following a 1.6-percent decline the year before. (See the article on import and export prices in this issue of the *Review*.) Whereas declines in 1984 were widespread among end-use categories of imported goods, in 1985 the downward impulse was concentrated in the categories of petroleum—down 4.9 percent—and other raw materials—down 7.1 percent. In contrast, prices for imported automobiles and parts jumped 5.9 percent over the year, partly reflecting the decline of the dollar vis-a-vis the

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Craig Howell and Andrew Clem are economists in the Office of Prices and Living Conditions, Bureau of Labor Statistics. They were assisted by William Thomas and Roger Burns, economists in the same office.

Japanese yen, and the continued informal Japanese export restrictions.

The enormous volume of imported goods absorbed a substantial portion of growth in aggregate demand, so that most domestic industries continued to operate well below their potential levels of output. Total industry capacity utilization in the United States hovered around 80 percent throughout 1985; historically, this rate has approached or exceeded 90 percent once the economy is 3 years into a business cycle expansion. (The current expansion began at the end of 1982.)

Having slowed sharply in mid-1984, the general expansion of the American economy regained some vigor after mid-1985, aided by less restrictive monetary policies and a considerable drop in interest rates. Consumer spending continued to climb, undeterred by mounting consumer debts and low rates of personal saving. However, after several years of unusually strong growth, investment spending increased more slowly. Uncertainties generated by possible changes in tax laws affecting capital expenditures may have contributed to business caution on long-range commitments. The residential housing market was no stronger than it had been in 1983 and 1984, in spite of a substantial drop in interest rates over the 1983–85 span. Tighter credit eligibility restrictions by mortgage lenders effectively limited housing demand by disqualifying many potential home buyers without sufficient resources for a substantial downpayment. At year's end, there were few labor or material shortages or capacity constraints threatening to reignite inflation.

The sustained record of low inflation from 1982 to 1985 in the midst of strong aggregate economic growth has not been matched in the United States for nearly two decades. Accordingly, this article will take a different slant than those of previous years. Before focusing on the causes of 1985 price changes for particular goods and services, we will employ a long-term perspective to identify major recent trends.

Major trends

Although energy prices were a major source of inflationary pressures from 1979 to 1981, they have been the principal moderating influence during the last 4 years. In the earlier years, retailer profit margins were squeezed as consumer resistance prevented the full passthrough of increased producer prices of gasoline and fuel oil. In general, consumer prices have not reflected the volatility seen in the producer market in the subsequent period. Retail price declines have been moderated by increased State, local, and Federal excise taxes over the 1982–85 period, while dealers have been reluctant to reduce their recovered margins over the last few years. Declines in producer prices for refined products have reflected fundamental changes in the structure of the world petroleum market. During the early 1980's, consumers and businesses throughout the industrial world dramatically curtailed energy consumption in response to skyrocketing prices. At the same time, increased production of crude oil by such non-OPEC nations as Britain and Mexico

Table 1. Annual percentage changes for major categories of the Consumer Price Index and Producer Price Index, 1978–85[1]

Consumer Price Index	1978	1979	1980	1981	1982	1983	1984	1985[2]
All items	9.0	13.3	12.4	8.9	3.9	3.8	4.0	3.8
Food	11.8	10.2	10.2	4.3	3.1	2.6	3.8	2.7
Energy	8.0	37.4	18.1	11.9	1.3	– .5	.2	1.8
Commodities excluding food and energy	7.6	8.8	9.9	5.9	5.8	5.0	3.1	2.1
Services excluding energy	9.4	13.6	14.1	12.9	3.4	4.8	5.6	5.7
Food and beverages	11.6	10.0	10.1	4.3	3.2	2.7	3.7	2.8
Housing	9.9	15.2	13.7	10.2	3.6	3.5	4.2	4.3
Apparel and upkeep	3.2	5.5	6.8	3.6	1.6	2.9	2.0	2.9
Transportation	7.7	18.2	14.7	11.0	1.7	3.9	3.1	2.6
Medical care	8.8	10.1	10.0	12.5	11.0	6.4	6.1	6.7
Entertainment	5.8	6.9	9.6	7.2	5.6	3.9	4.2	3.2
Other	6.4	7.9	10.1	9.8	12.1	8.0	6.1	6.3
Commodities	8.9	13.0	11.1	6.0	3.6	2.9	2.6	2.5
Services	9.3	13.7	14.2	13.0	4.3	4.8	5.4	5.1
Producer Price Index								
Finished goods	9.2	12.8	11.8	7.1	3.7	.6	1.7	1.8
Consumer foods	11.7	7.4	7.5	1.4	2.1	2.3	3.5	.3
Energy	8.5	58.0	27.8	14.1	– .1	– 9.2	– 4.1	0
Consumer goods excluding food and energy	8.5	9.7	10.4	7.1	5.3	1.9	2.2	2.7
Capital equipment	7.9	8.8	11.4	9.2	3.9	1.9	1.8	2.7
Intermediate goods	8.8	16.1	12.6	6.0	.2	1.8	1.3	– .3
Foods and feeds	14.5	8.2	16.1	– 12.9	0	9.3	– 5.4	– 4.7
Energy	4.8	44.7	25.4	11.1	– .7	– 5.5	– .1	– .8
Intermediate goods excluding food and energy	8.9	12.8	10.1	6.6	.6	3.0	2.1	– .2
Crude materials	17.2	16.4	12.8	– 3.7	.4	4.7	– 1.6	– 5.5
Foodstuffs and feedstuffs	18.3	10.6	8.6	– 14.0	1.5	8.0	– 1.2	– 6.4
Energy	11.1	34.9	26.9	22.8	2.6	– 4.6	– 1.3	– 4.3
Crude nonfood materials excluding energy	21.3	15.1	7.5	– 11.4	– 7.6	15.5	– 3.3	– 4.5

[1] Calculated on a December-to-December basis; Consumer Price Index for All Urban Consumers.

[2] Producer Price Index data for December 1985 are subject to revision.

introduced a new element of competition that eventually led to sharply falling prices.

Food prices have behaved more moderately than the All Items CPI–U in every year since 1979, having a favorable cumulative effect on the overall inflation rate. Consumer prices for food rose 2.7 percent in 1985, following 4 years of similarly moderate advances. It is interesting to note that producer prices for consumer foods (up only 0.3 percent in 1985) have risen at a slower rate than prices at the retail level in each year since 1978. The persistent gap in trends between the CPI and the PPI for foods would seem to imply a rise in the share of the food dollar going for marketing, packaging, and distribution. A further salient aspect is that prices received by farmers have *declined* in most recent years. The PPI for crude foodstuffs and feedstuffs was 5.3 percent lower at the end of 1985 than it had been 6 years earlier. Reduced foreign demand for foodstuffs, partly reflecting greater production abroad, as well as the unusual strength of the U.S. dollar during most of the 1980's, contributed to already substantial domestic stocks and kept food prices in check.

While prices have slowed substantially in most sectors of the economy in recent years, charges for consumer services have not slowed nearly so much as prices for consumer commodities have. Among the various explanations offered for this trend, an important one is that prices for goods have responded to competitive pressures from the foreign sector. Between late 1980 and early 1985, the exchange value of the U.S. dollar staged a massive advance because of high real interest rates and a surge (at least since the end of the 1981–82 recession) in investor confidence. The stronger dollar made it cheaper for Americans to buy foreign goods, while prices of U.S. exports rose because of the relative fall of other nations' currencies. As a result, domestic manufacturers were often forced to hold their prices to relatively low levels to avoid losing too much of their market share to imports. Although the dollar began to decline in the spring of 1985, the price effects will take some time to materialize. Consequently, there was little perceptible influence on prices during the latter part of the year.

A clear trend observed in table 1 is the steady deceleration in consumer inflation rates for commodities other than food and energy since the peak year in 1980. Furthermore, it is apparent that inflation has virtually ceased or even reversed among intermediate and crude materials in recent years. As already noted, the strength of the U.S. dollar has made an important direct and indirect contribution to these developments. Another important factor has been the modest increase in labor compensation. The Employment Cost Index for compensation of private industry workers in goods-producing industries has slowed in each successive year since 1981, from an annual increase of 10.0 percent in 1981 to only 3.2 percent in 1985.

Although price increases for most consumer services have moderated considerably since 1981, they have generally continued to rise more rapidly than commodity prices. A variety of institutional factors have contributed to this difference. In general, service industries do not have to contend with the same type of foreign competition faced by goods-producing industries. Although price advances for tuition and other school fees have slowed somewhat in the last few years, they have shown more resistance to moderation than other items—rising 8.4 percent in 1985.

Having reviewed the general course of inflation in recent years, we will now take a closer look at producer price changes during 1985.

Finished goods

Prices received by producers of finished goods rose 1.8 percent, about the same as in 1984; however, price movements of the individual components were somewhat different. Consumer food prices rose much less than a year earlier; energy prices showed no net change after falling during 1984; and the index for finished goods other than foods and energy moved up somewhat more than in the previous year.[1]

The index for finished consumer foods inched up 0.3 percent in 1985, following a 3.5-percent rise in the preceding year. Prices for pork, beef, and veal, processed poultry, and fish fell significantly for much of the year, largely because of plentiful supplies, but turned up by year-end; only beef and veal ended the year in the minus column. Consumer demand continued to drift away from red meats toward poultry and fish. Egg prices rose nearly 7 percent in 1985, after falling the previous year when egg farmers over-expanded flocks. In contrast, shortening and cooking oils were 15 percent lower than a year earlier, as both animal- and vegetable-based products showed declines. Prices also dropped over the year for dairy products and soft drinks.

Among finished energy goods, the index for natural gas moved down 6.2 percent, after rising 1.0 percent in 1984. This decline reflected lower prices for interstate gas following the lifting of controls in January 1985 on most U.S. wellhead natural gas under the 1978 Natural Gas Policy Act. However, indexes for gasoline and home heating oil turned up after falling a year earlier. Gasoline prices were poised for sharp declines in 1985, amid strong expectations of falling crude oil prices because of disarray within OPEC and general worldwide overproduction. While gasoline prices did post a net decline for the second half of the year, this was insufficient to offset the unusually strong advances that occurred in the spring when the glut of gasoline on the market eased. After drastic declines in the first half, fuel oil prices rose sharply in the second half when inventories of heating oil were unusually low. Hoping that crude oil prices would fall, refiners sometimes preferred to buy fuel oil from other refiners instead of buying crude oil on the spot market. The resulting surge in purchases of heating oil in some areas led to higher prices.

The index for consumer goods other than foods and energy advanced 2.7 percent in 1985, after rising 2.2 percent a year earlier. Increases were widespread and generally moderate. However, passenger cars rose 4.5 percent and light motor trucks increased 8.0 percent, the largest annual advances in 3 years. Demand for cars and trucks boomed over the year, peaking at periods when low-interest financing and other incentives were in effect, then slumping when they were discontinued. Light trucks became increasingly popular as the second family car; 1985 sales of light trucks exceeded the previous record of 4.3 million sold in 1978. Domestic manufacturers sold about 8.2 million passenger cars in 1985, compared with 7.9 million in 1984.

From December 1984 to December 1985, the capital equipment index advanced 2.7 percent. Inflation for most domestically produced capital goods was restrained by continued fierce competition from imported machinery. Although capital spending rose in 1985, the rise was smaller than in other recent years. Unlike a year before when there was widespread optimism, several developments caused business to become more cautious about investment spending in 1985. For example, uncertainty over the possible cancellation of the investment tax credit increased, and speculation persisted on whether there would be a change in the period over which companies could recover their investment in machinery through depreciation allowances.

Intermediate goods

The Producer Price Index for Intermediate Goods edged down 0.3 percent from December 1984 to December 1985, following a 1.3-percent rise during 1984. Moderate declines were widespread among products within this category, while annual increases of more than 3 percent were rare.

Despite the improvement in the economy after midyear, metal markets were generally sluggish in 1985. For example, demand for domestic steel was limited. Restrictions on steel imports reduced the market share won by foreign steel producers only marginally. Some producers who were in financial straits lowered their prices to maintain or increase their market share and to generate needed cash. The continuing trend towards substitution of plastics and aluminum for steel in many major products also kept steel manufacturers from boosting output.

Prices for many nonferrous metals were considerably lower at the end of 1985 than they had been a year earlier. Tin, lead, and zinc all fell more than 20 percent. After fluctuating indecisively during most of 1985, tin prices plummeted nearly 30 percent in November and December. The financial collapse of the International Tin Council, which had been maintaining a massive buffer stock in order to support tin prices, precipitated the abrupt price drop. Lead and zinc prices fell because of a surplus in world markets that persisted despite production cutbacks in North America. (Because these two "sister metals" are generally mined together, their respective production levels are interrelated.) Aluminum prices continued to fall moderately in 1985, as demand did not improve enough to pare worldwide inventory levels sufficiently. In contrast, copper prices rose 7.5 percent, the first yearly increase since 1979. Recent increases in copper prices have been attributed in part to the falling value of the U.S. dollar. Gold prices were much less volatile than in recent times, finishing the year 2.9 percent lower than in December 1984. Silver was down more sharply (14.6 percent), partly as a result of large sales of private holdings.

Prices were weak throughout the textile industry during 1985. In recent years (particularly since 1983), competition from foreign producers has intensified in textile material markets, above and beyond the longstanding foreign penetration of apparel markets. For example, domestic production of manmade fabrics was down nearly 10 percent during the first three quarters of 1985, compared with the same period in 1984. Decreased domestic production of these textile fabrics had a direct impact on American producers of synthetic fibers, the index for which fell 4.8 percent over the year. This was the fourth consecutive annual decrease and the largest such drop on record.

The domestic electronics industry suffered an unusually sharp slump during the year because of a slowdown in personal computer sales and intensified competition from foreign (mainly Japanese) component suppliers. The PPI for electronic components and accessories edged up only 0.7 percent in 1985, the smallest rise in 10 years. Sharp price declines were particularly evident in the semiconductor industry, where prices for some advanced integrated circuits plunged more than 40 percent.

Construction material prices edged up 1.0 percent over the year. There was considerable variation in price behavior among the various kinds of construction materials. Several kinds of nonmetallic mineral products climbed moderately. Gypsum product prices turned up 8 percent, recovering from the drop that had occurred in 1984's second half. In contrast, prices for plastic plumbing products dropped nearly 12 percent, and lumber and plywood prices declined for the second consecutive year. While the residential housing construction market remained fairly good in 1985, it did not expand in response to the general drop in interest rates; this had a restraining impact on prices of lumber and other wood products heavily used in building new homes. The commercial construction market, however, had a very strong year, helping to boost prices for those materials used in erecting office buildings.

The index for intermediate energy goods moved down 0.8 percent in 1985. Residual fuel prices fell 15.6 percent, principally because of reduced world demand following the settlement of the British coal strike. Prices for jet fuels and coke also decreased. These declines were nearly balanced by increases for electric power, gasoline, and diesel fuel. The 4.7-percent fall in the index for intermediate foods and feeds was led by substantial decreases for crude vegetable oils and animal fats and oils. Price movements for other products in this category were moderate.

Among other kinds of intermediate goods, prices for woodpulp fell more than 15 percent, as a shift from seasonal to year-round production resulted in a sizable rise in supplies. Paperboard prices declined nearly 10 percent, reflecting an overexpansion of capacity in this country and Canada. Prices for paper and paper boxes and containers moved down modestly. Prices and production levels in the pulp and paper products industry had risen steadily during 1983 and most of 1984. Moderate decreases were registered for a number of other products, such as mixed fertilizers, plastic resins and materials, synthetic rubber, and medicinal and botanical chemicals.

Crude goods

The Producer Price Index for Crude Materials for Further Processing dropped 5.5 percent, following a 1.6-percent decrease in 1984 and a 4.7-percent advance in 1983. The indexes for foodstuffs and other nonenergy materials both fell more in 1985 than in the preceding year, following increases in 1983. The crude energy price decline, which had slowed in 1984, nearly matched the 1983 rate of decrease.

After moving down 1.2 percent a year earlier, the crude foodstuffs and feedstuffs index fell 6.4 percent from December 1984 to December 1985. The index declined through the first 9 months of the year before recovering somewhat in the fourth quarter. Falling prices prevailed while livestock farmers liquidated portions of their herds in order to meet the high debt service costs incurred in connection with previous loans for expanded production. Prices then turned up at the close of 1985 as this liquidation of stocks left livestock inventories low. The decline for grain and feedstuff prices reflected continued bountiful harvests both here and in many other countries. However, inclement weather in some areas and higher export demand generally pulled fourth-quarter prices up.

The crude energy materials index moved down 4.3 percent, considerably more than the 1.3-percent decline for the previous year. The bigger decrease was principally because of a 6.2-percent drop in the natural gas index, the largest yearly decline on record. Crude petroleum prices fell for the fourth consecutive year, moving down 4.0 percent. Most of the decline occurred in the first quarter as a response to the October 1984 cut in international light crude oil prices by North Sea producers; prices were relatively stable through the rest of the year. The coal index dropped 1.4 percent, the first annual decrease since 1975. Contract coal prices, which were in many cases tied to declining indexes for fuel oil and natural gas, turned down in 1985.

The index for crude nonfood materials other than energy dropped 4.5 percent, following a 3.3-percent decline in 1984. Lower prices for ferrous scrap and iron ore were prompted by slack demand from domestic steel manufacturers. Prices for aluminum base scrap fell because of an oversupply of primary aluminum, and brass scrap dropped as it followed the downward movement of primary zinc. Leaf tobacco was down a record 11.6 percent, reflecting reduced effective price supports and large supplies. Raw cotton prices were lower as a result of burdensome stocks and weak demand from domestic fabric manufacturers confronted with intense foreign competition. The 38.5-percent fall in wastepaper prices was chiefly a reaction to the sharp drop in prices for woodpulp, which competes with wastepaper as a basic material in the manufacture of certain paper products. In contrast, cattle hide prices increased in response to good demand from foreign apparel manufacturers, coupled with low supplies in the wake of a partial liquidation of cattle herds. □

——FOOTNOTE——

[1] Effective with data for July 1985, the 1-month lag in indexes for major refined petroleum products was eliminated. At the same time, the sample of refined petroleum products was reweighted.

Wage restraints continue in 1985 major contracts

Wage adjustments were low for the fourth year in a row, reflecting pressures to restrain labor costs and save jobs; many contracts negotiated in 1985 featured 'back-loading,' lump-sum payments, and two-tiered systems

JOAN BORUM AND JAMES CONLEY

For the fourth consecutive year, major collective bargaining agreements in 1985 provided record low or near-record low wage adjustments, as measured by the Bureau of Labor Statistics' 18-year-old series on private industry agreements covering 1,000 workers or more.[1] Pressures to restrain labor costs dominated major negotiations during the year, and are evident in the size of settlements. First-year wage adjustments (the net effect of decisions to increase, decrease, or not change wages)[2] averaged 2.3 percent, the lowest since the series began in 1968. Wage adjustments over the life of the contracts[3] averaged 2.7 percent annually, next to the lowest. Wage adjustments actually put into effect during 1985 averaged 3.3 percent, also a historic low.

For almost all the settlements in 1985, the year marked at least the second or third round of bargaining since the average size of wage adjustments in settlements started to fall during 1981. (See chart 1.) The last time the parties to 1985 settlements bargained, usually in 1982 or 1983, they agreed to average specified wage adjustments of 3.9 percent in the first contract year and 3.7 percent annually over the contract life.

When cost-of-living adjustments (COLA) are added to the specified adjustments, predecessor contracts to the 1985 settlements upped wages an average of 4.4 percent annually over their contract life. Total wage adjustments implemented under expired contracts have declined steadily since 1983 because of moderation in the size of specified wage changes and because of lower COLA's resulting from the deceleration in the rate of price increases. As shown in the following tabulation, the predecessor contracts with COLA clauses provided smaller wage adjustments over their life than those without.

	With COLA	*Without COLA*
Total adjustment	4.2	4.7
Specified	3.0	4.7
COLA	1.3	—

Prior to 1983, expiring contracts with cost-of-living adjustment clauses provided smaller specified wage adjustments than those without, but COLA's more than made up the difference. The moderate increases in the Consumer Price Index (CPI) during the life of contracts that expired starting in 1983 kept down the size of COLA's, so that they were no longer large enough to compensate for the smaller specified adjustment in contracts with COLA's, compared to those without.

Cost-curbing efforts

In 1985, bargainers did not face inflation-related problems. The 3.8-percent increase in the Consumer Price Index for Urban Wage Earners and the 6.8-percent unemployment rate reached in December 1985 reflected improved economic conditions. However, bargainers did encounter many of the industry-specific problems faced by negotiators earlier in the decade. Increased competition from abroad and from domestic nonunion companies continued to erode

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Joan Borum is a social science research analyst and James Conley is an economist in the Office of Wages and Industrial Relations, Bureau of Labor Statistics.

markets for many unionized firms, and the ensuing declines in job opportunities were a major concern of union leaders. Efforts to contain labor costs and make firms more competitive, and to save jobs figured prominently in negotiations. The results of some of these efforts show up in contracts that are "back-loaded," call for lump-sum payments rather than wage increases, and adopt "two-tiered" compensation systems. Other contracts simply limit the size of wage adjustments.

Back-loaded contracts. Contracts which call for lower specified wage adjustments in the first year than in subsequent years (back-loaded contracts) covered about 38 percent of the 2.2 million workers under 1985 settlements. Prior to 1983, almost all workers under multiyear settlements had their largest increases in the first year.

Back-loaded settlements provided wage adjustments averaging 0.6 percent in the first year and 2.6 percent annually over the contract life. Of the 830,000 workers covered by back-loaded contracts, 474,000 received no wage increase in the first contract year, 315,000 received smaller increases in the first than following years, and the remainder sustained initial wage cuts but no additional decreases over the life of their multiyear agreements. Although found in a variety of industries, back-loaded contracts were concentrated in apparel manufacturing, electrical machinery manufacturing, and construction.

About 36 percent of the workers under 1985 contracts were covered by "front-loaded" settlements (larger wage adjustments in the first contract year than in subsequent years), with adjustments averaging 4.2 percent in the first year and 3.3 percent over the life of the contract. The remaining 26 percent of the workers were covered by either 1-year agreements or multiyear contracts which provided equal wage adjustments each year.

Lump-sum payments. Almost one-third of the 2.2 million workers under 1985 settlements will receive lump-sum payments instead of the traditional increases in wage rates. (Lump sums are excluded from wage and compensation measures in this series.) Lump-sum payments limit labor costs because they are excluded when calculating the level of certain benefits, such as pensions, and do not raise the wage rate base from which future contracts must be negotiated.

On average, settlements with lump-sum payments gave smaller wage adjustments than those without. Adjustments averaged 1.2 percent in the first year and 1.8 percent annually over the contract life for settlements with lump sums; corresponding averages for settlements without lump sums were 2.8 and 3.2 percent. The majority of workers receiving lump-sum payments were in the apparel, electrical machinery manufacturing, and transportation industries, and more than half (363,000) of them were covered by back-loaded contracts.

Two-tiered structures. In another approach to long-term cost savings, 1985 settlements covering about 700,000 current employees provided for "two-tiered" wage systems. While not altering wages or benefits for workers already employed, two-tiered systems lower starting rates and progression rates for new hires. These dual wage structures might be temporary or permanent. Under the temporary systems, new employees start at a lower rate than incumbents, but the wage rates for new and current employees eventually merge. Under the permanent system, new employees never reach the pay levels of incumbent employees. In some cases, no cost savings may be realized from the two-tier system because no new workers may be hired during the life of the contract.

COLA clauses

Cost-of-living adjustment clauses were dropped in settlements covering 471,000 workers, or about 40 percent of those settling in 1985 who had such coverage in their previous agreements. Contracts covering about 173,000 workers in the trucking industry and 101,000 in apparel manufacturing were among those dropping COLA coverage.

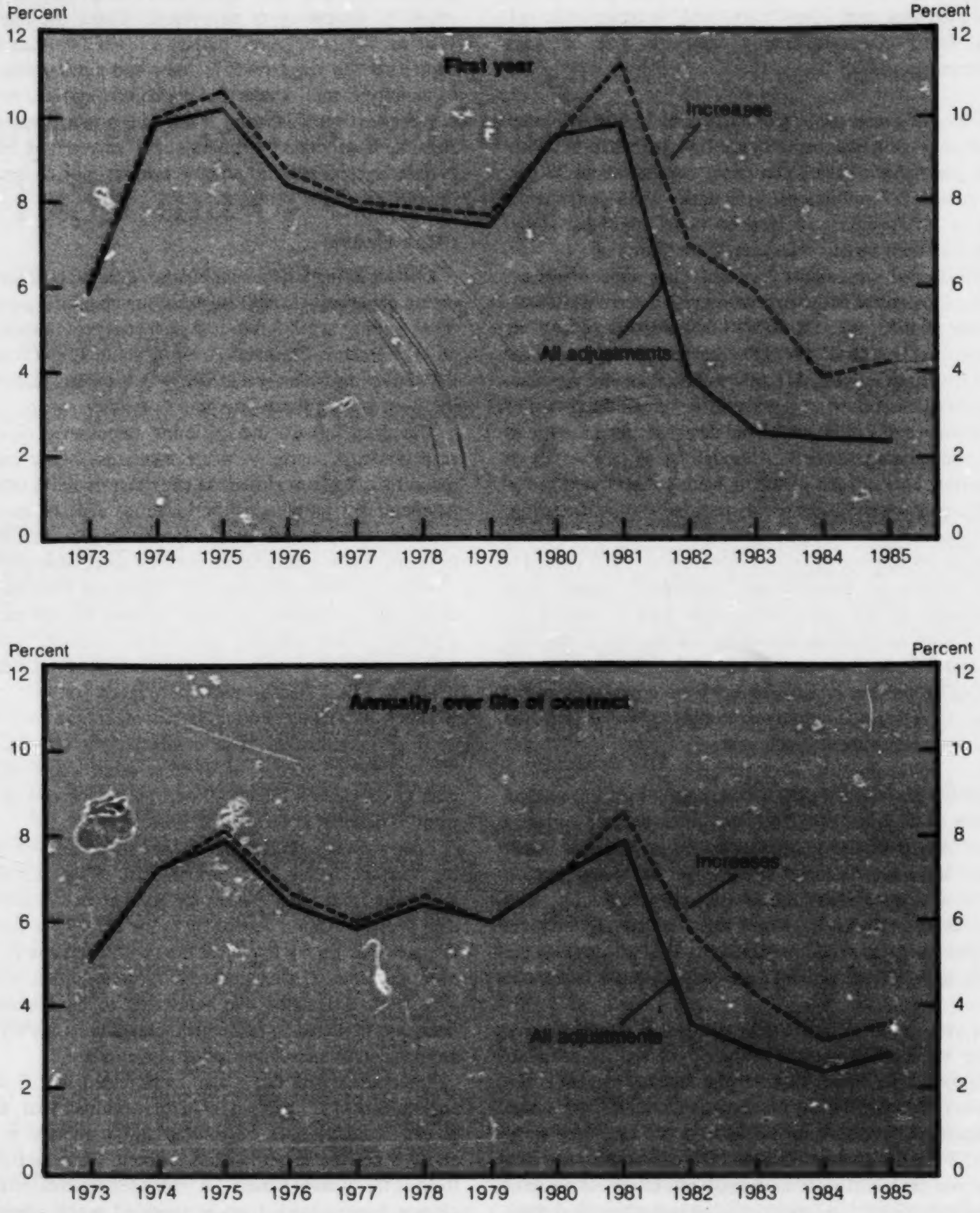
The drop reflects the declining importance of COLA's as a potential source of wage increases. Many contracts retaining COLA's modified the provision to delay or reduce payments by introducing or lowering caps or maximum amounts, or by diverting payments to cover increased benefit costs. Some contracts temporarily suspended payments.

Wage increases from COLA's during the preceding contracts were comparatively small because the CPI increased 4 percent or less annually. This led to increasing interest in negotiating specified wage changes instead of COLA clauses. In 1985, COLA clauses were introduced for only 41,000 workers. As a result of these developments and employment declines in industries with contracts that retained COLA clauses, the proportion of workers under major contracts with COLA clauses fell to 49 percent by the end of 1985, from 57 percent at the end of 1984.

Cost-of-living adjustment clauses covered 33 percent of the workers under 1985 settlements. Wage adjustments stemming from COLA clauses are not included in settlement data because COLA's depend on future changes in the CPI—changes that are not known at the time of settlement. However, guaranteed COLA amounts (those specified when the agreement is reached and scheduled to be implemented later) are included in settlement calculations because they are not tied to subsequent price movements.

Settlements with COLA clauses provided specified wage adjustments of 1.7 percent in the first contract year, and 2.5 percent annually over the contract life, compared with 2.7 and 2.8 percent in settlements without such clauses. This follows the historic pattern, in which settlements with COLA clauses have provided lower specified wage adjustments than those without, because the COLA provisions are expected to yield additional increases. (See chart 2.)

Chart 1. Average wage adjustments in private-sector settlements covering 1,000 workers or more, 1973-85



NOTE: All adjustments include increases, decreases, and no change.

Distribution of wage adjustments

Of the almost 2.2 million workers under 1985 settlements, about 1.4 million had first-year wage increases averaging 4.2 percent, 0.7 million had no wage change, and the balance had decreases averaging 8.8 percent. (See table 1.) Subsequent wage increases for almost half a million of the workers with no change in the first year will give them a net gain over the contract term. Thus, by the end of their contract, 85 percent of the workers will have received a specified wage increase averaging 3.5 percent annually. None of those with wage decreases in the first contract year will recoup the lost wages in subsequent contract years and, thus, will have decreases averaging 6.6 percent per year over the life of the contracts. (See table 2.)

Contracts with net wage increases were negotiated in a variety of industries including trucking, public utilities, apparel manufacturing, airlines, service, and retail trade. Wage freezes occurred primarily in the construction industry but appeared in other industries as well, including food stores, transportation equipment, and electrical products. About one-third of the workers who sustained wage decreases were in construction; the remainder were in a variety of industries.

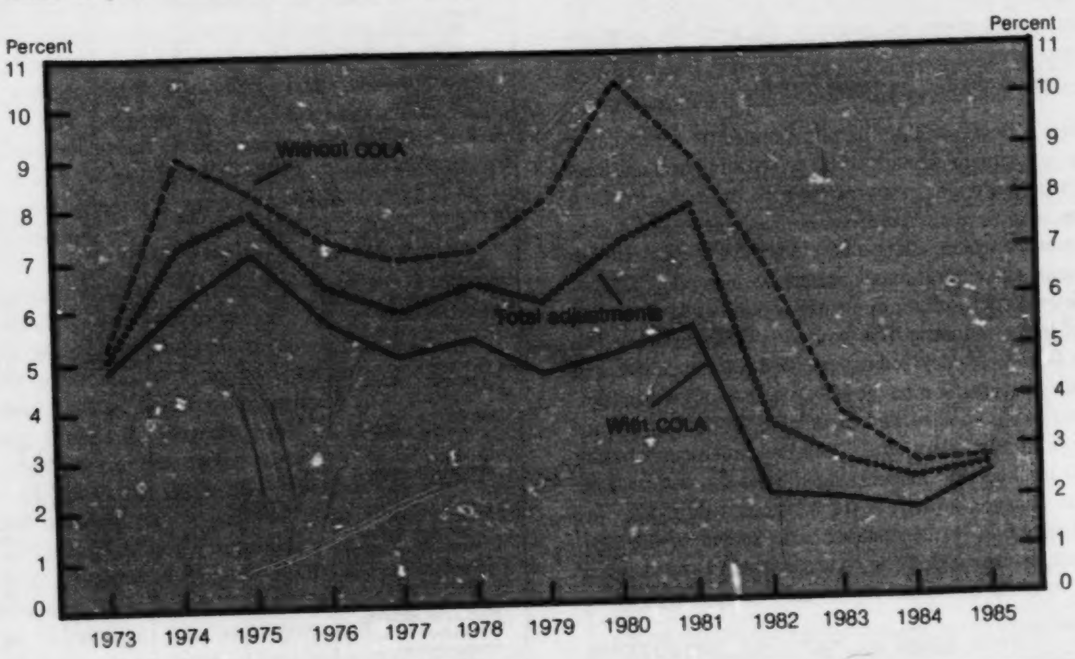
Compensation adjustments

The Bureau measures compensation (wages and employee benefits costs) changes in settlements covering at least 5,000 workers. These contracts cover about two-thirds of all workers under major settlements in 1985. Compensation adjustments under these settlements averaged 2.6 percent in the first contract year and 2.7 percent annually over the life of the contract. (See table 3.) Compensation increases were received by 9 of 10 workers under these settlements, and averaged 3.2 percent in both the first year and annually over the life of the contract. The remainder of these workers received either no change or a decrease in compensation during both the first year and over the life of the contract.

Major negotiations, by industry

Although settlements were concluded in a variety of industries in the first quarter, bargaining activity was light until spring, when the pace quickened. In some industries, talks continued from the second quarter into the third. For example, 91 percent of the construction workers under 1985 settlements had their contracts negotiated during the second and third quarters; negotiations in apparel primarily spanned May through September; and contract talks in wholesale and retail trade were also concentrated in this period. The following discussion summarizes these and other major negotiations: trucking and rubber industries in the second quarter, electrical products manufacturing in the third, and automo-

Chart 2. Average annual wage adjustments over the life of contracts with and without COLA in private-sector settlements covering 1,000 workers or more, 1973-85



bile manufacturing and railroads in the fourth.[4]

Construction. As in recent years, high unemployment and nonunion competition in construction have pressured bargainers to restrain wage demands and reduce employer costs to make union firms more competitive with their nonunion rivals. Although some contracts changed work rules, efforts to control costs concentrated on moderating wage rates: lower wage rates for new hires; lower rates for new projects than for work already in progress; and delaying wage increases to the second or third year of the contract. Thirty-one percent of the construction workers covered by 1985 agreements will have wage cuts or freezes over the life of their agreements.

These efforts to contain or reduce construction labor costs dampened the overall size of wage adjustments for all industries. Construction settlements, which covered 330,000 workers, provided average wage adjustments of 1.5 percent in the first year and 2.1 percent annually over the life of the agreements, compared with corresponding averages of 2.5 percent and 2.9 percent in other industries.

Wholesale and retail trade. With negotiations concentrated in the second and third quarters, settlements covering 234,000 workers in wholesale and retail trade were concluded in 1985. These contracts provided average adjustments of 2.8 percent the first year and 2.6 percent annually over the life of the agreements. Almost one-third of the workers under these contracts will receive lump-sum payments. Efforts to restrain labor costs and improve the competitive position of the firms have also led to the expansion of the already widespread use of part-time employees. This practice lowers costs, by reducing the need for overtime work and because part-timers may be paid less than full-timers and be eligible for fewer benefits.

Trucking. Beset with problems generated by deregulation and the recession in the early 1980's, Trucking Management Inc. (TMI), the major employer negotiator in the trucking industry, sustained a sharp drop in the number of member companies for which it bargains. Since the 1982 negotiation of the prior agreement, many companies merged, failed, or laid off workers resulting in a smaller number of firms and workers in the industry. The expired contract between TMI and the Teamsters provided no specified wage increase, and only one COLA increase on the effective date of the contract. All other COLA monies had been diverted to pay for increases in the cost of benefits. The May settlement covering 150,000 truckers and helpers, substituted the COLA clause based on changes in the CPI for a "guaranteed COLA" (an amount specified in the contract independent of the CPI). The contract also called for changes in work rules, in an attempt to make unionized firms more competitive.

Rubber. Closely linked to automobile manufacturing, which is still struggling with foreign competition, the rubber tire manufacturers had revitalized many of their plants since the prior round of talks. Negotiations were held under a backdrop of higher capacity utilization and fewer layoffs than in the early 1980's.

The 3-year agreement between the United Rubber Workers and B. F. Goodrich set the pattern for settlements with the three other major rubber manufacturers: Goodyear, Firestone Tire and Rubber Co., and Uniroyal. These contracts, covering 36,000 workers, raised wages 43 cents an hour over 3 years and maintained the quarterly cost-of-living clause providing a penny for every 0.26-point rise in the CPI-W.

Apparel. Over the past several years, the apparel industry has been plagued with high unemployment as the industry faces stiff competition from foreign imports. Contracts covering 285,000 workers represented by the International

Table 1. Wage adjustments for settlements, covering 1,000 workers or more in private industry, 1985

Measure	First year		Over life of contract	
	Average adjustment (percent)	Workers (thousands)	Average annual adjustment (percent)	Workers (thousands)
All settlements				
All industries	2.3	2,193	2.7	2,193
With COLA clauses	1.6	673	2.5	673
Without COLA clauses	2.7	1,520	2.8	1,520
Manufacturing	.8	865	1.8	865
With COLA clauses	.8	473	2.1	473
Without COLA clauses	.9	391	1.6	391
Nonmanufacturing	3.3	1,329	3.3	1,329
With COLA clauses	3.6	200	3.6	200
Without COLA clauses	3.3	1,129	3.3	1,129
Construction	1.5	329	2.1	329
All industries, excluding construction	2.5	1,864	2.9	1,864
Nonmanufacturing, excluding construction	3.9	999	3.7	999
Settlements providing increases				
All industries	4.2	1,391	3.5	1,865
With COLA clauses	3.0	411	2.8	627
Without COLA clauses	4.6	980	3.8	1,239
Manufacturing	2.6	374	2.4	713
With COLA clauses	1.9	251	2.3	434
Without COLA clauses	4.3	123	2.6	279
Nonmanufacturing	4.7	1,017	4.1	1,153
With COLA clauses	4.9	159	3.9	193
Without COLA clauses	4.7	858	4.2	960
Construction	3.6	202	3.6	226
All industries, excluding construction	4.2	1,189	3.5	1,639
Nonmanufacturing, excluding construction	5.0	815	4.3	926
Settlements providing decreases				
All industries	−8.8	73	−6.6	73
With COLA clauses	−7.4	18	−2.9	18
Without COLA clauses	−9.3	55	−7.8	55
Manufacturing	−8.5	29	−4.4	29
Nonmanufacturing	−9.0	43	−8.1	43
Construction	−10.1	23	−5.4	23
All industries, excluding construction	−8.2	49	−7.2	49
Nonmanufacturing, excluding construction	−7.8	20	−11.3	20

Table 2. Proportion of workers with increases, decreases, or no wage change under settlements covering 1,000 workers or more in private industry, 1979–85

[In percent]

Year	First year			Over the life of contract		
	Increases	No change	Decreases	Increases	No change	Decreases
1979	96	4	0	100	0	0
1980	100	0	0	100	0	0
1981	92	3	5	94	1	5
1982	56	42	2	64	35	1
1983	63	22	15	73	14	13
1984	77	18	5	84	12	4
1985	63	33	3	85	12	3

Ladies' Garment Workers Union (ILGWU) and the Amalgamated Clothing and Textile Workers Union (ACTWU) were reached between May and October and featured some cost-saving features.

The agreements covering 125,000 workers negotiated by the ILGWU and various employer groups were back-loaded. Wages were frozen the first year. However, increases of 6 percent and 5 percent, respectively, are scheduled for the second and third years. The COLA clause, which had not generated any increases under the last two contracts, was unchanged; it provides for a 2-percent wage increase if the CPI–W rises 8.5 percent in an 18-month period. The contract also improved some health and welfare benefits.

The September agreement between the Cotton Garment Manufacturers and the National Trouser Association covering 101,000 workers represented by the ACTWU dropped their COLA clause which had not yielded any payment since 1981. The accord also provided a $500 lump-sum payment upon settlement and lump-sum payments of 6.5 percent of gross pay in 1986 and in 1987. A general 25-cent wage increase is scheduled for September 1987. Benefit increases include an 11th paid holiday—Martin Luther King's birthday—and increases in pension, sickness and accident, and death benefits.

Electrical products. Declining employment in the industry raised concern over job preservation in the contract talks in the electrical products manufacturing industry. The resulting settlements, covering 106,000 General Electric and Westinghouse workers negotiated by the Coordinated Bargaining Committee (a coalition of 13 unions) introduced lump-sum payments and a temporary two-tiered wage structure. As usual, the settlement with General Electric (for 80,000 workers) set the pattern for the Westinghouse accord. It provided for a lump-sum payment in the first year equal to 3 percent of the pay rate times 2,080 hours, and general wage increases of 3 percent in the second and third years. In addition, new employees will have to wait 8 months longer to reach the maximum pay rates for their job. The cost-of-living clause was continued providing 1 cent for each 0.175-percent change in the CPI–W, increasing to 1 cent for each 0.15-percent change in the third year.

Automobile manufacturing. In late October, an agreement covering 70,000 workers was reached between the Auto Workers and Chrysler Corp. providing parity with wage and benefit provisions in the General Motors Corp. and Ford Motor Co. contracts. The financial position of Chrysler had improved substantially since the United Auto Workers cost-curbing contracts negotiated in 1979, 1980, and 1981. The December 1982 contract had reduced the disparity between Chrysler's wages and benefits and those at Ford and General Motors, but differences remained. The 1985 Chrysler settlement eliminated these differences; it provided for a 2.25-percent wage increase in the first year; an October 1986 lump-sum payment equal to 2.25 percent of each employee's earnings during the preceding 12 months; and a 3-percent pay increase in October 1987. The cost-of-living clause was modified to match that covering GM and Ford workers—a 1-cent wage change for each 0.26-point movement in CPI–W quarterly, subject to a 1- to 2-cent diversion from each adjustment to help offset increased benefit costs.

Railroads. After negotiating for 2½ years, the United Transportation Union and the National Railway Labor Conference reached a settlement in December covering 82,000 operating engineers. The agreement followed the recommendations of a presidentially appointed emergency board. It provided that the 6,000 firemen and 2,000 hostlers (rail-yard train operators) would be phased out through attrition. Other terms were a six-stage wage increase totaling about 10.5 percent over the term of the agreement (an average of about $1.37 an hour); a $565 lump-sum payment in lieu of making the initial wage increase retroactive to July 1984; and a modified COLA clause which provides that COLA's are

Table 3. Average compensation (wage and benefit costs) adjustments in settlements covering 5,000 workers or more in private industry, 1985

[In percent]

Industry	First-year adjustments	Annual adjustment over life of contracts	Number of workers (thousands)[1]
All industries	2.6	2.7	1,413
Contracts with COLA clauses	2.0	2.5	520
Contracts without COLA clauses	3.0	2.9	894
Manufacturing	1.2	1.9	603
Contracts with COLA clauses	1.4	2.3	341
Contracts without COLA clauses	.9	1.4	262
Nonmanufacturing	3.7	3.4	811
Contracts with COLA clauses	2.9	2.8	179
Contracts without COLA clauses	3.9	3.5	632
Construction[2]	2.6	3.0	108
All industries, excluding construction[2]	2.6	2.7	1,306
Nonmanufacturing, excluding construction[2]	3.8	3.4	703

[1] Because of rounding, sums of individual employment items may not equal totals.

[2] Data by COLA coverage do not meet publication standards.

Table 4. Effective wage adjustments in collective bargaining agreements covering 1,000 workers or more, 1979–85

Year	Total adjustment	Source		
		New agreements	Deferred from prior agreements	COLA
1979	9.1	3.0	3.0	3.1
1980	9.9	3.6	3.5	2.8
1981	9.5	2.5	3.8	3.2
1982	6.8	1.7	3.6	1.4
1983	4.0	.8	2.5	.6
1984	3.7	.8	2.0	.9
1985	3.3	.7	1.8	.7

to be paid only to the extent that they exceed the specified wage increases.

Wage adjustments effective in 1985

Wage adjustments put into effect in 1985 resulted from settlements during the year; deferred changes made under agreements negotiated in earlier years; and cost-of-living provisions.[5] Each of these components was at or near its lowest level for this series. (See table 4.) Combined, they resulted in an average effective wage adjustment of 3.3 percent for the 7 million workers under major contracts, the lowest adjustment since the series began in 1968. About 1.4 million workers received no wage adjustments; the remaining 5.6 million received adjustments which averaged 4.1 percent.

The following tabulation shows average wage adjustments (in percent) effective in 1985 for workers receiving one or more wage changes and prorated for all workers:

	Workers receiving wage changes	*All workers*
All adjustments	4.1	3.3
New settlements	3.4	.7
Deferred from prior settlements	3.7	1.8
COLA	2.2	.7

Workers can receive wage changes from more than one source; thus the size of the average change for workers receiving changes (4.1 percent) is larger than any of its parts.

The prorated cost-of-living adjustment averaged 0.7 percent in 1985, up slightly from the 1983 low of 0.6 percent. The size of adjustments is determined by movement in the CPI, frequency of reviews, and the adjustment formula used. Thus, the size of the COLA component is affected by the decline in COLA coverage, the moderate inflation rate, and the negotiation of less generous formulas.

About 2.8 million workers had cost-of-living reviews in 1985; 2.3 million received increases averaging 2.2 percent; approximately 400,000 had at least one review that yielded no wage change; and none had decreases resulting from COLA's. Wage adjustments stemming from 1985 reviews offset about 58 percent of the rise in consumer prices, compared with 50 percent in 1984.

Effective wage changes in major collective bargaining agreements are reflected in the Bureau's Employment Cost Index (ECI), which measures the change in the price of labor, free from the influence of employment shifts among industries and occupations. The wage and salary series of the ECI is limited to straight-time average hourly earnings, including production bonuses, incentive earnings, and COLA's, and excluding employer costs for employee benefits. The ECI wage and salary component is conceptually similar to the effective wage adjustment measure for union workers covered by the major collective bargaining agreements series, but provides data on *both* union and nonunion workers.

The ECI wage and salary component shows that in private industry, the cost of wages and salaries rose 4.1 percent from December 1984 to December 1985, matching the lowest 12-month change recorded in the 9 years such data are available. Continuing the relationship that began in 1983, wages increased less for union (3.1 percent) than for nonunion (4.6 percent) workers during the year ended December 1985.

THERE IS LITTLE ON THE HORIZON to suggest that 1986 bargaining results will be very different from those in 1985. For a discussion of the outlook for bargaining in 1986, see "Collective bargaining during 1986: pressures to curb costs remain," in the January 1986 *Review*. ☐

FOOTNOTES

[1] The major collective bargaining agreement series for private industry covers 7 million workers in bargaining units with at least 1,000 workers. For definitions of terms, see Current Labor Statistics, Wage and Compensation Data, p. 65. Additional tabulations from this series appear in the April 1986 issue of the Bureau's *Current Wage Developments*.

[2] Adjustments under settlements reached in the period and effective within 12 months of the contract effective date.

[3] Adjustments under settlements reached in the period expressed as an average annual (compound) rate over life of contract.

[4] For details of these settlements, see George Ruben, "Labor and management continue to combat mutual problems in 1985," *Monthly Labor Review*, January 1986, pp. 3–15.

[5] To calculate the effective adjustment and each component for workers receiving wage changes, each percent change in wages is weighted by the number of workers receiving the change, then the total worker-weighted change is divided by the number of workers receiving the changes. The prorated adjustment is calculated by dividing the total worker-weighted change by the total number of workers covered by major agreements. Therefore, the size of the average adjustment and each of its components reflects both the size of each change and the number of workers it affects.

The business services industry sets pace in employment growth

Industries which provide services to businesses for a fee or on a contractual basis have had rapid gains in employment growth over the last decade, especially firms supplying computer and data processing services and temporary help; expansion is expected to continue

WAYNE J. HOWE

Just as businesses purchase raw materials, machinery, or office equipment from suppliers, they also purchase services. These services may be highly technical, such as the development and sale of specialized computer software programs, or they can be more mundane, such as building cleaning and maintenance. Also, the need may be year round, such as for payroll processing, or temporary, such as for a fill-in receptionist. In any case, the use of contractors to supply certain types of services gives an employer considerable flexibility, and often is less expensive than hiring permanent employees to provide the same services. Business services is the fastest growing industry in the economy, and, while still small in the aggregate, may be representative of changes in the way many American companies are doing business.

The business services industry is made up of seven major industries:[1] advertising; consumer credit reporting and collection; mailing, reproduction, and stenographic services; services to buildings, including cleaning, maintenance, and exterminating services; personnel supply services, which includes both temporary help supply companies and employment agencies; computer and data processing services; and miscellaneous business services, which offer research and development, management and consulting, and protective services. These industries supply a variety of services to business establishments on a fee or contract basis. The heterogeneous mix of individual industries is also reflected in the diverse occupational distribution of employment in business services, which includes highly skilled managerial and administrative occupations, as well as lower skilled service occupations.

With employment doubling, the rate of job growth in business services over the past decade was more than four times that for all private nonagricultural industries. The growth of individual industries varied widely: employment in computer and data processing services and personnel supply services more than tripled, while moderate growth occurred in advertising; mailing, reproduction, and stenographic services; and services to buildings (although each of these industries grew much faster than the economy as a whole). Credit reporting and collection was the only business services industry that failed to increase its work force.

Wayne J. Howe is an economist in the Division of Employment and Unemployment Analysis, Bureau of Labor Statistics.

This article examines the rapid growth in the business services industry, particularly the computer and data processing and personnel supply services industries. It discusses the type of services offered by business services industries, the extent and nature of the employment expansion, and the occupations and earnings of the work force.

The data are from the Current Employment Statistics (CES) survey, the Current Population Survey (CPS) and the Occupational Employment Statistics (OES) survey.[2] The CES survey is generally recognized as the major source of current information on employment by industry. CES statistics are derived from a sample survey of business establishments, designed to provide industry information on nonagricultural wage and salary employment, average weekly hours, average hourly earnings, and average weekly earnings. Data derived from this survey are used whenever possible. However, the CES survey provides no demographic information except gender, and no occupational information at all. The CPS is used to provide information on job tenure and self-employment. Occupational distributions of employment are available from both the OES survey and the CPS. For this article, detailed OES employment data were aggregated into the major occupational groupings used in the CPS, which were used for economy-wide comparisons.[3]

Computer and data processing services

The greatest employment growth in business services between 1974 and 1984 took place in computer and data processing services, which grew by more than 250 percent. While the rate of employment gain in computer and data processing services throughout the economic downturns was much less than during expansionary periods, job gains continued even during the downturns. (See table 1.) This illustrates the relative insensitivity of this industry to changes in the business cycle. Computer and data processing services comprises two main components—data processing and programming services. Growth in data processing services depends on businesses using outside firms for data processing, whereas computer programming and other software services depends on businesses using their own systems.

Enterprises in data processing services provide such services as data entry, processing and preparation of reports from data supplied by clients, leasing or renting of computer time, and management and operation of the computer and data processing facilities of firms. Some data processing services organizations operate computer centers at which they process data on a periodic basis for firms that supply their own computer programs, and simply purchase computer power. Data are submitted by some of these customers via remote-batch terminals, and output is received on the same terminals. Other customers are time-sharing users who use their own computer terminals to solve relatively small business problems, utilizing the power supplied by the service organizations' mainframe computer.[4]

Table 1. Average annual rates of employment change in private nonagricultural and selected business services industries during business cycles

Business cycles[1]	All private nonagricultural industries	Personnel supply services	Computer and data processing services
Recessionary periods:			
November 1973–March 1975	−5.7	−13.3	11.0
January 1980–July 1980	.5	−1.8	4.4
July 1981–November 1982	−3.4	−8.7	28.5
Recovery periods:			
March 1975–January 1980	20.8	133.7	108.7
July 1980–July 1981	2.8	16.5	10.8
November 1982–June 1985	11.9	71.5	44.2

[1] Recessionary and recovery periods as designated by the National Bureau of Economic Research.

Many customers submit standard jobs for routine processing using computer programs supplied by the data processing service organization. In most cases, these firms are too big to perform their data processing manually, but it would not be cost effective for them to purchase or lease computer systems and hire operating staff. The requested services generally include payroll, accounts payable, and accounts receivable—the oldest types of services provided by data processing service organizations—and usually involve updating customers' private files in the course of processing input data and preparing output reports. The inception of on-line computer services has permitted access to public files (for example, airline, sporting, and theatrical reservation files, stock market transaction files, and U.S. census data) via software provided by the service organizations.[5]

During the late 1970's, design and production advances resulted in faster, cheaper, and more reliable computers. Less costly hardware has made it possible for many companies to purchase their own computers. As software became more user-friendly and hardware easier to use, the need for firms to contract for computer services diminished. Moreover, because traditional data processing activities such as accounting and financial analysis are now easily available using small computers and standard software packages, even companies that continue to contract for data processing services no longer seek such services to the same degree.[6] Evidence of this trend is the 16-percent employment growth in data processing services between 1982 and 1984, a relatively small growth compared with that in computer programming services (46 percent) during that period.

While many of the data processing service organizations that sell traditional time-sharing services have suffered a slowdown in growth, some have begun to offer specialized business services based on their own proprietary software. Companies that offer services to particular market niches such as hospitals and brokerage firms are experiencing rapid growth.[7] Moderate employment growth should continue in data processing services, along with greater overall acceptance of computer technology in the marketplace and continued innovations in data communications. As was the case in the past few years, growth should be tempered as computer hardware and software become more affordable, resulting in a larger proportion of firms which maintain their own computer systems.

The other major component of computer and data processing services is the computer programming and other software services industry. Included in this industry are firms which provide analysis and design for computer systems, development of computer programs or systems, computer programming services, and computer-related systems engineering. While only a third of the 475,000 workers in the computer and data processing services industry were employed in computer programming services in 1984, much of the long-run potential for substantial employment growth lies in this industry.

Unlike data processing service organizations, computer programming services firms have benefited from the introduction of mini- and micro-computers. Employment in computer programming services grew 46 percent between 1982 and 1984. As computer hardware dropped in price and performance improved, new applications for computers became feasible. The potential for more powerful, user-friendly computer software that can provide services such as financial statement preparation, profit analysis, and analytical management reports should increase the already strong demand for software services. Software is currently being written that appeals to both a broad group of users as well as a highly specialized market. The more computers and their applications proliferate, the greater will be the need for computer programming services.[8]

Within computer and data processing services, a disproportionate number of workers hold professional and technical jobs. There are almost twice as many professional specialty workers (such as computer systems analysts and electrical and electronic engineers) in this industry, compared with other business services industries. (See table 2.) The number of technicians (such as computer programmers) is almost three times the proportion found within all business services and seven times the average proportion for all industries. Because of the fast-moving technologies in this high tech industry, there is a great demand for technicians and programmers who are familiar with the latest computer technology.

Personnel supply services

The second fastest employment growth within business services between 1974 and 1984, at 211 percent, was achieved by personnel supply services. During the first half of this period, the average annual rate of growth was about 20 percent. This rate dropped off between 1979 and 1981, and employment actually declined during the 1981–82 recession. Between 1982 and 1984, however, employment grew 50 percent. Personnel supply services has a much larger ratio of administrative support workers, compared with other business services industries, and, at 42 percent in 1984, had more than twice the share of clerical employment than the average for all industries. Personnel supply services comprise two components, temporary help supply services, which accounts for three-fourths of the industry employment, and employment agencies.

Temporary help supply services consists of businesses primarily engaged in supplying temporary help to other establishments on a contractual basis. (See accompanying article.) The employees remain on the payroll of the temporary help supply agencies, but are placed under the direct or general supervision of the firm to which they are supplied. Unfortunately, the CES survey cannot determine the industries in which temporary employees actually work because they appear on the payrolls of the individual temporary help supply agencies. Therefore, employment growth in the user industries is understated.

Overall, there was a 57-percent employment increase in temporary help supply services between 1982 and 1984, the largest growth of any industry in the economy over the 2-year period. To some degree, the employment boom since 1982 in temporary help supply services can be attributed to the post-recession economic recovery. Table 1 shows employment growth in personnel supply services, both during

Table 2. Occupational distribution of nonagricultural employees in the business services industry, 1984

[In percent]

Occupation	All nonagricultural employees[1]	Business services							
		Total[2]	Advertising	Credit reporting and collection	Mailing, reproduction, and stenographic	Services to buildings	Personnel supply	Computer and data processing	Miscellaneous business services
Managerial and administrative	11.3	10.2	21.5	10.0	7.3	2.6	7.3	12.8	12.6
Professional specialty	13.0	8.5	20.7	.8	14.7	(3)	5.7	16.4	9.1
Technicians and related support	3.1	7.3	3.5	1.6	2.3	.1	8.7	21.4	6.4
Salesworkers	12.4	5.3	15.4	7.8	6.2	1.8	1.8	7.3	6.5
Administrative support—including clerical	16.4	28.2	31.0	78.2	43.4	4.3	41.5	36.8	24.0
Services, except private households	13.9	26.3	.4	.9	.7	88.3	9.9	.5	25.6
Precision production, craft, and repair; operators, fabricators, and laborers	30.0	14.2	7.5	.7	25.4	2.9	25.2	4.9	15.8

[1] Data are from the Current Population Survey, annual averages.

[2] Data are from the Occupational Employment Statistics survey, June 1984.

[3] Less than 0.1 percent.

and after the last three recessionary periods. During post-recessionary periods, employment growth in personnel supply services was much stronger than in all private nonagricultural industries. Such strong employment growth indicates that although some of the increase is due to a change in how firms handle business office functions, much is due to real growth.

Many businesses exercise caution as they emerge out of a recession, choosing to hire temporary employees rather than risking a long-term investment in permanent hires. The temporary help industry provides customers with trained personnel, and the customers pay the temporary help supply agencies an hourly rate above that paid to the temporary workers. Companies which use these agencies to meet their short-term needs can test the market to see if job expansion is prudent.[9] If unfavorable market conditions call for a reduction in labor costs, it is easier and less costly to cancel the contract for temporary help. Also, if managers are unsatisfied with the performance of a temporary worker, they can simply request a replacement. If favorable market conditions warrant the hiring of permanent employees, the firms may offer temporary workers a permanent position, with the added advantage that those employees are already familiar with their business techniques. However, contracts between temporary help supply agencies and their customers may limit this practice.

The use of nonpayroll employees allows the latter to avoid many of the costs associated with employment, such as payroll processing, as well as those of health and unemployment insurance, workers' compensation, sick and vacation leave, and pensions.

Temporary help workers perform a variety of jobs. They can be service workers earning the minimum wage or highly paid technicians or administrators. The largest number of temporary workers are employed as general office clerks, secretaries, and typists. There is a particularly large number of typists experienced with word processing equipment in this industry. To get the most from already purchased office equipment, companies are now competing for typists trained in word processing skills. Given the rate at which word processing systems are being installed, the demand for these workers is likely to continue into the near future.

Other prominent temporary supply services occupations are related to the rapidly expanding health care industry. There are sizable numbers of registered and licensed practical nurses, as well as other health care professionals and technicians, employed as temporary help workers. Employment opportunities for these health care specialists is due, in large part, to the considerable expansion in medicare and medicaid insurance coverage for home health care in the last decade.[10] To cut health care costs, health insurance coverage now often includes the cost of skilled home health care nurses, therapists, and technicians. Most home care agencies are small, independently owned businesses, but, because of fierce competition and economies of scale, large national companies have increased their share in the market over the decade.[11] Both large and small home health care organizations supply health service workers to customers on a contractual basis.

Most employees stay with a temporary supply service for only a short time, although some stay for years. Just as businesses use temporary help to test the market, temporary workers can shop for a permanent position in a recovering economy, sampling a range of work environments until they find the right employment situation, while gaining self-confidence and job experience. Workers not actively seeking permanent positions may be attracted to the competitive wages and the flexible hours provided by temporary employment, especially workers with family or other personal responsibilities.[12]

The increasing number of business establishments that are computerizing their operations has created a demand for workers with computer-related skills over the decade. Temporary help supply agencies recruit and train workers for staff positions that this new office technology creates.[13] As noted earlier, the largest number of workers on the payroll of such agencies are secretaries with word processing skills. In addition, the agencies lease systems analysts and other professional and technical specialists to companies on a per-project basis. The number of these professionals is still very small, however, as most of such work is handled by the computer and data processing industry. Strong demand for temporary workers who are familiar with computer technology should continue along with the growth in computer applications.

Employment agencies, the other component of personnel supply services, consists of firms that assist employers looking for staff or individuals seeking employment. This industry includes placement services, labor contractors, and maid, model, nursing, and teacher registries. Unlike temporary help supply services firms, they do not employ workers for contracting out to establishments, but match job applicants and job openings for a fee, which is paid by either the employer or by the job applicant. Employment agencies are cost-effective sources for locating experienced and skilled personnel. Many agencies promote specialized occupations, such as data processing, clerical, technical, managerial, executive, or engineering. Nevertheless, the staffs of these agencies are concerned with placement-related activities or support, so their occupational range is limited. The most prominent managerial occupation in this industry is employment interviewers who interview, select, and recommend applicants for job openings. Much of the growth potential in this occupation, where women make up the majority of employees, should occur as employers try to provide effective employee relations for an expanding and aging work force.[14] Overall, employment in this component of the industry increased 30 percent between 1982 and 1984, as economic recovery led to increased hiring.

Other business services

Mailing, reproduction, and stenographic services also had strong employment growth (89 percent) between 1974 and 1984. Firms engaged in direct mail advertising, compiling and selling mailing lists, and providing typing services are included in this industry. Word-processing services are also offered by these establishments to both individuals and firms that do not own or operate their own computer system. Future employment growth will probably not be as strong as in the past 10 years, as microcomputer cost declines and packaged computer programs make it easier for firms and individuals to own and operate their own computer systems, displacing some of the services provided by this industry.

Services to buildings industry includes establishments which offer cleaning, disinfecting, and exterminating services to business establishments and homeowners. Employment in this industry grew 55 percent over the 1974–84 period. Employment among janitors and cleaners—the industry's major occupational group—has increased over the decade. Because pay is relatively low and advancement limited, job turnover is high, creating many of the openings for these workers. Job gains over the next decade are projected to grow more rapidly than other services industries, partly due to planned growth in the number of office buildings, apartment houses, and private dwellings.[15]

Advertising industry's employment increased 48 percent between 1974 and 1984. Employment opportunities were particularly strong for sales agents, advertising and public relations managers, and artists. Overall, job growth in advertising during the last decade was below that of other business services industries, but was still more than twice as large as the average growth in all industries throughout the economy.

Miscellaneous business services is the largest segment of the business services industry, accounting for more than 40 percent of all employment. Included in this industry are such diverse components as management, consulting, and public relations services; protective services; and research

Table 3. Ten most prominent occupations in the seven business services industries, June 1984

Industry and occupations	Percent of industry employment
Advertising:	
Sales agents, advertising	10.4
Marketing, advertising, and public relations managers	9.8
Secretaries	9.5
Artists	8.0
Writers and editors	4.4
Designers	4.4
Bookkeeping, accounting, and auditing clerks	3.6
General office clerks	3.3
Nonspecified professional and technical occupations	3.1
Purchasing agents—except wholesale, retail, and farm products	3.0
Credit reporting and collection:	
Bill and account collectors	25.1
General office clerks	8.7
Credit checkers	8.1
Clerical supervisors	5.9
Sales agents, business services	4.6
Secretaries	4.1
Data entry keyers	3.9
Typists	3.8
Bookkeeping, accounting, and auditing clerks	2.8
Financial managers	2.6
Mailing, reproduction, and stenographic:	
Mail machine operators	7.5
Artists	6.1
Photographers	4.1
Mail clerks	3.6
Designers	3.1
Printing press machine operators	3.1
Duplicating machine operators	3.1
Clerical supervisors	3.0
Nonspecified helpers, laborers, and material movers	3.0
Secretaries	2.9
Services to buildings:	
Janitors and cleaners	67.8
Maids and housekeeping cleaners	6.4
Pest control and assistants	6.2
Housekeepers	2.3
Nonspecified cleaning and building service workers	2.0
Continued—Services to buildings:	
Nonspecified service supervisors	1.5
Secretaries	1.3
Sales agents, business services	1.3
General office clerks	1.2
Maintenance repairers	1.0
Personnel supply:	
Nonspecified helpers, laborers, and material movers	8.2
General office clerks	8.1
Secretaries	6.7
Typists	5.2
Registered nurses	4.3
Employment interviewers	4.3
Nonspecified service workers	4.2
Freight, stock, and material movers	4.2
Nonspecified health professionals	3.8
Typists, word processing equipment	3.5
Computer and data processing:	
Computer programmers	16.5
Systems analysts—electronic data processing	10.0
Data entry keyers	9.2
Computer operators	5.2
Secretaries	4.2
General managers and top executives	3.3
Electrical and electronic engineers	2.9
General office clerks	2.9
Sales agents, business services	2.8
Clerical supervisors	2.5
Miscellaneous business services:	
Guards and watch guards	21.8
General managers and top executives	4.3
Secretaries	3.6
Switchboard operators	2.4
General office clerks	2.3
Interviewing clerks	2.2
Nonspecified helpers, laborers, and material movers	1.8
Bookkeeping, accounting, and auditing clerks	1.8
Clerical supervisors	1.7
Nonspecified managers and administrators	1.6

NOTE: Data are from the Occupational Employment Statistics survey, June 1984.

and development laboratories, that provide employment for a wide range of occupations. Betweeen 1980 and 1984, employment grew by 25 percent in miscellaneous business services,[16] and the growth rate is expected to continue to lag behind the rest of business services.

Credit reporting and collection was the only business services industry that failed to register job gains between 1974 and 1984. About 8 of 10 employees in this component of the business services industry are clerical workers. (See table 3.) The increase in office automation systems over the decade made it easier for the firms themselves to acquire information formerly provided by this segment, and may have resulted in the elimination of many administrative support jobs related to accounts reporting and collection.[17]

Characteristics of employment growth

Overall, women accounted for 46 percent of the business services work force in 1984, up from 39 percent in 1974, as their job growth outpaced gains for men. (See table 4.) Only two business services industries did not increase their share of women during that period—credit reporting and collection and computer and data processing services. The decrease in the share of employment for women in computer and data processing services was primarily due to that industry's increased emphasis on high tech occupations, which are dominated by men.

Women make up the majority of workers in credit reporting and collection, advertising, and personnel supply services. More than 60 percent of the personnel supply services work force are women, reflecting this industry's greater employment of administrative support personnel and nurses, occupations dominated by women. Within personnel supply services, there are more women than men in both employment agencies and temporary help supply agencies; however, since 1982, job gains for men have been stronger in both industries. In fact, growth for men in employment agencies was almost four times that for women. The future structure of business services may be determined by the relative employment gains of the two large growth industries—computer and data processing, where employment is dominated by men, and personnel supply services, where employment is dominated by women.

Self-employed workers constitute a rapidly growing segment of the business services industry. Over the 1974–84 period, self-employment more than tripled—from 190,000 to 575,000; women accounted for most of the growth. To the extent that female employment is growing more rapidly than male employment in the business services industry, the increase in self-employed women could be expected. Nevertheless, the growth in self-employed women over the decade may also indicate an expansion in the employment opportunities that women are creating for themselves.[18]

Weekly earnings

Historically, the weekly earnings of workers in the business services industry have been somewhat lower than the average for all industries.[19] Between 1974 and 1984, however, the 105-percent increase in average weekly earnings in business services outpaced the 90-percent average gain for all industries. In 1984, business services employees averaged $266.45 a week, compared with $294.05 for all private nonagricultural industries and $250.59 for the services division of the service-producing sector of the economy.

The earnings in business services reflect, among other factors, the occupational mix, which, despite a large representation of managers and administrators, also has a large concentration of low wage service and clerical workers.[20]

Table 4. Percent distribution of production or nonsupervisory employees in the business services industry, 1974 and 1984 annual averages

Year and sex	Total[1]	Advertising	Credit reporting and collection	Mailing, reproduction, and stenographic	Services to buildings	Personnel supply	Computer and data processing
1974							
Total (in thousands)	2,027.4	123.8	79.6	87.6	393.8	266.2	134.6
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Men	61.1	58.2	24.6	54.7	67.3	46.2	51.6
Women	38.9	41.8	75.4	45.3	32.7	53.8	48.4
1984							
Total (in thousands)	4,075.6	183.3	80.0	165.5	608.9	828.0	473.7
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Men	54.3	48.5	28.9	50.8	61.8	38.0	55.2
Women	45.7	51.5	71.1	49.2	38.2	62.0	44.8
1974–84							
Percent change:							
Total	101.0	48.1	.5	88.9	54.6	211.0	251.9
Men	78.6	23.2	17.9	75.4	42.0	155.8	276.5
Women	136.3	82.8	−5.2	105.3	80.5	258.5	225.8

[1] Includes miscellaneous business services, not shown separately.

NOTE: Data are from the Current Employment Statistics survey.

The industry also has a very low incidence of unionization. With respect to the occupational structure, there is a relatively large proportion of clerical and service workers in business services. Fifty-four percent of the business services work force are employed in these two occupational groupings, where weekly earnings are relatively low compared with all workers. Owing to a vast difference in the occupational structure of the industry, there is a wide range of average weekly earnings within business services. For example, average weekly earnings in computer and data processing services increased by 120 percent to $411.18 over the 10-year period studied, and were 40 percent greater than the average for all industries in 1984. This is not surprising, given that more than half of the workers in this industry are relatively highly paid administrators, managers, professionals, and technicians. In contrast, average weekly earnings in the services to buildings industry, at $177.41, were 40 percent below the average for all workers. Eighty-eight percent of the workers in the services to buildings industry were in occupations with relatively low wages, such as janitors and cleaners.

As for unionization, workers who are members of unions tend to earn higher wages than nonunion members. In 1984, union members earned, on average, $103 more per week than their nonunion counterparts.[21] Part of the earnings gap between business services and other industries may be related to the fact that only about 6 percent of business services employees were union members in 1984, about 10 percentage points below the average for all U.S. industries.[22]

Tenure and hours

Job tenure is a measure of the length of time an employee has worked continuously for the same employer, although not necessarily in the same occupation.[23] Tenure is generally terminated when a person transfers to a job in a different firm, is laid off for 30 days or more, or enters the Armed Forces. Firms in growing industries usually hire new workers as they expand and, therefore, show relatively low levels of job tenure. Establishments in industries where employment is stagnant or declining do not hire as often, letting positions expire as they become vacant. If a reduction in personnel is required, it will generally be concentrated among persons with the least seniority, which increases the average level of job tenure among those still in the industry. Median job tenure in the rapidly expanding business services industry, as of January 1983, was a relatively low 2.7 years, compared with 4.3 years in all industries.

The comparatively short job tenure for business services employees also reflects the large number of temporary workers in this industry, a result of employment gains in personnel supply services. Another factor affecting job tenure is the relatively large proportion of women. Median job tenure for men was 3.0 years, compared with 2.5 years for women. Only retail trade and private household services, where larger numbers of women are employed, had lower median job tenure.

Not only do workers in business services tend to work for shorter periods for any specific employer, but they also tend to work fewer hours. However, whereas average weekly hours of employment for workers in all industries dropped by 3 percent between 1974 and 1984, average weekly hours of employment in the business services industry increased by 1 percentage point.[24] At 33.6 hours, there is still a gap of 1.7 hours between business services and the average for all industries. A major reason for the narrowing gap was a weekly hours increase of nearly 5 percent to 38.5 hours in computer and data processing services, 3.2 hours more than the average for all industries. In contrast, average weekly hours of employment in services to buildings, where part-time work is typical, was a very low 28.8 hours; even so, weekly hours increased by 4 percent over the decade.

Continued expansion expected

The relative growth of business services employment was particularly rapid in the last 10 years, as firms acquired a greater appreciation of the variety of services that could be provided. Many establishments began contracting out for new specialized business services or for services that formerly were either taken care of inhouse or were neglected, when they realized that these services could be supplied at less expense and more efficiently by business services organizations. Agencies that supply temporary employees also provide customers with the flexibility to meet their short-term employment needs. The strong trend toward the use of outside companies to supply business services is expected to continue. Therefore, job expansion in business services should surpass that of other industries in the future, although prospects for growth in the heterogeneous mix of individual business services industries vary widely. ☐

FOOTNOTES

[1] BLS and other Federal and State agencies follow as closely as possible the Office of Management and Budget's 1972 *Standard Industrial Classification (SIC) Manual* to define and classify industries in the U.S. economy. Business Services (SIC 73) has seven component industries: advertising (SIC 731); consumer credit reporting and collection (SIC 732); mailing, reproduction, and stenographic services (SIC 733); services to buildings (SIC 734); personnel supply services (SIC 736); computer and data processing services (SIC 737); and miscellaneous business services (SIC 739).

[2] The Current Employment Statistics survey is a monthly survey that samples approximately 270,000 establishments employing more than 35 million people. It counts only wage and salary employees whose names appear on the payroll records of nonagricultural firms. The Current Population Survey reflects a larger segment of the population, although based on a smaller sample of approximately 60,000 households. Information is obtained each month for approximately 120,000 individuals 16 years and over and includes, in addition to nonagricultural wage and salary employment, agricultural employment, the self-employed, unpaid family workers, private household workers, as well as the unemployed, and persons not in the

labor force. For a detailed comparison of the two sample series, see Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20. The Occupational Employment Statistics survey is a periodic mail survey conducted by State employment security agencies of a sample of nonfarm establishments to obtain wage and employment information by occupation. These data are used to estimate total employment by occupation for the Nation, for each State, and for selected areas within States. The reference period of the current OES survey was the week that included June 12, 1984.

[3] Complete occupational detail will be published in a forthcoming Bureau of Labor Statistics bulletin, *Occupational Employment in Selected Nonmanufacturing Industries*.

[4] Montgomery Phister, Jr., *Data Processing Technology and Economics* (Bedford, MA., Santa Monica Publishing Co. and Digital Press, 1979), pp. 28–29.

[5] See Montgomery Phister, Jr., *Data Processing*.

[6] For a discussion of these issues, see Stephen T. McCellen, *The Coming Computer Industry Shakeout* (New York, John Wiley and Sons, 1984); and Franklin M. Fisher, *IBM and the U.S. Data Processing Industry: An Economic History* (New York, Praeger Publishers, 1983).

[7] See Stephen T. McCellan, *The Coming Computer*, pp. 135–38.

[8] *Ibid.*, pp. 237–42.

[9] Samuel R. Sacco, "The Growing Importance of Temporary Employees," *The Office*, September 1984, pp. 42 and 47.

[10] Brad Edmondson, "The Home Health Care Market," *American Demographics*, April 1985, pp. 29–30.

[11] See Brad Edmondson, "Home Health Care," pp. 48–49.

[12] Martin J. Gannon, "Preferences of temporary workers: time, variety, and flexibility," *Monthly Labor Review*, August 1984, pp. 26–28.

[13] Karen E. Debats, "The Temporary Services Industry," *Personnel Journal*, February 1983, pp. 120–25.

[14] *Occupational Outlook Handbook*, 1984–85 edition, BLS Bulletin 2205, pp. 36–38.

[15] See *Occupational Outlook Handbook*, pp. 16, 241–42.

[16] Data available only for 1980–84.

[17] For a discussion of the banking industry's movement into the computer services industry and the effect of their entry on free trade and competition in unregulated markets such as computer and data processing or credit reporting and collection, see "Hearings before the Subcommittee on Antitrust and Restraint of Trade Activities Affecting Small Businesses" (U.S. House of Representatives, 97th Cong., May 7, 1981).

[18] For more information on self-employment, see Eugene E. Becker, "Self-employed workers: an update to 1983," *Monthly Labor Review*, July 1984, pp. 14–18.

[19] Data are based on CES estimates of average weekly earnings of production or nonsupervisory workers in private nonagricultural industries.

[20] For more information on the relationship between earnings and occupations, work hours, and other factors, see Earl F. Mellor, "Investigating the differences in weekly earnings of women and men," *Monthly Labor Review*, June 1984, pp. 17–27.

[21] Data refer to members of a labor union or employee association similar to a union.

[22] Based on unpublished union data for detailed industries from the CPS.

[23] Job tenure data are based on the January 1983 supplement to the CPS.

[24] Data are based on CES estimates of average weekly hours of production or nonsupervisory workers in private nonagricultural industries.

Employment growth in the temporary help industry

The number of employees rose by 70 percent from November 1982 to November 1984, making the industry the fastest growing among those with employment over 50,000

MAX L. CAREY AND KIM L. HAZELBAKER

Few industries have grown faster in recent years than the temporary help supply industry. Although still small in overall terms, with 735,000 workers representing less than one percent of total wage and salary employment in nonagricultural establishments in December 1985, the industry almost doubled in employment size in the 3 years since the trough of the recession in 1982 and accounted for 3 percent of the total job growth. Indications are that rapid growth of employment in the industry will continue through the mid-1990's.

As part of an ongoing Bureau of Labor Statistics study of the service-sector portion of the economy, this article documents the job gains recently experienced in the industry, and discusses reasons for the increase in demand for temporary workers and factors leading to the growth in supply of workers for temporary jobs. It also discusses differences in the occupational segments of the temporary help market. The article primarily uses data from the Current Employment Statistics survey and data from reports covered by unemployment insurance programs [1] It also is based on information obtained through interviews with temporary help supply firms and their customers.

How the industry works

The temporary help supply industry (SIC 7362) is made up of establishments primarily engaged in supplying temporary help to other businesses. In exchange for providing an employee to a customer, the temporary help firm charges an hourly rate which is equal to the worker's wage plus the firm's markup for its service. The workers are under the supervision of the businesses to whom they are furnished; however, they are on the payroll of the supplying establishment.[2] Temporary help companies recruit and screen applicants for temporary jobs, check references, administer tests to help determine qualifications, and in some cases provide training. They have full responsibility as the employer even though the employee is working at the customer's place of business. They hire and fire, issue paychecks, withhold payroll taxes, and make required employer contributions to programs such as unemployment insurance and Social Security. They also are liable under laws intended to protect the health and safety of workers and assure equal employment opportunities.

Sources of demand

Employers frequently experience short-term changes in their need for workers because of seasonal fluctuations or other factors. The absence of permanent employees for vacation or illness may also create a need. Overtime work can be a solution, but for some businesses it may not be practi-

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Max L. Carey is an economist in the Office of Economic Growth and Employment Projections, Bureau of Labor Statistics. Kim L. Hazelbaker is an economist formerly in the Office of Employment and Unemployment Statistics. Elinor W. Abramson and Daniel K. Wexler of these offices provided technical assistance.

cal. Overstaffing is another way to assure that a sufficient number of employees will be available at peak periods, but carrying workers who are underutilized much of the time is wasteful. Generally, a less expensive solution is the use of workers from outside the company on an occasional basis as needs arise. The use of temporary workers may be particularly attractive to organizations with high fringe-benefit costs.[3] One of the more pronounced trends in labor costs over the last several years has been the increase in the relative importance of employer-paid benefits. For example, between June 1981 and December 1985, wages increased 27.0 percent, but total compensation costs, including employer costs for employee benefits, rose 29.2 percent.[4] Traditionally, temporary employees have fewer benefits than permanent employees and therefore lower benefit costs.

Uncertainty about the economic climate also can increase employers' preferences for temporary labor. For example, dramatic changes in the overall business climate during the early 1980's made employers less certain about the future course of economic events and, therefore, less willing to bring on additional permanent staff to deal with increases in orders that they thought might be only temporary. In particular, the far-reaching negative experiences of the large layoffs and deep staff cuts undertaken during the 1981–82 recession influenced many employers' staffing decisions in the following recovery. To many employers, the vow to stay "lean-and-mean" has particular implications for the use of temporary help versus permanent staff.

Sources of supply

For some people, temporary jobs are a stopgap until they find a permanent job. Others seek temporary jobs because they want the schedule flexibility that will allow time for activities such as taking care of children or attending school. Clearly the continuing increase in the labor force participation rates of women, many of whom combine work and family responsibilities, has contributed to the available pool of people seeking these jobs. Temporary jobs also can be attractive to retirees and other workers who want more leisure time. In addition, these jobs can be a way of keeping skills up to date or trying a variety of employers.

Although employers and individuals seeking temporary jobs often deal directly with each other in the labor market, both parties may benefit from using the temporary help firm as an intermediary. For short-term jobs, the markup for the service usually is lower than the customer's cost of recruiting a person and putting him or her on the payroll. These firms can also fill orders quickly because they maintain contact with large numbers of qualified personnel who will take brief assignments on short notice. In addition, the consequences of getting an unsatisfactory worker are less onerous because the customer can simply request a replacement. For workers who are looking for temporary assignments, the firm can reduce job-search costs. Finding a job on one's own can be costly in terms of time and money and may not make sense if it is to last only a few days. Using this service can mean more time working and less time looking.

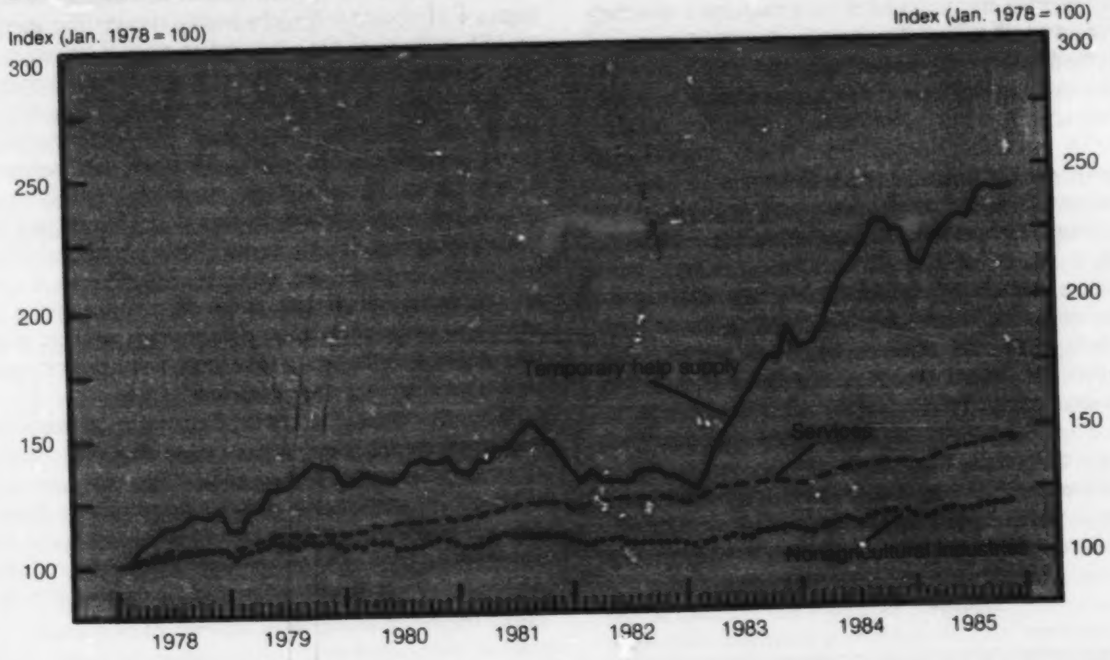
Occupational markets

Establishments in the temporary help industry usually specialize in one of the following four markets: office, industrial, medical, or engineering and technical. Many establishments that are primarily suppliers of office help, however, also supply industrial workers. Those providing medical workers or engineering and technical workers are more likely to specialize exclusively in these fields. Some of the large firms in the industry are involved in more than one market and have separate subsidiaries or divisions to deal with each.

Occupational data are not available specifically for the industry, but its staffing pattern can be approximated from data on the personnel supply services industry group (SIC 736) of which it is a part. The temporary help industry made up about three-quarters of this group's employment in 1985; employment agencies (SIC 7361) accounted for most of the remainder. Analysis of the Bureau's 1984 industry-occupation matrix indicates that office occupations accounted for more than one-half of total employment in personnel supply services, industrial occupations, almost three-tenths, and medical occupations, about one-tenth. Only a small proportion of the employment was in engineering and technical fields.[5] The magnitude of employment in the latter occupations, however, may be much greater than the data would imply because many establishments that furnish temporary help in engineering and technician occupations apparently are frequently classified in the engineering and architectural services industry rather than in the temporary help industry.[6]

Office market. This market consists mostly of clerical workers such as secretaries, typists, receptionists, computer operators, and general office clerks. However, it also includes accountants and marketing and sales workers. Most industries use temporary office workers. Among the largest users are the following major industry groups—services; wholesale and retail trade; manufacturing; and finance, insurance, and real estate. Many office jobs can be filled by temporary workers because the basic skills needed for particular occupations do not vary much from one employer to another. Customers usually are very specific about requirements for assignments. For example, in placing an order, a company may specify that it needs one typist skilled in preparing statistical tables to assist on a rush project and another who can type more than 60 words per minute to substitute for a permanent employee who is recovering from an illness. The demand for temporary workers in office jobs generally is less sensitive to seasonal and cyclical changes than the demand for industrial workers and engineering and technical workers. Customers usually need experienced

Chart 1. Comparison of employment growth indexes in the temporary help, services, and nonagricultural industries, 1978-85



workers because they cannot afford to train persons for short assignments. Temporary help firms typically strive to ensure that all workers on their rolls meet specified minimum skill levels. Normally this is accomplished through clerical skills testing. Certification of the temporary employees' skills is felt to be quite important in the office market. In general, the firms do not offer skills training to applicants but prefer to deal with already trained and experienced personnel. However, when the local labor market is tight, they may sponsor clerical training classes in order to increase the pool of trained applicants. Some firms also provide basic and advanced instruction on word-processing equipment and personal computers.

The temporary help office market is dominated by relatively large, multi-establishment companies, some national in scope. They compete quite vigorously with one another within large metropolitan labor markets. Factors in the predominance of large firms include the customers' need for quick action on the filling of job-orders for temporary clerical and other office help. Typically, orders are placed at least one day in advance, but some orders are for personnel to report in a few hours. This fast turnaround necessitates a large and current file of clerical help available for almost instantaneous referral to customers' worksites.

Many workers with office skills are not looking for regular, full-time employment. A large number are mothers who want to schedule work around family responsibilities. Some are schoolteachers who supplement their income by working during summer. Others are recent college graduates who need some income until they find employment related to their studies. Temporary help companies try to accommodate preferences for particular days or hours of work, and the frequency and duration of assignments. Some of their employees, however, are seeking permanent jobs, and the temporary assignments can lead to these jobs.

The transfer of an employee from a temporary help firm's payroll to a customer's payroll is called a "T-to-P" conversion—that is, the hiring, on a permanent basis, of temporary workers supplied by the firm. This practice is thought to be more common for office workers than other occupations, although it also occurs with industrial workers. A potential exists for the customer to use the firm as a screening and placement tool, but without the associated agency fees. The firms deal with this dilemma in a variety of ways. Those which are active in both the temporary help market and the placement market simply charge the customer a negotiated placement fee. Others specify that in "T-to-P" conversions the customer will be billed for a certain minimum number of hours for the worker involved. Some specify the payment of a liquidation fee. A ban on the permanent hiring of temporaries for some period of time after their use is sometimes contained in contracts between the supplying firm and the customer.

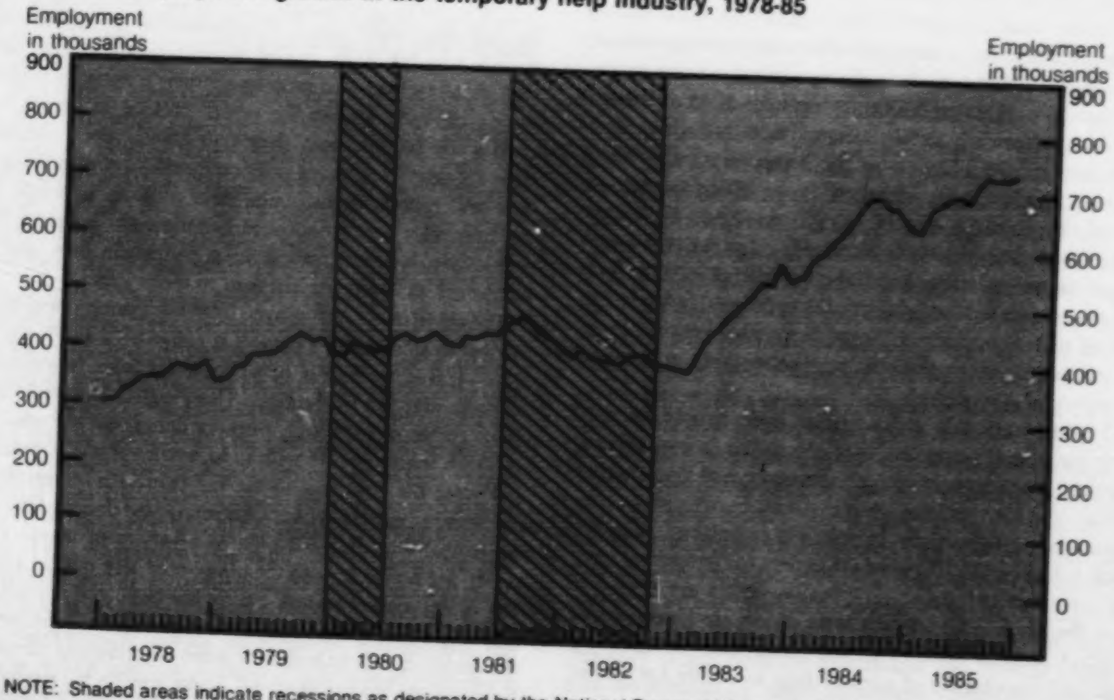
As a general rule, in a given labor market, temporary clerical workers are employed at lower wage rates than their permanent counterparts. The total hourly cost to the customer for the temporary worker, however, may be as much or more than the total hourly cost of the customer's permanent workers.

Industrial market. A large proportion of the employees in the industrial segment of the temporary help market are helpers, laborers, and material movers, and many others are service workers, such as food and beverage preparation workers. Little, if any, work experience is necessary for most of these jobs. Other occupations include truck drivers, machine operators and assemblers, and craft workers. Customers for industrial temporaries are found in many industries—wholesale and retail trade, construction, manufacturing, and transportation are major users. The reason for using industrial temporaries frequently is work overloads. For example, a manufacturer or wholesaler may need extra help to unload an unusually large shipment. A building contractor may need workers to assist in cleaning up around a project. Absences of regular employees also may be a reason. The demand for industrial workers probably is more sensitive to seasonal and cyclical influences than the need for other temporary personnel.

Rates of pay for temporary workers in industrial occupations are low because the jobs usually require little training or skill. At the same time, the markup charged for supplying these workers tends to be high because the menial nature of the jobs results in a very large turnover, which adds to recruitment and administrative costs. The transportation of employees also may be a cost. To make sure customers receive the number of workers requested, some firms require employees to report to their offices each morning instead of going directly to customers' premises. Work crews are then assembled, transported to the jobs in company vehicles, and returned to the office at the end of the day. As a result of these costs, temporary workers in the least skilled jobs frequently have much lower pay rates than regular employees in the same kinds of jobs.

Although many of the industrial employees of temporary help firms are interested only in occasional employment, others see temporary assignments as stepping stones to higher paying regular jobs with the most desirable companies. Employers do hire temporaries who have demonstrated that they are good workers, but the demand for unskilled workers usually is much smaller than the number of people

Chart 2. Employment growth in the temporary help industry, 1978-85



NOTE: Shaded areas indicate recessions as designated by the National Bureau of Economic Research.

seeking the jobs. Many firms do not seek payment of liquidation damages from customers that hire their industrial employees.

Medical market. Registered nurses and licensed practical nurses represent most medical employees of the temporary help industry. Some employees also are nursing aides, orderlies, and attendants. The industry is relatively new to the medical market, having emerged during the 1970's when hospitals were faced with shortages of registered nurses attributed, in part, to population growth and greater coverage under health insurance programs. It provided an alternative to traditional sources of personnel for temporary duty—nursing registries which find assignments for self-employed nurses for a fee and on-call pools operated by hospitals and other health care institutions for their own needs.[7]

The principal users of medical personnel supplied by the temporary help industry are hospitals, nursing homes, and private households (home health care). Temporary workers are needed by hospitals and nursing homes to fill in for regular employees who are on vacation, ill, or absent for other reasons. A surge in a hospital's patient population as a result of an epidemic or disaster would temporarily increase the need for personnel too. In addition, temporaries have been used to alleviate shortages of registered nurses. Assignments in hospitals and nursing homes may be for as little as one work shift, but they are more likely to be for two or three days, and some last even longer. Temporaries may also get the least desirable shifts—evenings, nights, and weekends. Medical workers are needed in private households to care for patients who have been released from hospitals to recuperate at home or who have become too sick or frail to care for themselves. An assignment in a patient's home can be long term. The demand for medical temporary personnel is greatest during the summer, when many regular staff members take vacations and patients schedule elective surgery to coincide with their vacations. Use of temporary medical workers in hospitals is usually limited to registered nurses, while nursing homes and private households may use both registered nurses and licensed practical nurses, as well as nursing aides, orderlies, and attendants.

Temporary help companies generally hire only registered nurses and licensed practical nurses who have a year or more of work experience in their occupations. Nurses may want to limit work in order to care for children, attend school, or simply to have more leisure time. In some cases, they work primarily to keep their skills up to date instead of for the income. On the other hand, a small number of nurses have full-time jobs and moonlight to supplement their income. Firms in the industry usually provide malpractice insurance and bonding insurance; some also provide health insurance, life insurance, and other fringe benefits, but the benefits are less generous than those provided by hospitals and other institutions for their regular staffs.

Engineering and technical market. Businesses that specialize in this segment of the temporary help market frequently are called job shops. Most of their employees are engineers, designers, and nonmedical technicians such as drafters, engineering technicians, and computer programmers. Job shops provide essentially the same kind of services as other temporary help firms and charge for them in the same way. The scope of operation, however, may be national and even international, whereas companies that specialize in clerical, medical, or industrial temporary workers concentrate on local markets. An office in Boston, for example, may recruit engineers from New England for a customer in Los Angeles. Unlike other temporary help firms, the job shop generally does not select the applicant, but provides several resumes for the customer's consideration. Another thing unique about some job shops is that they offer in-house engineering and technical services—the work is done on their premises rather than on those of the customer. In-house work, however, accounts for only a small part of employment in this business.

A large proportion of job shop customers are in aerospace manufacturing, electronics manufacturing, shipbuilding and repairing, and other industries that depend heavily on defense work. Job shops serve a variety of other manufacturing industries, including producers of automobiles, industrial machinery, and chemicals. Organizations that contract to perform engineering services also are customers. The need for engineers and technicians on a temporary basis usually arises as a result of major projects to develop new products or facilities. An aerospace company may need additional personnel, for example, to help design a new aircraft and get it into production on schedule. An engineering services firm may require extra help on a contract to design and build a new plant for a customer. Employers also may turn to job shops when they are unable to recruit enough regular employees to staff a project. Relatively few engineers and technicians are employed temporarily to fill in for absent workers. Businesses frequently are able to anticipate their need for temporary personnel well in advance, and usually can estimate how long they will be needed. Assignments are of a relatively long duration—6 months to 12 months is typical, and up to 2 years is not uncommon. Temporary to permanent conversions usually do not occur during these assignments. The job shop may be able to place the employee with another customer when the assignment ends or the employee may take a permanent job elsewhere.

Engineers and technicians frequently can earn more take-home pay in temporary jobs than they can in regular jobs. Fringe benefits, however, usually are limited to paid vacations and holidays, and medical and life insurance at group rates. Although high pay probably is the main reason engineers and technicians seek temporary jobs, the variety of assignments and geographic locations also may be attractions. Not all of these workers are geographically mobile. "Freeway" or "subway" job shopper is industry parlance for the person who goes from one assignment to another in the same metropolitan area. A "road" job shopper is a person who is willing to relocate. Work experience usually is a requirement for temporary assignments in engineer and technician fields. Many job shoppers are single persons in their late twenties and early thirties. Married workers, particularly those with children at home, are less likely to seek these jobs. Compared with engineers and technicians in regular jobs, job shoppers are more likely to be laid off of an assignment as a result of cutbacks in defense or research and development expenditures.

Employment growth

Average annual employment in the temporary help industry grew from about 340,000 in 1978 to 695,000 in 1985, an increase of 104 percent, which was 3 times the rate of increase for the rapidly expanding services division and over 8 times the rate for all nonagricultural industries (chart 1). Employment in the industry reflected changing business conditions during this period. It increased significantly in 1978–79, slowed as the economy weakened in 1980, and then declined slightly during the 1981–82 recession (chart 2). At the trough of the recession in November 1982, the industry employed 400,000 workers, about 8.4 percent fewer than a year before. Employment increased 70 percent between November 1982 and November 1984; within a span of 2 years the industry had added about 280,000 workers to its payrolls. In fact, during these 2 years, temporary help was the fastest growing industry among those with employment greater than 50,000.[8]

The industry's employment expansion early in an economic recovery is related to the hesitancy of many employers to expand their own permanent staff until the upward course of business conditions has become more certain. Therefore, in order to adjust their work force to increases in product demand, employers turn to a variety of short-run strategies. These strategies may include increasing hours of work for those employees already on the payroll, subcontracting portions of work to other firms, hiring part-time or temporary workers themselves, and using employees of temporary help companies. There are a variety of causal factors at work and the exact mix of strategies used by any one firm or one industry depends on their relative importance. For some, the time needed to recruit, hire, or train additional workers may preclude the use of increased permanent staff. Other employers may have labor cost structures which inhibit, or labor contracts which limit, the use of greatly lengthened workhours. Many employers prefer not to subcontract additional work to other companies for obvious competitive reasons. Given these circumstances, the use of trained workers who are available on short notice from a temporary help firm is an attractive alternative to many employers. Indeed, the quick response of these firms to increases in the demand for workers is one of the most important attributes of the industry.

The initial cyclical expansion of temporary help employment tends to slow over time. The cyclical growth spurt associated with the most recent recovery ended in the fall of 1984. More modest growth has resulted in the addition of only 60,000 jobs in 1985 (chart 2). Even so, this 8.7-percent employment growth was nearly 3 times the rate for all industries in 1985. As the economic recovery matures, the use of temporary help is mitigated somewhat by employers' desires to hire full-time staff for their own payrolls. Several factors are at work here as well, including the realization that increases in business have become more certain and that there is a need for individual employers to compete for the available pool of trained labor. Therefore, employment increases in the industry that are solely attributable to the upswing in the business cycle tend to moderate during the later stages of recoveries.

Growth in the industry's employment has come principally from increasing numbers of establishments rather than from increasing establishment size. The number of reporting units in the industry rose from about 3,690 in the first quarter of 1978 to 7,750 for the same period in 1985, while the average number of employees per unit decreased slightly from 83.4 to 82.4. The increases in the number of establishments are largely attributed to what are perceived to be low barriers to entry and relatively small startup costs.

Temporary help industry employment varies substantially from State to State and from area to area. The States with above average growth rates tend to have higher proportions of the employment than those with below average growth. Many high growth States, such as Arizona, California, and Colorado have an incidence of employment in this industry that is about 50 percent higher than the Nation as a whole. The geographic relationship between high employment growth rates and concentration of temporary help mirrors the observation at the national level that the industry's growth is higher when the national economy is expanding.

Projected growth

The Bureau of Labor Statistics has developed three alternative sets of economic and employment projections for the U.S. economy for the year 1995. The macroeconomic assumptions underlying these projections, which consist of a high-growth, moderate-growth and low-growth scenario, were presented in the November 1985 issue of the *Review*.[9] Based on the moderate-growth case, employment in the temporary help industry is projected to increase an average of 5 percent a year between 1984 and 1995, faster than the 4.2-percent rate for business services as a whole and much faster than the 1.3-percent rate for all industries. Employment in the industry would reach almost 1,060,000 in 1995, a gain of about 430,000 jobs over the 1984 level. Under the high-growth and low-growth scenarios, employment levels are expected to range from about 1 million to 1.1 million in 1995. The projected growth rates are much slower than the increases experienced by the industry during the recovery from the recession, and more in line with the growth over the last year (December 1984 to December 1985).

Employment in office occupations is expected to grow about as rapidly as total employment in the temporary help industry. As the industry's customers automate offices, however, it should receive relatively more requests for temporary workers with the latest skills such as computer operators, peripheral equipment operators, and secretaries and typists who can operate word processors and personal computers. At the same time, office technology may result in relatively fewer orders for file clerks, mail clerks, and data entry keyers. Some temporary help companies see potential in "home based" offices for selected employees. Computerized equipment in the homes of these workers would enable them to transcribe material and produce printed copy in customer's offices miles away.

Employment of engineers and technical workers in temporary assignments may rise faster than total employment in the industry, at least through 1990. A large part of the growth in these jobs is expected to result from increased investment in capital equipment. An investment boom is projected because of expected lower real interest rates, the prospect of a stable economy, and the desire of manufacturers to take advantage of new technologies—purchases of which were postponed during the low-investment years of 1980–82. Growth also is expected in defense-related industries. Real defense purchases of goods and services are projected to increase 5.3 percent annually between 1984 and 1990, and then taper off. This spending should increase the number of temporary jobs for product design and related activities in the aircraft and guided missiles, ordnance, shipbuilding and repair, and communication equipment industries. If defense expenditures, however, are significantly different, job prospects will be altered.

Industrial jobs are expected to grow slower than the industry's employment as a whole. The demand for workers in these jobs depends significantly on orders from manufacturers. Employment in manufacturing is projected to rise at one-half the rate of employment in all industries during the 1984–95 period. Some rapid growth firms in high-tech fields may favor using temporaries because demand for their products can change very quickly. The long-term prospects in manufacturing probably are not favorable, however, because industrial workers generally have the kinds of jobs most susceptible to laborsaving technology. Increases in the demand for industrial temporary workers are expected to come mostly from other sectors of the economy, such as construction and wholesale and retail trade.

Future increases in the demand for temporary workers in medical fields are expected to be concentrated in nursing homes and private residences. The growing number of elderly and disabled persons in need of long-term care is rising rapidly, which is increasing the demand for nurses in these settings. In addition, to hold down costs, hospitals are discharging patients as soon as possible, which means that more people will be recovering from surgery, stroke, or other major disabilities in nursing homes or their own homes. Many of them will need intravenous therapy, respirator support, and other equipment that requires the supervision of registered nurses. Changes in private insurance and Medicare coverage are making home health care more affordable for patients recovering from acute illnesses. Much of the increase in demand for temporary medical personnel will occur in home health care, because these jobs by their nature tend to be less continuous than those in hospitals and nursing homes. Some temporary help firms have developed comprehensive programs for delivering a package of services to the home patient, including periodic visits by a registered nurse and basic care by licensed practical nurses and nurses' aides. Competition from visiting nurses associations (classified in SIC 8091), nurses registries (classified in SIC 7361), and other industries that provide home health care services, however, may limit growth for the temporary help industry in this market. Expansion also may be limited by a lack of employees who are willing to work in the evening, at night, and on weekends.[10] The outlook in hospitals is not clear. Cost containment efforts probably are greatly reducing overstaffing as a way of handling variations in workloads, thus making hospitals more dependent on temporary nurses when needs suddenly rise. Many large hospitals, however, may prefer to operate their own temporary nurse pools. □

FOOTNOTES

[1] Wage and salary employment levels for 1978 through 1981 were obtained from State reports of establishments covered under State unemployment insurance laws. These reports cover about 98 percent of total civilian wage and salary employees on nonagricultural payrolls in the United States. Estimates of wage and salary employment for 1982–85 were obtained from the Bureau of Labor Statistics' Current Employment Statistics (CES) program, which provides information from payroll records of employees based on a sample survey of establishments. Employment data from these two sources are basically comparable. In fact, the State reports of establishments covered under unemployment insurance laws are the primary sources of benchmark information for the Current Employment Statistics program. A description of the two sources appears in the monthly Bureau of Labor Statistics publication, *Employment and Earnings*.

[2] Many businesses besides those in the temporary help supply industry provide personnel to other organizations on a contract or fee basis. Included among these are employee leasing firms (SIC 7369) which supply all the workers needed by an organization, and companies that provide a special service such as managerial (SIC 7392), janitorial (SIC 7349), or guard (SIC 7393). Jobs with these firms, however, generally are not temporary. Also, workers usually are supervised by the supplying firm instead of the customer, except in the case of employee leasing.

[3] Donald Mayhall and Kristin Nelson, *The Temporary Help Supply Service and the Temporary Labor Market* (Salt Lake City, UT., Olympus Research Corporation, December 14, 1982).

[4] Employment Cost Index–December 1985, BLS News Release, January 28, 1985. The trend of larger increases in benefits than wages reversed in 1985, when wages were up 4.4 percent, compared with 4.3 percent for total compensation.

[5] Estimates for the four markets are based on the following occupational

categories from the Bureau's industry-occupation matrix for the personnel supply services industry. *Office:* administrative support occupations, including clerical; managerial and management related occupations; marketing and sales occupations; lawyers; teachers, librarians, and counselors; legal assistants and technicians. *Industrial:* helpers, laborers, and material movers; transportation and material moving machine and vehicle operators; precision production, craft, and repair occupations; machine operators, assemblers, and inspectors; agriculture related occupations; service occupations (except health service and related occupations). *Medical:* health diagnosing and treating occupations; health technicians and technologists; health service and related occupations. *Engineering and technical:* engineers, architects, and surveyors; natural, computer, and mathematical scientists; social scientists; writers and artists; technician occupations (except health technicians and technologists, and legal assistants and technicians).

[6] Establishments that supply engineers and other nonmedical technical personnel to customers for temporary assignments are called job shops. Analysis of available information indicates a lack of consistency in the industry classification of job shops. While some of these establishments are classified in the temporary help supply industry (SIC 7362), the bulk of them appear to be classified in the engineering, architectural, and surveying services industry (SIC 8911). Many officials of job shop firms prefer classification under SIC 8911 because they associate SIC 7362 with clerical occupations. Data on the number of workers supplied by job shops are not available, but some industry observers estimate that it may have been as high as 150,000 in 1985.

[7] Barbara H. Kehrer and others, *Study of the Utilization and Effects of Temporary Nursing Services* (Princeton, NJ, Mathematica Policy Research, Inc., Feb. 28, 1983).

[8] Growth in the temporary help supply industry is compared with other industries described in the Standard Industrial Classification system at the detailed (4-digit) level.

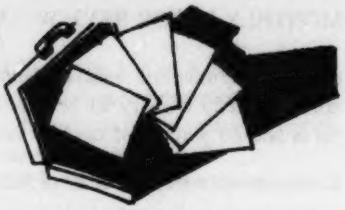
[9] See several projection articles in the *Monthly Labor Review*, November 1985, pp. 3–59.

[10] Martin J. Gannon, "Preferences of temporary workers: time, variety, and flexibility," *Monthly Labor Review*, August 1984, pp. 26–28.

A note on communications

The *Monthly Labor Review* welcomes communications that supplement, challenge, or expand on research published in its pages. To be considered for publication, communications should be factual and analytical, not polemical in tone. Communications should be addressed to the Editor-in-Chief, *Monthly Labor Review*, Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C. 20212.

Conference Papers



The following excerpts, closely related to the work of BLS, are adapted from papers presented at the Thirty-Eighth Annual Meeting of the Industrial Relations Research Association, December 1985, in New York.

The full text of the papers appears in the copyrighted IRRA publication, *Proceedings of the Thirty-Eighth Annual Meetings,* available from IRRA, University of Wisconsin, Social Science Building, Madison, WI 53706.

'Union avoidance:' management's new industrial relations strategy

JOHN CHALYKOFF AND PETER CAPPELLI

As industrial relations in the United States continue to experience rapid change even as the economy improves, it is becoming clear that market pressures are not the only forces driving these changes. In particular, the growing variance in labor practices within industries suggests the need to look not only at pressures from the environment, but also at the different strategies and tactics introduced by the parties at the firm level. Many argue that the most important of these currently operate from the management side.

The most important of management strategies may be the decision to try to avoid unions altogether. One of the more controversial of such efforts is the use of aggressive campaigns in representational elections. These often include management unfair labor practices which, as Paul Weiler pointed out in 1983, have increased fivefold since the 1950's.[1] The upward trend in management unfair labor practices parallels quite closely the decline in public support for unions over this period.[2]

In many ways, the more desirable strategy for management would be to avoid representational campaigns altogether. What such strategies have in common is an effort to move production away from current areas of union strength which may make it possible to avoid dealing with unions at all.[3]

Explaining union avoidance

What factors cause firms to pursue strategies which lead to the avoidance of unions? A unique survey of management industrial relations practices conducted by The Conference Board in 1977 and 1983 may help answer that question. The survey asked about a range of organizational characteristics, labor relations practices, and bargaining outcomes in unionized firms. It also asked directly about the priority given to "union avoidance" strategies; is it a higher priority than achieving favorable outcomes in collective bargaining ("best bargain" strategies)?[4] The following tabulation shows the breakdown of responses for the 228 unionized firms answering in both 1977 and 1983:

	Same strategy in 1978 and 1983		*Switched strategy in 1983*	
	Percent	*Number*	*Percent*	*Number*
Union avoidance strategies	25	56	20	46
Best bargain strategies	49	111	6	15

As one might expect, the priority shifts toward union avoidance in 1983. Looking at those firms whose positions were consistent in both years (56 union avoidance firms, 111 best bargain firms), several factors seem to explain their decision. One factor concerns the ability of unions to counter union avoidance strategies. The United Auto Workers, for example, got General Motors to agree to be neutral in representational campaigns in its southern plants, and recently secured agreements to limit subcontracting; airline and trucking unions have secured restrictions on double-breasted operations.

The statistical association between three variables—percent of a firm's work force organized, plant-by-plant bargaining structure, and number of new establishments opened since 1975—and the priority attached to union avoidance for firms whose strategy was the same in 1978 and 1983 suggests that the association is strong, especially with the percent of the firm's work force organized. The first two variables help measure the ability of unions to counter such strategies, while the last variable measures the opportunity for firms to pursue these strategies. A separate

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John Chalykoff is research associate, Massachusetts Institute of Technology and the University of New Brunswick, and Peter Cappelli is associate professor, The Wharton School, University of Pennsylvania. The title of their full IRRA paper is "The Effects of Management Industrial Relations Strategy: Results of a Recent Survey."

discriminant function analysis finds that these three variables correctly classify 91 percent of the union avoidance firms and 88 percent of the best bargain firms.[5]

Consequence of union avoidance

Perhaps the most important and most obvious consequence of a union avoidance strategy is its effect on union membership and growth within unionized firms. Overall, unionization in union avoidance firms dropped, on average, from 23.5 percent in 1977 to 18.6 in 1983, compared with 63.5 to 60.5 percent for best bargain firms over the same period.[6] Because union coverage was substantially lower in the former to begin with, its decline in percentage terms is much more substantial; a 20.8-percent decline in coverage for union avoidance firms, compared with a 5-percent decline for best bargain firms.

Some indication of how this decline came about is suggested by the data in the following tabulation:

	Union avoidance firms	*Best bargain firms*
Average number of representational elections held in last 5 years	4.03	2.22
Proportion of representational elections won by union in last 5 years	.177	.379
Average number of new plants opened since 1975	4.51	1.97
Proportion of new plants organized	.076	.439

As measured by plant openings, the union avoidance firms—which are less unionized—appear to be growing about twice as fast as the best bargain firms. Most importantly, union election victories occur half as often in union avoidance firms as in best bargain firms. It is perhaps surprising, therefore, that unions do not appear to be concentrating their organizing efforts at the best bargain firms. The ratio of elections to plant openings is about the same for both sets of firms.[7] This suggests, if anything, that more union resources are directed at the union avoidance firms, as one would imagine that it is more difficult and costly to secure elections in them.

Overall, new plants at best bargain firms are almost six times more likely to be organized than their counterparts at union avoidance firms.[8] This difference seems very large given that the overall union win rate is only twice as great in the former—especially if we assume that the ratio of elections to new plants is roughly similar for firms in both groups.[9] The explanation could be that union avoidance firms run election campaigns that are much more successful in their new plants than in their old ones. While this may play some role, it seems more likely that the great difference in organization rates at new plants is due to the greater ability of union avoidance firms to keep representational campaigns away from their new plants.

Differences in collective bargaining outcomes are also associated with the union avoidance priority. For example, the survey results suggest that union avoidance firms pay lower wages to their union employees, other things being equal. Even though best bargaining firms are concentrating their efforts on collective bargaining, the lower union coverage of avoidance firms appears to give them greater bargaining power vis-a-vis their unions and leads to lower settlements.[10] ☐

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[1] Paul Weiler, "Promises to Keep: Securing Workers' Rights to Self-Organize under the NLRB," *Harvard Law Review*, June 1983, p. 1769.

[2] The first sharp increase occurs in the late 1950's when union corruption came to the public's attention, culminating in the McClellan hearings and the Landrum-Griffin Act. The next sharp increase occurred in the early 1970's when any macroeconomic justification for unions was eroding.

[3] Thomas A. Kochan, Robert B. McKersie, and Peter Cappelli, "Strategic Choice and Industrial Relations Theory," *Industrial Relations*, Winter 1984, pp. 16–39. The authors argue that these strategic decisions which help shape union-management relations take place outside of collective bargaining; the most important appear to be management decisions at the corporate level.

[4] The question asked, "Which is more important to your firm, keeping as much of the company as possible nonunion or achieving the most favorable bargain possible?" It is not asking which situation the company would prefer. We recognize the possibility that a firm's reply may simply be a proxy for existing practices rather than an independent statement of policy that will influence labor relations decisions. Our purposes are served, however, as long as it is an accurate proxy for those decisions. For a description of the survey and the overall conclusions, see Audrey Freedman, "The New Look in Wage Policy and Employment Relations," Report 865 (New York, The Conference Board, 1985). Thomas A. Kochan, Robert B. McKersie, and John Chalykoff investigate some of the survey's important results in detail in "Corporate Strategy, Workplace Innovations, and Union Members," *Industrial and Labor Relations Review*, forthcoming.

[5] Those firms which switched to a union avoidance strategy in 1983 also had significantly lower union coverage and less centralized bargaining structures than best bargain firms, perhaps suggesting that these variables also influence the ability of firms to switch to a union avoidance strategy.

[6] We recognize the possibility that independent factors associated statistically with this choice of strategy could be behind these results. Attempts to find statistical associations between the choice of strategy and potential sources of influence other than those discussed earlier, such as the nature of the industry, proved insignificant.

[7] Of course, established plants can also be targets for organizing. The assumption here is simply that union campaigns are directed at new plants in roughly the same proportion for both union avoidance and best bargain firms.

[8] Firms that switched to union avoidance strategies also won more elections and had fewer new plants organized than did best bargain firms.

[9] If the proportion of elections held at new plants was in fact the same for both union avoidance and best bargain firms, the latter would be only 2½ times likely to be organized, given win rates.

[10] The regression results supporting this conclusion are available upon request. See John Chalykoff, "Industrial Relations at the Strategic Level: Indicators and Outcomes," *MIT Working Papers*, October 1985, for other outcomes associated with this variable.

Environmental factors in the labor-management relationship

PAULA B. VOOS

In recent years, there has been an explosion of interest in cooperative labor relations. Employee participation programs, gain-sharing programs, and joint union-management committees of various types have all received considerable scrutiny. However, while there has been discussion of the economic circumstances which lead the parties to experiment with such programs, there has been less consideration of the extent to which the collective bargaining environment is itself separately and systematically related to the type of labor relations that emerge.

This is surprising insofar as the influence of economic and organizational factors on labor-management relations was discussed at length by an earlier generation of industrial relations scholars and practitioners. On the basis of numerous case studies, the earlier scholarship concluded that the environment was extremely influential and probably set the limits of union-management cooperation in any particular firm. If the environmental factors are very influential, they may seriously constrain the success of programs to improve labor relations.

This analysis explores the impact of certain environmental variables on the overall labor relations climate of the firm as it is perceived by management. The variables were selected after careful review of the earlier literature. Hypotheses concerning each variable were tested using a multiple regression equation context and cross-sectional data gathered by the author.[1]

Study scope and method

The data used in the study are from an anonymous mail questionnaire sent to a 624-member sample of managers of unionized Wisconsin firms in autumn of 1984. In addition to questions on key firm characteristics, managers were asked to categorize the overall relationship existing between their company and the union representing their employees as (1) exceptionally good, (2) very good, (3) fairly good, (4) neither good nor poor, (5) fairly poor, (6) very poor, or (7) exceptionally poor.[2]

Usable questionnaires were returned by 339 managers. While there is always some self-selection in survey data, more than 50 percent of the managers in the initial sample produced the assessment of their firm's labor relations which is used in this research. Consequently, these data provide a reasonable basis for the test of a number of hypotheses about the impact of the environment on labor relations, at least insofar as the overall union-management climate is perceived accurately by managers.

Because the managerial assessments of the overall union-management relationship were categorical, a simple probit model was adopted in the initial analysis. The coefficients produced by maximum likelihood estimation of such a probit model can be interpreted as measuring the impact of each economic or organizational variable on the probability that the firm will be perceived by the responding manager to have good or better labor management relations. The hypotheses about the important environmental variables were generated from an examination of the earlier literature. Specifically, it was hypothesized that good labor-management relationships are more probable where:

- Companies are of moderate size.
- The union-management relationship is of longer duration.
- The company is located in a metropolitan area.[3]
- There have not been major changes in production technology, skill requirements, or product produced in the 4 years prior to the survey.
- The economic position of the firm is secure as indicated by the trend in company profits over the 1980–84 period.
- Industry bargaining patterns are stable, that is, there has been no major change in the bargaining pattern in the industry in the prior 4 years.
- Management is stable and secure as indicated by the absence of a major change in company management or ownership in the preceding 4 years.
- The local union is stable and secure, as measured on two variables: 1) no major change in local union officers had occurred in the past 4 years, and 2) there had been no other organizational instability on the union side, including internal political turmoil in the union, a recent unsuccessful decertification attempt, or an unsuccessful attempt to change the union representing employees.[4]

Along with the above hypotheses, an additional contemporary factor was examined: management's strategy in recent collective bargaining negotiations. The hypothesis was that concession demands can be a source of disruption in overall union-management relationships. Two variables were entered to gauge the effects when management had sought 1) major concessions with regard to wages, health benefits, COLA clauses, or work rules in the most recent negotiations, or 2) minor concessions in these same items.

Results of the estimation

While several of the hypotheses were substantiated by the estimated probit equations, others failed to receive support at conventional levels of significance. As predicted, organizations moderate to large in size were more likely to have good labor relations than either small or very large firms. The probability of good relations increased up to unit sizes

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Paula B. Voos is an assistant professor of economics and industrial relations at the University of Wisconsin, Madison. The title of her full IRRA paper is "Cooperative Labor Relations and the Collective Bargaining Environment." Financial support for this research was provided by the Graduate School, University of Wisconsin, Madison.

of between 1,700 to 1,900 employees and decreased thereafter.

Moreover, good relationships were significantly less likely if the union involved had represented employees for less than 4 years. New labor-management relationships were less smooth, as expected. However, relationships that had lasted more than 20 years were neither better nor worse than moderately old (4- to 20-year) relationships. The estimates also indicate that firms located in the urban area of Milwaukee had better labor-management relations than firms located in the smaller cities and towns of Wisconsin. It would be interesting to learn if this is also the case in other States.

On the other hand, most of the variables measuring recent economic and organizational stresses on the union-management relationship failed to be significantly related to the probability that a good union-management relationship was present. As anticipated, major changes in industry bargaining patterns, company ownership, or management, and turnover of local union officials carried negative coefficients, but these coefficients were not significant. Only other organizational instability in the union, a variable measuring internal political turmoil or union insecurity in the collective bargaining relationship itself, carried a significant coefficient. Thus, this study does provide support for the view that union leaders must be secure if they are to pursue cooperative labor relations. Either political strife within the union or an insecure relationship with management can lessen the probability of good relations.

Finally, changing technology, skill requirements, or product, and major decreases in company profits actually had positive, albeit insignificant, impacts on labor relations. Similar positive results were also obtained for the variables measuring increases in foreign and domestic competition, contrary to the hypotheses. It appears that economic pressure on the firm can be accompanied by either good or poor union-management relations; the point estimates from this study were all in accord with the view that relations are better in companies under more economic pressure, on average, but the insignificance of the coefficients indicated that this is not a reliable conclusion.

It is also interesting to note, given the recent increase in concession bargaining, that management demands for concessions did not necessarily worsen overall relations; the coefficients on both variables designed to test the hypothesis were negative but insignificant. □

FOOTNOTES

[1] It is recognized that this statistical approach is a departure from the case study methodology which has long characterized this area of research. The goal is not to supplant that methodology, but to complement it by determining whether or not certain economic and organizational factors are statistically related to the type of labor relations existing in a large number of firms.

[2] The proportion of employers responding in each category: Exceptionally good, .110; very good, .384; fairly good, .393; neither good nor poor, .082; fairly poor, .021; very poor, .003; exceptionally poor, .006.

[3] The converse hypothesis that location in very large, conflict-laden metropolitan areas decreases the probability of good relationships is not explored because there are no such areas in the State of Wisconsin. In the early 1980's, Milwaukee had a population of about 1 million.

[4] It is recognized that this is a diverse list of factors. They were aggregated because some of them were too infrequent to be entered separately into the regression analysis.

Canadian unions achieve strong gains in membership

MORLEY GUNDERSON AND NOAH M. MELTZ

In sharp contrast to the situation in the United States, union membership has not declined in Canada. In fact, union membership has grown from 2.7 million in 1974 to 3.6 million in 1982, remaining at that level through 1984 and accounting for approximately 40 percent of the nonagricultural paid workforce. Much of the growth since the 1960's has occurred in the public sector, which is heavily unionized; however, unionism has been sustained or has grown across many elements of the private sector. While union membership has been maintained, organized workers have been challenged by the increased use of nonunion labor, especially in construction.

Canadian unionism has become more national than international in scope. That is, there appears to be a pronounced and steady trend away from International (that is, U.S.)-based unionism. The international proportion of total Canadian membership fell from 53.2 percent in 1975 to 39.4 percent in 1985. This reduced share did not result from a decline in international union membership. In fact, the number in 1985 was almost identical with that in 1974. The relative decline of international unions came from the addition of almost 1 million members in national (Canadian-only) unions. A large part of this growth was due to public sector unions which have grown since the 1960's to replace the blue-collar unions as the largest unions in Canada. In addition, some formerly international unions became national unions. The largest single change is the recent formation of the UAW–Canada. This move involves 136,000 members and would lower the proportion of international membership in 1985 from 39.4 percent to 35.7 percent.

The shift from international to national unions was a relatively limited phenomenon prior to the UAW-Canada. A more pronounced development was the increase in autonomy among the Canadian sections of international unions. At the time of this writing, the UAW-Canada is being closely observed to see whether it will set a pattern for other inter-

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Morley Gunderson is the director of the Centre for Industrial Relations, and Noah M. Meltz is assistant dean of the School of Graduate Studies at the University of Toronto.

nationals. The president of the union, Robert White, who is in large part responsible for the formation of the new union, advocates merger with a number of other unions, such as the Steelworkers, to form a large metalworkers federation. The United Steelworkers of America, under its Canadian-born President Lynn Williams, is strongly resisting this development.

A final point concerning international unions relates to the Canadian Federation of Labour, an organization formed in 1982 of international unions in the building trades. These unions left the Canadian Labour Congress following a jurisdictional dispute with construction unions being certified by the Quebec provincial affiliate of the CLC. To date, there has not been a major move by the CLC to establish rival construction unions outside of Quebec.

Changes in legislation

The legal subsystem has been identified as an important factor in the growth of union membership in Canada.[1] In the case of Canada, the responsibility for labor relations rests with the provinces. Fewer than 10 percent of workers are covered by Federal legislation. Prior to the period of time under consideration, three jurisdictions granted their public employees the right to organize and strike: Saskatchewan in 1944; Quebec in 1964; and the Federal government in 1967. In 1973, four more provinces passed similar legislation. In 1975, schoolteachers in Ontario were given the right to strike; in fact, full-time teachers were required to belong to one of the various teachers' associations.

Other legislation has also provided protection for unions, including the anti-strikebreaking law in Quebec and the anti-professional strikebreakers law in Ontario. Several jurisdictions have introduced provisions to provide for the arbitration of first agreements when there is an element of bad-faith bargaining (British Columbia, Manitoba, Quebec, and the Federal jurisdiction). British Columbia, Saskatchewan, Manitoba, Ontario, and Quebec provide for the imposition of compulsory dues checkoff for union members and nonunion workers. A boost for unions was also given by the provision in all labor codes (except Nova Scotia) for certification without a representation vote if a majority of the bargaining unit are members of the union. This is in sharp contrast to the United States, where a certification election is required after the union application for certification.

Strong enforcement of labor legislation has also tended to favor unions. Two cases, in which unfair practices by companies resulted in large monetary settlements and changes in legislation, were seen as a warning to companies which might be tempted to violate the legislation. This again is in sharp contrast to the United States, where the National Labor Relations Board has been reluctant to apply remedial measures against employers who violate the requirement to bargain in good faith, thereby leading to fewer certifications and fewer negotiations of a first contract.[2] □

—— *FOOTNOTES* ——

[1] Noah M. Meltz, "Labor Movements in Canada and the United States," in Thomas Kochan, ed., *Challenges and Choices Facing American Labor* (Cambridge, MA, MIT Press, 1985); and the studies by Paul Weiler, "Promises to Keep: Securing Workers' Rights to Self-Organization Under the NLRA," *Harvard Law Review*, June 1983, pp. 1769–827, and Joseph B. Rose and Gary N. Chaison, "The State of the Unions: United States and Canada," *Journal of Labour Research*, Winter 1985, pp. 97–112.

[2] Craig Riddell, "Canadian Labour Relations: An Overview," in Craig Riddell, ed., *Canadian Labour Relations* (Toronto, University of Toronto Press, 1985).

Research Summaries

Distribution of consumption examined using aggregate expenditure shares

KIRK KANEER

What proportion of aggregate expenditures for food in the U.S. economy is made by lower income groups, and what proportion by the highest? How much of total fuel and utilities is purchased by urban residents of the Northeast region? The answers to these and similar questions about the distribution of consumption among diverse population groups can have important implications for social and economic policy or for organizational marketing strategies.

This report presents estimates of aggregate expenditure shares,[1] developed from the Bureau's ongoing Consumer Expenditure Survey, that can help to clarify such issues. It is one of a series of reports which focuses on alternative ways of examining the expenditure survey data and presenting previously unpublished results.

'Expenditure share' defined

Mathematically, an aggregate expenditure share (s_i) is defined as:

$$(\overline{X}_{ij})(f_j)/(\overline{X}_i)(N)$$

where $\overline{X}_{ij}$ is the average expenditure of population group j for item i; f_j is the number of consumer units in group j; $\overline{X}_i$ is the "all consumer units" average expenditure for item i; and N is the number of consumer units in the total population. For purposes of the expenditure survey, a consumer unit is defined as a group of persons living together who pool their income to make joint expenditure decisions, such as a family or independent single people.[2] Each consumer unit has a householder or "reference" person; this person is the first member mentioned by the survey respondent when asked to list the members of the unit starting "with the name of the person or one of the persons who owns or rents the home." It is with respect to this person that consumer units are classified.

Some examples based on actual expenditure survey data serve to illustrate the calculation and proper interpretation of aggregate expenditure shares. Suppose one wants to determine how much of the aggregate expenditure for food was made by consumer units with householders age 65 or over in 1982–83. Based on survey data, there were 13.8 million such consumer units in that period, and their mean annual food expenditures were $2,288. The aggregate expenditure for food by this group was $31.6 billion (13.8 million times $2,288). There were 71.6 million consumer units in the urban population[3] with a mean food expenditure of $3,137; thus, the aggregate food expenditure for all consumer units was $224.6 billion. The aggregate expenditure share for food purchased by consumer units in the 65-and-over age group was 14.1 percent ($31.6 billion/$224.6 billion), while their population share was 19.3 percent (13.8 million/71.6 million).

Two factors influence a group's aggregate expenditure share: 1) the group's mean expenditure for the item, and 2) the number of consumer units in the group. Two groups could have the same aggregate expenditure share but for different reasons. For example, the under-25 and the 65-and-over age groups had about the same aggregate expenditure shares for entertainment in 1982–83, although the group under 25 spent one and a half times as much per consumer unit as those in the older group. However, the younger group had only about half as many units as the 65-and-over group, and thus the total dollars spent by each group were almost equal.

Aggregate expenditure shares are to be distinguished from shares of each consumer unit's budget spent for various expenditure items (budget shares). A given group could spend a large proportion of their total expenditures for a particular item, and yet have a relatively lower aggregate expenditure share. A case in point is the transportation expenditures of the under-25 age group. Their mean transportation expenditure of $2,623 per consumer unit in 1982–83 was 22.6 percent of their total annual expenditures. Yet their share of aggregate transportation expenditures was only 6.9 percent because their mean transportation expenditure was below the all-consumer-unit average.

Highlights

Aggregate expenditure shares from the interview portion of the 1982–83 expenditure survey (see "Notes on the data")

Kirk Kaneer is an economist in the Office of Prices and Living Conditions, Bureau of Labor Statistics.

Table 1. Distribution of annual aggregate expenditures of urban consumer units by quintile of before-tax income, 1982–83

[Aggregates in millions of dollars, unless otherwise indicated]

Item	Aggregate[1]	Quintiles of income				
		Lowest 20 percent	Second 20 percent	Third 20 percent	Fourth 20 percent	Highest 20 percent
Number of consumer units (in thousands)	61,763	12,328	12,321	12,373	12,337	12,403
Percent distribution of consumer units	100.0	20.0	20.0	20.0	20.0	20.0
		Percent of aggregate				
Total expenditures (in millions)	$1,172,323	8.8	12.8	17.7	23.6	37.2
Food	190,415	11.3	13.1	18.7	23.4	31.5
Alcoholic beverages	17,725	9.3	13.6	19.1	25.0	32.7
Housing	354,334	10.4	13.9	17.6	22.5	35.7
Shelter	200,606	10.6	13.5	17.5	22.4	36.8
Owned dwellings	116,670	6.1	8.8	14.8	23.6	47.4
Rented dwellings	66,086	19.2	23.3	24.8	20.8	11.9
Other lodging	17,849	8.3	8.3	12.8	20.3	50.4
Fuels, utilities, and public services	90,112	12.3	16.7	19.1	22.8	29.1
Household operations	16,614	9.2	11.4	14.7	21.7	43.1
Housefurnishings and equipment	47,001	5.9	10.9	16.2	23.0	44.8
Apparel and services	63,554	8.3	11.9	16.9	22.8	40.1
Transportation	228,708	6.6	12.2	18.7	24.8	37.7
Vehicles	85,418	5.1	10.2	18.0	24.7	42.0
Gasoline and motor oil	65,468	8.1	14.4	20.1	25.5	32.1
Other vehicle expenses	64,048	6.6	12.3	18.8	25.5	36.8
Public transportation	13,773	9.4	13.3	15.8	19.9	41.5
Health care	50,707	12.5	19.6	20.1	21.5	25.3
Entertainment	54,413	6.4	9.7	16.1	25.5	42.2
Personal care	10,623	9.7	14.1	17.7	22.9	35.4
Reading	7,843	9.3	13.5	18.3	24.5	34.6
Education	15,873	20.7	9.8	10.6	16.2	42.8
Tobacco	12,846	12.1	17.8	21.3	25.0	23.8
Miscellaneous	17,293	9.3	11.5	17.0	24.4	37.8
Cash contributions	37,243	4.7	9.0	17.7	23.2	45.3
Personal insurance and pensions	110,802	2.1	6.3	14.5	26.1	50.9
Life and other personal insurance	15,378	6.3	9.5	15.5	24.7	44.0
Retirement, pensions, and social security	95,423	1.4	5.8	14.4	26.3	52.0

[1] Aggregates were developed only for those units providing complete reports of income. For this reason, aggregates presented here will be lower than those reported in table 2.

Table 2. Distribution of annual aggregate expenditures of urban consumer units by age of householder and by region, 1982–83

[Aggregates in millions of dollars, unless otherwise indicated]

Item	Aggregate	Age of reference person						Region			
		Under 25	25–34	35–44	45–54	55–64	65 and over	Northeast	Midwest	South	West
Number of consumer units (in thousands)	71,570	7,013	17,210	13,028	10,034	10,436	13,849	16,236	18,666	22,833	13,835
Percent distribution of consumer units	100.0	9.8	24.0	18.2	14.0	14.6	19.4	22.7	26.1	31.9	19.3
		Percent of aggregate						Percent of aggregate			
Total expenditures	$1,352,100	6.0	24.5	23.4	18.3	15.0	12.6	21.7	26.1	31.1	21.1
Food	224,515	5.7	22.6	23.5	18.6	15.5	14.1	23.4	25.7	30.5	20.4
Alcoholic beverages	20,397	11.8	30.0	20.6	15.1	13.3	9.0	24.0	24.3	28.2	23.4
Housing	413,960	5.8	26.6	23.6	16.7	13.5	13.8	22.3	25.8	30.2	21.7
Shelter	233,461	6.5	28.9	24.6	15.7	12.1	12.3	22.1	24.4	28.9	24.7
Owned dwellings	136,913	1.7	25.9	29.4	17.9	13.7	11.5	20.5	27.0	29.5	23.0
Rented dwellings	75,076	15.7	37.5	16.3	10.2	7.5	12.9	23.9	19.5	28.3	28.3
Other lodging	21,471	4.7	17.6	23.4	20.9	17.8	15.5	25.6	24.7	27.0	22.6
Fuels, utilities, and public service	106,567	4.4	21.1	21.9	18.5	16.7	17.4	24.2	28.0	31.9	15.9
Household operations	19,395	4.2	31.9	22.0	11.7	11.2	19.1	19.1	25.0	34.0	21.8
Housefurnishings and equipment	54,536	6.1	26.2	23.1	18.7	14.7	11.2	20.5	28.1	31.4	20.1
Apparel and services	73,717	7.4	25.0	25.2	18.6	14.1	9.7	22.1	25.0	32.0	21.0
Transportation	265,667	6.9	26.2	23.3	18.9	14.4	10.3	20.5	25.8	32.6	21.1
Vehicles	100,341	7.3	29.2	25.1	18.1	11.9	8.4	19.9	26.5	34.7	18.9
Gasoline and motor oil	76,007	6.9	24.3	22.4	19.7	15.7	11.0	19.5	26.9	33.4	20.2
Other vehicle expenses	72,929	6.8	24.7	22.6	19.6	15.5	10.9	20.7	24.5	31.0	23.7
Public transportation	16,317	5.4	24.2	20.2	16.4	18.0	16.0	28.4	21.6	23.8	26.5
Health care	58,830	3.7	16.0	16.7	16.0	18.7	28.9	20.9	24.9	33.5	20.6
Entertainment	62,265	6.5	27.0	27.1	17.3	13.4	8.7	20.3	26.3	29.1	24.4
Personal care	12,596	5.1	20.2	21.0	17.8	17.6	18.3	22.2	25.5	31.4	21.1
Reading	9,089	5.7	22.9	22.1	16.9	16.1	16.2	25.5	27.1	26.9	20.1
Education	19,610	17.5	15.8	22.8	30.2	10.5	3.2	30.1	25.3	25.7	18.8
Tobacco	14,671	6.6	23.0	22.1	19.8	17.4	10.9	23.6	27.2	33.1	15.9
Miscellaneous	19,323	4.3	21.7	23.4	18.5	17.8	14.2	20.4	24.1	28.9	26.5
Cash contributions	41,224	1.7	12.4	22.0	22.5	19.1	22.3	17.3	29.4	34.5	18.9
Personal insurance and pensions	116,301	4.4	25.5	24.7	21.3	19.3	4.8	18.9	28.8	32.3	20.0
Life and other personal insurance	18,465	2.4	19.1	24.9	23.6	18.3	11.6	17.8	31.2	34.6	16.3
Retirement, pensions, and social security	97,836	4.7	26.7	24.7	20.9	19.5	3.5	19.1	28.3	31.9	20.8

Chart 1. Distribution of consumer units, and aggregate expenditure shares for health care, by age of householder, 1982-83

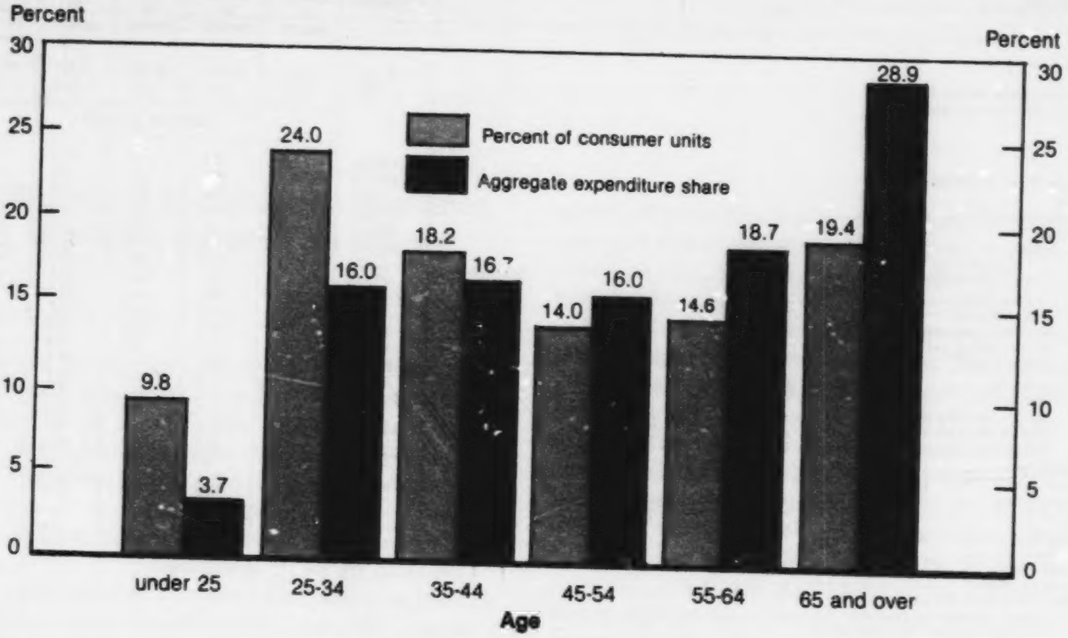
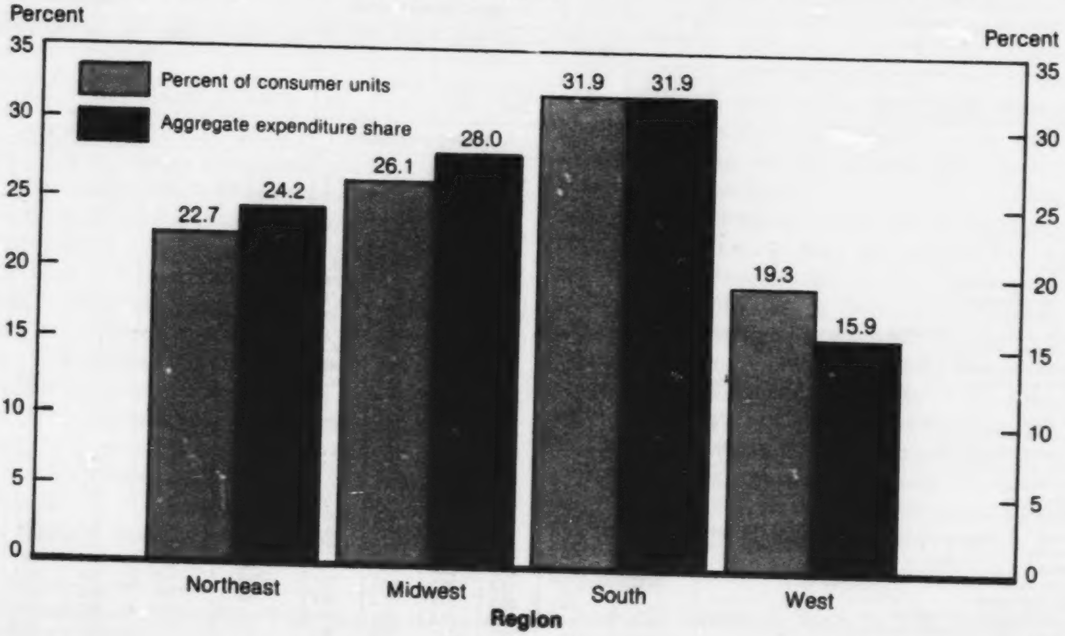


Chart 2. Distribution of consumer units, and aggregate expenditure shares for fuels, utilities, and public services, by region, 1982-83



are presented in tables 1 and 2. Consumer units are classified by income quintile,[4] age of householder, and region. Among the salient findings:

- The lowest income quintile group accounted for 9 percent of total aggregate expenditures, less than half of the proportion of the population they represent. The highest income quintile's aggregate expenditure share for all items was 37 percent, which was almost twice their 20-percent proportion of the population.
- For the lowest quintile, which includes many student consumer units, the only items for which aggregate expenditure share approximated population share were rent and education.
- The aggregate food expenditure shares for the 25-to-34 and 35-to-44 age groups were nearly the same—23 percent and 24 percent, respectively—but the mean annual food expenditure of the older group was more than $1,000 higher.
- More than a third of aggregate expenditures for rented dwellings were made by consumer units in the 25-to-34 age group.
- The group age 45 to 54 had the largest aggregate expenditure share for education, 30 percent, because many in this group are likely to be paying for children's college education.
- The group under age 25 had the lowest aggregate expenditure share for transportation, while the group 25 to 34 had the largest. It is between these age groups that vehicle ownership increased from 70 percent to 87 percent.
- As expected, the 65-and-over group had the largest aggregate expenditure share for health care. (See chart 1.)
- While the aggregate expenditure shares for the regions were generally about the same as their population shares, there were some noteworthy differences. For example, the West's aggregate expenditure share for rented dwellings was 9 percentage points above its population share.
- The West's aggregate expenditure share for fuels, utilities, and public services was 3 percentage points below its population share. This is because the West has a large proportion of renters whose rent payment includes utilities. (See chart 2.)
- Aggregate expenditure shares for public transportation were 7 percentage points above the population share in the West and 8 percentage points below the population share for the South. (Public transportation includes airfares as well as mass transit.)
- The aggregate expenditure share for education in the Northeast was 7 percentage points above the population share, while the South's was 6 percentage points below. The Northeast had the largest proportion of student consumer units.

Notes on the data

Data for the Consumer Expenditure Survey are collected from a nationwide sample of households in the civilian noninstitutional population. The survey is conducted for the Bureau of Labor Statistics by the Bureau of the Census.

The continuing survey represents a major enhancement of a long-established program. The Bureau of Labor Statistics has been gathering information on spending patterns and living costs for nearly a century—since the Federal Government authorized such a survey in 1888–89. For the past half century, the survey has been part of the periodic revision of the Consumer Price Index, next slated for 1987.

The current survey incorporates major methodological improvements that were first used in the 1972–73 survey.

About 5,000 households in each of two independent samples are asked to participate in the survey. Households in one sample are asked to participate in a quarterly interview survey over a 12-month period. (Twenty percent of the sample for the interview survey is replaced each quarter.) The other sample is asked to keep a detailed record of expenses in the form of a diary for 2 consecutive weeks.

The expenditure data should be interpreted with care. The expenditures are averages for a sample of households in the group being analyzed, and as such are subject to both sampling and nonsampling errors. ☐

FOOTNOTES

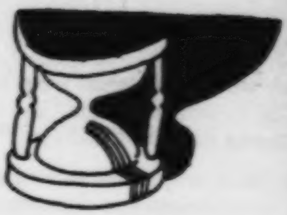
[1] Sometimes referred to as market shares.

[2] See U.S. Department of Labor, *Consumer Expenditure Survey: Interview Survey, 1982–83*, Bulletin 2246 (Bureau of Labor Statistics, February 1986).

[3] The urban population consists of all persons living in Standard Metropolitan Statistical Areas (SMSA's), and in urbanized areas and urban places of 2,500 or more persons outside of SMSA's. "Urban," as defined for this survey, includes the rural populations within SMSA's.

[4] Consumer units are ranked in ascending order of income, and then divided into five equal groups.

Major Agreements Expiring Next Month



This list of selected collective bargaining agreements expiring in May is based on information from the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more. Private industry is arranged in order of Standard Industrial Classification.

Employer and location	Private industry	Labor organization[1]	Number of workers
Homestake Mining Co. (Lead, SD)	Mining	Steelworkers	1,300
Building Trades Employers Association of Westchester and Putnam Counties, N.Y., Inc. (New York)	Construction	Carpenters	1,800
Master Builders Association (Pennsylvania)	Construction	Carpenters	5,000
Kanawha Valley Builders Association (Charleston, WV)	Construction	Laborers	1,400
Independent Employers of Kentucky and Indiana (Interstate)	Construction	Carpenters	1,200
Builders Association of Chicago (Illinois)	Construction	Bricklayers	5,500
Mid-America Regional Bargaining Association (Chicago, IL)	Construction	Carpenters	12,000
Mid-America Regional Bargaining Association and Ceiling and Wall Contractors (Chicago, IL)	Construction	Laborers	7,000
Associated General Contractors, Labor Relations Division and Southwest Michigan Contractors Association (Michigan)	Construction	Carpenters	1,500
Southwest Michigan Contractors Association (Michigan)	Construction	Laborers	1,450
Quad City Builders Association (Illinois and Iowa)	Construction	Laborers	1,100
Associated General Contractors, Oregon–Columbia Chapter (Oregon and Washington)	Construction	Operating Engineers	2,050
Associated General Contractors, Inland Empire Chapter (Interstate)	Construction	Carpenters	2,150
Mid-America Regional Bargaining Association (Chicago, IL)	Construction	Operating Engineers	1,100
Construction Employers of North Central West Virginia (West Virginia)	Construction	Carpenters	1,000
Fox River Valley Contractors Association (Illinois)	Construction	Laborers	1,000
Associated General Contractors and others (Boston, MA)	Construction	Carpenters	3,000
Associated General Contractors (Alabama)	Construction	Various unions	1,950
Associated General Contractors and others (Chicago, IL)	Construction	Laborers	6,000
Michigan Road Builders Association (Michigan)	Construction	Laborers	4,000
Michigan Road Builders Association (Michigan)	Construction	Teamsters (Ind.)	1,000
Associated General Contractors, Idaho Branch (Idaho)	Construction	Various unions	2,050
Associated General Contractors, Oregon–Columbia Chapter (Oregon and Washington)	Construction	Carpenters	3,000
Associated General Contractors, Western and Central Washington (Washington)	Construction	Carpenters	14,000
Associated General Contractors, Inland Empire Chapter (Interstate)	Construction	Laborers	1,000
Associated General Contractors, Seattle and Tacoma Chapters (Washington)	Construction	Laborers	7,000
Associated General Contractors, Inland Empire Chapter (Interstate)	Construction	Operating Engineers	1,000
Associated General Contractors, Seattle and Tacoma Chapters (Washington)	Construction	Operating Engineers	2,500
Underground Contractors Association (Chicago, IL)	Construction	Laborers	1,600
Michigan Road Builders Association (Saginaw, MI)	Construction	Carpenters	1,200
National Electrical Contractors Association (White Plains, NY)	Construction	Electrical Workers (IBEW)	1,300
Sheet Metal Contractors Association (Chicago, IL)	Construction	Sheet Metal Workers	4,000
Associated Steel Erectors (Chicago, IL)	Construction	Iron Workers	1,750
Concrete Contractors Association (Chicago, IL)	Construction	Plasterers and Cement Masons	1,300
Plumbing Contractors Association (Chicago, IL)	Construction	Plumbers	2,500
Mid-America Regional Bargaining Association and Illinois Road Builders (Chicago, IL)	Construction	Teamsters (Ind.)	1,050
Mechanical Contractors Association (Chicago, IL)	Construction	Plumbers	8,000
Painting and Decorating Contractors Association (Michigan)	Construction	Painters	1,300
National Electrical Contractors Association (St. Louis, MO)	Construction	Electrical Workers (IBEW)	2,250
Mechanical Contractors Association, pipefitters (St. Louis, MO)	Construction	Plumbers	1,500

See footnotes at end of table.

Continued—Major Agreements Expiring Next Month

Employer and location	Private industry	Labor organization[1]	Number of workers
National Electrical Contractors Association (Cincinnati, OH)	Construction	Electrical Workers (IBEW)	1,250
Chicago Roofing Contractors Association (Illinois)	Construction	Roofers	1,600
National Electrical Contractors Association (Los Angeles, CA)	Construction	Electrical Workers (IBEW)	6,000
National Electrical Contractors Association, Orange County (California)	Construction	Electrical Workers (IBEW)	1,200
National Electrical Contractors Association (San Francisco, CA)	Construction	Electrical Workers (IBEW)	2,400
National Electrical Contractors Association (Colorado)	Construction	Electrical Workers (IBEW)	1,600
Sheet Metal and Air Conditioning Contractors Association (Washington)	Construction	Sheet Metal Workers	1,400
Mechanical Contractors Association and Air Conditioning Contractors (Cincinnati, OH)	Construction	Plumbers	1,100
Associated General Contractors, commercial agreement (Columbus, OH)	Construction	Carpenters	2,000
Associated General Contractors, residential agreement (Columbus, OH)	Construction	Carpenters	1,000
California and Hawaiian Sugar Co. (California)	Food products	Seafarers	1,000
Wholesale Bakers Group (California)	Food products	Bakery, Confectionery and Tobacco Workers	1,600
Entenmann's (New York)	Food products	Bakery, Confectionery and Tobacco Workers	1,250
Cone Mills Corp., White Oak plant (Greensboro, NC)	Textiles	Clothing and Textile Workers	2,100
Potlatch Corp. (Idaho)	Lumber	Woodworkers	2,300
Roseburg Lumber Co. (Oregon)	Lumber	Various unions	2,800
Willamette Industries, Inc. (Portland, OR)	Lumber	Various unions	1,400
American Forest Products (California)	Lumber	Various unions	1,800
Western States Wood Products Employers Association (Interstate)	Lumber	Various unions	36,000
Champion International Corp. (Pasadena, TX)	Paper	Paperworkers	1,100
Hudson Pulp and Paper Co. (Palatka, FL)	Paper	Paperworkers	1,500
International Paper Co., multiple mill group (Interstate)	Paper	Paperworkers	6,000
Scott Paper Co., Southern division (Mobile, AL)	Paper	Paperworkers	2,500
Union Camp Corp. (Savannah, GA)	Paper	Paperworkers	1,700
Kimberly–Clark Corp. (Neenah, WI)	Paper	Paperworkers	1,300
American Enka Co. (Enka, NC)	Chemicals	Textile Workers	1,100
Owens–Corning Fiberglas Corp. (Aiken, SC)	Stone, clay, and glass products	Teamsters (Ind.)	1,250
Aluminum Co. of America (Interstate)	Primary metals	Aluminum, Brick and Glass Workers	10,000
Aluminum Co. of America (Interstate)	Primary metals	Steelworkers	10,000
Reynolds Metals Co. (Interstate)	Primary metals	Steelworkers	7,900
Reynolds Metals Co. (Interstate)	Primary metals	Aluminum, Brick and Glass Workers	7,500
Ormet Corp. (Hannibal, OH)	Primary metals	Steelworkers	1,000
Aluminum Co. of America (Interstate)	Primary metals	Various unions	1,200
Sunstrand Corp. (Rockford, IL)	Machinery	Auto Workers	1,000
Leviton Manufacturing Co. (Rhode Island)	Electrical products	Electrical Workers (IBEW)	1,500
Maytag Co. (Iowa)	Electrical products	Auto Workers	1,650
White–Westinghouse Corp. (Interstate)	Electrical products	Electrical Workers (IUE)	2,300
United Airlines, flight attendants (Interstate)[2]	Air transportation	Air Line Pilots	8,500
Boston Edison Co. (Massachusetts)	Utilities	Utility Workers	1,650
Niagara Mohawk Power Corp. (New York)	Utilities	Electrical Workers (IBEW)	8,000
Houston Lighting and Power Co. (Texas)	Utilities	Electrical Workers (IBEW)	4,500
Washington Gas Light Co. (Washington, DC)	Utilities	International Union of Gas Workers (Ind.)	2,000
Panhandle Eastern Pipeline Co. (Kansas City, MO)	Utilities	Oil, Chemical and Atomic Workers	1,400
P and C Supermarkets (New York)	Retail trade	Food and Commercial Workers	3,000
Allied Employers, Inc., grocery (Puget Sound, WA)	Retail trade	Food and Commercial Workers	8,000
Food Employers Council (Las Vegas, NV)	Retail trade	Food and Commercial Workers	3,100
Santa Clara City Hospitality Association (California)	Restaurants	Hotel Employees and Restaurant Employees	4,000
Minneapolis Hotels and Motels (Minnesota)	Hotels	Hotel Employees and Restaurant Employees	2,000
Sacramento and vicinity hotel and motel agreement (California)	Hotels	Hotel Employees and Restaurant Employees	2,600

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[1] Affiliated with AFL–CIO except where noted as independent (Ind.).

[2] Information is from newspaper reports.

Developments in Industrial Relations

Meat processing contracts

Recent developments in the meat processing industry centered on the continuing and increasingly bitter strike against Hormel's Austin, MN, plant, but there were more encouraging events elsewhere in the industry, as other United Food and Commercial Workers locals negotiated new agreements.

In Sioux Falls, SD, 2,500 members of the United Food and Commercial Workers Local 304A employed by John Morrell Co. will receive $1 an hour in wage increases over a 3-year contract term, bringing the base or common labor pay rate to $9.75. This was short of the union's $10 an hour goal for its members throughout the industry, but the union still considered it a dramatic rise in view of the company's initial demand for a cut, which was a factor in the 3-month strike that preceded the settlement.

Until 1983, the base rate in the meat processing industry was generally $10.69 an hour for United Food and Commercial Workers. Since then, intensified competition from lower cost nonunion companies, changes in processing and distribution methods, and cuts in consumption of red meat hurt many firms and forced the union to accept a lower pay rate of about $8.25. Following this concession, the union set a goal of restoring the rate to about $10 over the next few years, and has been successful in some recent settlements.

Other terms at Morrell included reduced pay rates for new hires, termination of the profit-sharing plan (the workers were guaranteed a $500 payment in December 1985), and a change in the pension plan permitting workers with 30 years of service to retire at any age (formerly, age 55).

Unlike Morrell, which has been operating at a profit and could guarantee its wage increases, Wilson Foods Corp. has lost money in each of the past 5 years, so the union agreed to a 3-year contract that provides for movement towards the $10 goal to be contingent on profitability. Under the provision, the 2,800 workers will receive annual lump-sum payments ranging from 10 cents per compensated hour if the pretax profit for the year is $2-$4 million, up to 25 cents if the profit is $8 million or more. Unlike most profit-sharing plans, Wilson's calls for the hourly amount used to calculate the lump sum to be incorporated into hourly pay rates after each annual payment and to be paid in subsequent regular weekly paychecks.

In other provisions, the union will be permitted to appoint one person (not an officer or member of the union) to Wilson's board of directors, the company will provide the union with annual certified audits of its finances, and the company president will meet quarterly with union officers to discuss finances and operating strategies that could affect employees at the plants, located in Monmouth, IL, Logansport, IN, Oklahoma City, OK, and Cherokee and Clarinda, IA.

The contract also requires Wilson to give 6 months' notice of plant closings and to guarantee employee work or pay for 1 year after the end of the notice period; continue health insurance for 6 months for employees terminated by the closing of a plant department or larger unit; and provide job relocation assistance and retraining for laid-off employees.

Profit-sharing was a feature of a new contract the United Food and Commercial Workers negotiated with Farmstead Foods plants in Cedar Rapids, IA, and Albert Lea, MN. A company official said that other terms were similar to those at Wilson, which had owned the two plants until 1985, when Wilson sold them to aid its financial condition.

At Farmstead, the profit-sharing rate will range from 10 cents if the annual profit is $1.61–$3.2 million to 25 cents if profits exceed $8.1 million. As at Wilson, an amount equal to the cents per compensated hour will be incorporated into hourly pay rates after each profit-sharing distribution. In a difference from Wilson, the 2,700 Farmstead employees will also receive annual supplemental profit-sharing distributions calculated at 5 to 12.5 cents per hour, depending on the amount by which possible annual profits exceed $3.21 million. The calculation rate for these supplemental distributions will not be incorporated into hourly pay rates.

In addition to job security provisions similar to those at Wilson, the Farmstead contract requires the company to give the union 45 days' notice of any possible sales of assets affecting the jobs of employees in the bargaining unit. The company also stated its "strong desire and objective" that any possible purchasers of the plants retain current employees, assume the current labor agreement, and recog-

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"Developments in Industrial Relations" is prepared by George Ruben of the Division of Developments in Labor-Management Relations, Bureau of Labor Statistics, and is largely based on information from secondary sources.

nize the United Food and Commercial Workers as bargaining agent for the workers.

Elsewhere in the industry, members of United Food and Commercial Workers Local 405 in Goodlettsville, TN, approved a 3-year contract with Oscar Mayer & Co., ending a 4-month strike.

The base rate for production workers was reduced to $10 an hour (from $10.69) matching the level negotiated with other pork processors in 1985. In December 1986, the 575 employees will receive a 25-cent wage increase, which will keep the company at "the high end of the scale for the industry," according to a company representative.

There were reductions in several benefits. Pensions will now be calculated at $17.50 a month for each year of service prior to October 1, 1985. That rate will be reduced to $12 for each year of service during the October 1, 1985-December 31, 1986 period, and then will rise to a $13 rate for later service. Paid vacations also were cut for new employees.

United Steelworkers set bargaining goals

The United Steelworkers are preparing for a heavy round of 1986 bargaining by formulating general goals for the steel, aluminum, metal container, and nonferrous metals industries. The union's Wage Policy Committee said, "the issue of overriding concern to our members must be the safeguarding of employment opportunities, in view of the loss of nearly 500,000 jobs in the industries since 1979."

Specifically, the Committee said bargainers will press for bans on the contracting out of work that can be performed by the union's members and on employers shifting work to their nonunion facilities. Along the same lines, the union also said it will press for more stringent provisions for advance notice and consultation on proposed plant closings.

The union also moved to thwart widespread employer attempts to negotiate concessionary settlements, but admitted that there are "specific situations where the consequences to our members of not accepting concessions are far worse than the consequences of accepting them." Where concessions are necessary, the union said, they must be balanced by assurances that the workers are the beneficiaries rather than the victims of efforts to save a company. Much of this concern was triggered by the 1985 concessionary settlement with Wheeling-Pittsburgh Steel Corp., which gave the union a voice in the plan to save the company, but also led other producers to say that they would seek similar concessions in 1986 to maintain cost parity with Wheeling-Pittsburgh. Other union goals for the four industries include:

- Union surveillance of pension fund investments to prevent the funds from being used for leveraged buyouts of companies.
- Labor-management programs to contain health care cost increases without shifting any of the companies' premium cost to the employees.
- An overhaul of grievance procedures to reduce delays and to penalize employers who repeatedly violate contract provisions.
- Union representatives on company boards "in appropriate circumstances."
- Restrictions on searches, surveillance, and lie-detector tests.

Steelworkers officials from around the Nation have met to decide specific bargaining tactics to be used in the negotiations with steel producers. This meeting was particularly important in this bargaining round because of the end to the 30-year old unified approach to bargaining announced by the companies in 1985. Although the union will now negotiate with the companies individually, indications are that the Steelworkers will attempt to maintain the wage and benefit uniformity that had developed over the years.

In a move to adapt to the new bargaining approach, employees at each company will vote on their proposed agreements. Previously, the 550 local union officers had the sole right to vote on the terms.

Because of the uncertainties of the new bargaining approach, both union and management indicated a desire to start negotiations earlier than in the past, and talks were underway in February at most major companies, where current contracts expire on July 31.

At financially troubled LTV Steel Co., the union agreed to defer until April the final stage of restoration of the temporary pay and benefit cuts workers at its various companies had accepted in 1983 to aid the industry. (Wage restoration was completed in February at the other companies.) In return for the further 3-month delay in restoration, LTV Steel agreed not to implement a scheduled cut in its financing of Supplemental Unemployment Benefits, gave up the right to seek a cut in pensions in the continuing negotiations on a new contract, and agreed not to use nonunion contractors without prior union approval. LTV lost $176 million on operations in the first 9 months of 1985, and wrote off $380 million for closing its large plant in Aliquippa, PA.

Bethlehem Steel Corp. and National Steel Corp. also sought restoration deferrals similar to those at LTV Steel, but the union turned them down, apparently because it did not consider their financial situation to be as critical as that at LTV.

In the copper industry, a coalition of 13 unions headed by the Steelworkers rejected pay cut proposals of the two largest companies. Kennecott Copper Corp. proposed a 4-year contract calling for a one-third cut in compensation, and Newmont Mining Corp. proposed a $6 cut in hourly pay and adoption of a two-tier system of pension and insurance benefits.

Edgar Ball, the Steelworkers' chief copper negotiator, claimed the cuts were not warranted because the companies' problems resulted from the Nation's economic and trade policies, rather than high labor costs.

Ball maintained that Phelps Dodge Corp. was operating at a profit even though compensation at its Arizona operations was $2 an hour less than that at the other companies, which were all operating at a loss. (The company's facilities in Arizona are operating on a nonunion basis after an unsuccessful strike by the unions that began in 1983, when Phelps Dodge refused to accept the industry's pattern settlement.)

Steelworkers contracts in the copper industry generally expire on June 30, 1986. The unions currently represent fewer than 10,000 copper employees, compared with 40,000 a few years ago.

Employee-owned company averts bankruptcy

Employee-owned Hyatt-Clark Industries began moving toward full output of automotive bearings after the employees agreed to concessions, including a 10- to 15-percent wage cut, a slight reduction in benefits, and changes in work assignments and output requirements. According to an official of Auto Worker's Local 736, the contract, scheduled to expire in October 1987, can be reopened earlier if company profits exceed anticipated amounts. Virtually all of the output of the Clark, NJ, plant is sold to General Motors Corp. which sold the plant to the workers in 1981 after 40 years of operation.

The concession settlement was triggered by Hyatt-Clark's inability to pay a note held by a bank. The company then filed for protection under the Federal Bankruptcy Code and a payment schedule was worked out with the bank. At the time, about 90 percent of the 1,100 union-represented workers were on layoff.

Pennsylvania Nurses Association ends strike

The longest strike against the Commonwealth of Pennsylvania since 1975 ended when nurses, pharmacists, and other health care workers represented by the Pennsylvania Nurses Association returned to work at 140 hospitals, health care centers, and prisons. At its peak, the 9-day stoppage involved about 70 percent of the 3,600 workers represented by the Association. A limited number of employees stayed on the job in critical patient-care situations, and managers temporarily filled in for other strikers.

Terms of the new contract were similar to those negotiated by other State employees in 1985. Workers will receive a 3-percent pay increase retroactive to the July 1, 1985, effective date of the 3-year contract, to be followed by additional 3-percent increases on July 1 of 1986 and 1987. According to the Association, the employees averaged $21,800 a year prior to the settlement.

The Association did not win its demand for additional "comparable worth" pay increases, but the State agreed to discussions on the issue. According to the Association, members of the bargaining unit were underpaid relative to State employees in other jobs requiring comparable education, experience, and physical requirements.

The State also agreed to delay and reconsider the downgrading of 600 psychiatric nurses, which would have prevented them from receiving merit pay increases.

Other provisions of the contract eliminated primary and election days as paid holidays and reduced paid sick leave to 13 days a year, from 15.6. For workers hired after July 1, 1985, paid personal leave was reduced to 3 days a year, from 4, and paid vacation time was reduced by 1 week through the seventh year of employment.

Building engineers in New York City settle

Building engineers at 350 New York City office buildings will receive wage increases totaling $90 a week during a 3-year contract between the Reality Advisory Board and the Operating Engineers. The first increase, $32 per week effective January 1, brought the engineers' minimum rate to $564 a week. The other increases are $28.40 on January 1, 1987, and $29.60 on January 1, 1988. For helpers, the initial increase was $25.20, bringing their minimum to $445.20, followed by increases of $22.40 and $23.20 in the second and third years. Chief engineers, mechanics, and other employees not paid according to a set wage scale received a 6-percent initial increase, followed by 5-percent increases in the second and third years.

The accord, covering 2,500 workers, also established a mandatory training program for new employees. They will start at $1.50 an hour below the current minimum helper's rate and, contingent on performance, progress to the minimum in 50-cent steps at 6-month intervals.

The agreement also provided for a 14-cent-an-hour increase (to $1.29) in the employer's financing of health benefits, a 15-cent increase (to 85 cents) in their financing of pensions, and an additional paid holiday, bringing the total to 11 per year.

Unilateral 'wage deferral' contract ruled illegal

In the trucking industry, an employer's attempt to cut costs by unilaterally imposing a wage deferral plan on its union-represented employees was rejected by the Seventh Circuit Court of Appeals. The developments leading to the decision began in 1982, when Manley Truck Lines, Inc., asked the Chicago Truck Drivers Union to incorporate a 12-percent mandatory wage deferral plan into their contract, negotiated earlier in the year. Manley contended the change was necesary to alleviate its financial problems. The union rejected the proposal, but did agree that the company could request individual employees to participate. In 1983, Manley again proposed a mandatory plan with a 15-percent withholding rate. The union again rejected this proposal and agreed that Manley could request individual employees to accept the higher wage deferral. Instead, Manley imposed the 15-percent cut (reduced to 10 percent on July 1, 1983), leading the union to file charges with the National Labor Relations Board contending that Manley's action violated the National Labor Relations Act's proscription of contract modifications without the consent of both parties.

The union's position was sustained by a NLRB administrative law judge and the Board itself, which then asked the Seventh Circuit Court to enforce its cease and desist order.

In its appeal, Manley contended that the unilateral imposition of wage deferral was necessary to avoid bankruptcy, a shutdown, and loss of jobs, which amounted to an "economic necessity" exception to Section 8(d) of the Act.

In its ruling, the Court of Appeals held that an agency such as the NLRB can interpret provisions of its authorizing statute in one of several permissible ways if the interpretation does not conflict with an expressed intent of the Congress. Concluding, the Court said "the language of 8(d) neither expressly conditions its enforcement upon the continuing economic survival of the employer's business, nor invites such a condition."

Local-negotiated accord rejected by parent union

The National Labor Relations Board upheld the Marine and Shipbuilding Worker's repudiation of a concessionary contract its Local 33 had negotiated with Bethlehem Steel Corp.'s Sparrows Point, MD, shipyard. Union President Arthur Batson said the question of regaining lost compensation for the workers was being handled by the union's attorneys and the parties' permanent umpire also could become involved.

The dispute arose in 1984 when Bethlehem asked for concessions, contending that it was losing work to other yards because its labor costs were too high. Local 33 then entered into negotiations with Bethlehem—with permission of the parent union, according to Local 33 President James Harmon, and without permission, according to Batson. The resulting agreement, negotiated 5 months in advance of the expiration of the existing agreement, called for a pay freeze through August 1987, a $2 an hour cut in pay rates for new employees, and for termination of a provision for automatic cost-of-living pay adjustments in return for adoption of a provision for possible quarterly profit-sharing distributions.

The Marine and Shipbuilding Workers union immediately moved to repudiate the accord and remove Local 33 officers from their jobs, but a Federal judge stayed the actions pending a NLRB decision. In the decision approved by the Board, an administrative law judge held that the union's constitution did not empower Batson to give Local 33 the authority to negotiate independently. Continuing, the judge said that even if the international union had somehow managed to waive the constitutional prohibition, the waiver would have had to have been "clear and unmistakable" and because it was not in writing, there was no evidence that a waiver had been granted.

Beginning in 1959, the union had negotiated national contracts with Bethlehem for as many as eight shipyards. Over the years, yards were closed, leaving only the Sparrows Point facility in 1984. Since the repudiated settlement, Sparrows Point has gained additional production contracts, but the number of employees has dropped to 1,200, from 2,200.

Coal miners end strike

A bitter and sometimes violent 15-month strike against the AT Massey Coal Co. ended in December, but there was continuing controversy over the wage and benefit terms that would apply to the workers. The strike began in October 1984, when Massey refused to accept the wage and benefit terms the United Mine Workers had negotiated with the Bituminous Coal Operators Association (BCOA), which set the pattern for most of the organized firms. Further complicating the situation, Massey insisted that each of its subsidiaries should bargain separately, while the union insisted that Massey should bargain as an entity. This led the union to complain to the National Labor Relations Board that Massey was refusing to bargain.

The issue was resolved in December 1985, when Massey agreed to bargain with the union as an entity. Immediately afterward, UMW President Richard Trumka ordered the miners to return to work, contending that all Massey facilities were covered by the BCOA terms because two of the subsidiaries had earlier accepted the BCOA terms. However, company President Morgan E. Massey said that any returning miners would have to work under terms "different from the ones contained in the 1984 National Bituminous Coal Wage Agreement." He also said that some strikers would not be reinstated because they had "engaged in strike misconduct or violence" and because some mines had been shut down. Another uncertainty involved the status of replacement workers the company had hired during the stoppage. The UMW contended that they must be terminated under NLRB rules governing strikes over a refusal to bargain.

The final outcome of the dispute could be delayed for some time as the UMW filed suit in Federal District Court in an attempt to force Massey to abide by the BCOA terms. Meanwhile, some strikers were returning to work at the mines, located in West Virginia, Kentucky, and Pennsylvania.

Grocery workers back on job

About 21,000 meat department, warehouse, and delivery employees of seven Southern California grocery chains returned to work in December after their unions settled with the Food Employers Council, the employers' association. The first break in the 2-month work stoppage came when the Teamsters settled for the 11,000 warehouse and delivery employees. The meat department workers, who are represented by the Food and Commercial Workers, rejected the employer's initial offer, then narrowly approved the second offer that included a two-tier pay system that was less onerous for employees than one the employers had earlier proposed. Management contended that two-tier pay systems and other contract changes were necessary to help them compete effectively with lower cost nonunion stores. According to one union member who criticized the two-tier approach, the six UFCW locals in Southern California had lost 50,000 out of 60,000 members over a 6-year period, primarily as a result of new meat processing and packaging methods.

Under the two-tier system, new meat wrappers will start at $5.53 an hour and progress to a maximum of $7.90 as a meat cutter. Current employees, who earn a maximum of $12.16, were not affected.

In another cost reduction change, markets will be required to have a top-rated meat cutter on duty 8 hours a day, instead of the previous 16 hours.

Other terms, which also applied to the Teamsters members, included no wage change in the first contract year, lump-sum payments of up to $500 in September 1986 and up to $1,000 in September 1987, calculated on employee earnings during the preceding 12 months; a 40- to 45-cent wage increase (40 cents for Teamsters members) in September 1987; suspension of the cost-of-living pay adjustment provision; and improvements in pension and insurance benefits, which varied for the two unions.

Amoco and union reach accord

A round of pattern settlements began in the petroleum refining and distribution industry after American Oil Co. and the Oil, Chemical and Atomic Workers negotiated a 2-year contract. The wage and benefit terms were expected to eventually apply to about 46,000 workers covered by 265 contracts with nearly 100 companies. The union's bargaining strength was diminished somewhat by the worldwide oversupply of petroleum, a factor in the loss of 20,000 jobs including about 10,000 covered by OCAW contracts, in the last 5 years. The OCAW also was faced with the problem that walkouts to enforce its demands are not completely effective because the high degree of automation in the industry permits management to maintain more or less normal operation.

The Amoco accord, which covered 4,000 employees, provided for an immediate $1,000 lump-sum payment and a 2-percent wage increase in January 1987, which amounted to 28 cents an hour based on the industry's reported average hourly earnings of $14.16.

Amoco also agreed to increase its financing of health insurance by $7 a month for family coverage and $2 for single coverage in the first year and by $5 and $1.50, respectively, in the second year.

Among the first companies to settle on pattern contracts were Atlantic Richfield Corp. and Chevron Corp.

Machinists settle after strike

In Connecticut, the first strike against the Pratt Whitney Group since 1960 ended when the company and the Machinists union agreed on a 3-year contract. The 2-week stoppage involved operations in Middletown, North Haven, and Southington. Workers at the main plant, in East Hartford, did not participate in the strike but were covered by the wage and benefit terms of the new contract.

The contract provided for two immediate lump-sum payments, one of $300 and the other equal to 3.5 percent of 1985 earnings, or about $700, according to the union. In November 1986, the 15,000 workers will receive another lump-sum payment calculated at 3.5 percent of the prior 12 months' earnings, followed by a 3-percent pay increase in November 1987.

Improvements also were made in the savings plan and in insurance.

Changes were also made in job security provisions, reflecting the union's concern over the reported loss of 8,500 jobs in the past 5 years as a result of technological change and the scheduled elimination of 1,200 jobs during the next 12 months.

One change provides for the company to pay up to 75 percent of the cost of retraining displaced workers. Other changes limit the company's right to farm out work that could be performed by bargaining unit members and require the company to post all available jobs for bidding by qualified workers.

Armstrong contract to improve productivity

In Lancaster, PA, nearly 1,900 employees of Armstrong World Industries Inc. flooring plant were covered by new 1-year agreements. One agreement, for 1,600 production workers, was negotiated by the United Rubber Workers and the other, for machine operators and maintenance employees, was negotiated by the Machinists union.

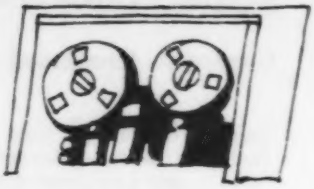
Wage terms included a 5-percent immediate increase, which reportedly averaged 45 cents an hour for production workers and 60 cents for skilled workers. There also were changes in transfer, seniority, attendance, and other provisions "designed to improve plant productivity," according to a company official.

Safeway employees get new contract

In the Kansas City, MO, area, more than 1,200 employees of Safeway Stores Inc. negotiated a 2-year contract that provided for a $500 lump-sum payment effective immediately and a 4-percent wage increase effective July 13, 1986. The wage increase will bring the base rate for food clerks to $9.68 an hour, partly restoring the $2 an hour wage cut the employees took in their prior settlement.

Insurance improvements for the employees, who are represented by the United Food and Commercial Workers, included addition of "well-baby" coverage, annual payments of up to $100 for physical examinations, and extension of coverage to organ and tissue transplant procedures. □

Current Labor Statistics



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Schedule of release dates for BLS statistical series

Series	Release date	Period coverd	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	April 4	March	May 2	April	June 6	May	1; 4-21
Producer Price Index	April 11	March	May 16	April	June 13	May	2; 33-35
Consumer Price Index	April 22	March	May 21	April	June 20	May	2; 30-32
Real earnings	April 22	March	May 21	April	June 20	May	14-17
Major collective bargaining settlements	April 25	1st quarter					3; 25-28
Productivity and costs:							
Nonfarm business and manufacturing	April 28	1st quarter					2; 42-44
Nonfinancial corporations			May 29	1st quarter			2; 42-44
Employment Cost Index	April 29	1st quarter					1-3; 22-24

NOTES ON CURRENT LABOR STATISTICS

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics: series on labor force, employment, unemployment, collective bargaining settlements, consumer, producer, and international prices, productivity, international comparisons, and injury and illness statistics. In the notes that follow, the data in each group of tables is briefly described, key definitions are given, notes on the data are set forth, and sources of additional information are cited.

General notes

The following notes apply to several tables in this section:

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect on the data of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might prevent short-term evaluation of the statistical series. Tables containing data that have been adjusted are identified as "seasonally adjusted." (All other data are not seasonally adjusted.) Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. (Seasonally adjusted data appear in tables 1–3, 4–10, 13, 14, and 18.) Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are being seasonally adjusted with a new procedure called X–11 ARIMA, which was developed at Statistics Canada as an extension of the standard X–11 method previously used by BLS. A detailed description of the procedure appears in *The X–11 ARIMA Seasonal Adjustment Method* by Estla Bee Dagum (Statistics Canada, Catalogue No. 12–564E, January 1983). The second change is that seasonal factors are now being calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year for the July-December period. However, revisions of historical data continue to be made only at the end of each calendar year.

Seasonally adjusted labor force data in tables 1 and 4–10 were revised in the February 1986 issue of the *Review*, to reflect experience through 1985.

Annual revisions of the seasonally adjusted payroll data shown in tables 13, 14, and 18 were made in July 1985 using the X–11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in table 42 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the Hourly Earnings Index in table 17—are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is $2 ($3/150 × 100 = $2). The $2 (or any other resulting values) are described as "real," "constant," or "1967" dollars.

Additional information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule preceding these general notes. More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in *Employment and Earnings*, a monthly publication of the Bureau. More data from the household survey is published in the two-volume data book—*Labor Force Statistics Derived From the Current Population Survey*, Bulletin 2096. More data from the establishment survey appears in two data books—*Employment, Hours, and Earnings, United States*, and *Employment, Hours, and Earnings, States and Areas*, and the annual supplements to these data books. More detailed information on employee compensation and collective bargaining settlements is published in the monthly periodical, *Current Wage Developments*. More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report*, and *Producer Prices and Price Indexes*. Detailed data on all of the series in this section are provided in the *Handbook of Labor Statistics*, which is published biennally by the Bureau. BLS bulletins are issued covering productivity, injury and illness, and other data in this section. Finally, the *Monthly Labor Review* carries analytical articles on annual and longer term developments in labor force, employment and unemployment; employee compensation and collective bargaining; prices; productivity; international comparisons; and injury and illness data.

Symbols

p = preliminary. To increase the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally, this revision reflects the availability of later data but may also reflect other adjustments.
n.e.c. = not elsewhere classified.
n.e.s. = not elsewhere specified.

COMPARATIVE INDICATORS
(Tables 1–3)

Comparative indicators tables provide an overview and comparison of major BLS statistical series. Consequently, although many of the included series are available monthly, all measures in these comparative tables are presented quarterly and annually.

Labor market indicators include employment measures from two major surveys and information on rates of change in compensation provided by the Employment Cost Index (ECI) program. The labor force participation rate, the employment-to-population ratio, and unemployment rates for major demographic groups based on the Current Population ("household") Survey are presented, while measures of employment and average weekly hours by major industry sector are given using nonagricultural payroll data. The Employment Cost Index (compensation), by major sector and by bargaining status, is chosen from a variety of BLS compensation and wage measures because it provides a comprehensive measure of employer costs for hiring labor, not just outlays for wages, and it is not affected by employment shifts among occupations and industries.

Data on **changes in compensation, prices, and productivity** are presented in table 2. Measures of rates of change of compensation and wages from the Employment Cost Index program are provided for all civilian

nonfarm workers (excluding Federal and household workers) and for all private nonfarm workers. Measures of changes in: consumer prices for all urban consumers; producer prices by stage of processing; and the overall export and import price indexes are given. Measures of productivity (output per hour of all persons) are provided for major sectors.

Alternative measures of wage and compensation rates of change, which reflect the overall trend in labor costs, are summarized in table 3. Differences in concepts and scope, related to the specific purposes of the series, contribute to the variation in changes among the individual measures.

Notes on the data

Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data. For detailed descriptions of each data series, see BLS *Handbook of Methods*, Volumes I and II, Bulletins 2134–1 and 2134–2 (Bureau of Labor Statistics, 1982 and 1984, respectively), as well as the additional bulletins, articles, and other publications noted in the separate sections of the *Review*'s "Current Labor Statistics Notes." Historical data for many series are provided in the *Handbook of Labor Statistics, Bulletin 2217* (Bureau of Labor Statistics, 1985). Users may also wish to consult *Major Programs, Bureau of Labor Statistics*, Report 718 (Bureau of Labor Statistics, 1985).

EMPLOYMENT DATA

(Tables 1; 4–21)

Household survey data

Description of the series

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 59,500 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons include (1) all civilians who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. Members of the Armed Forces stationed in the United States are also included in the employed total. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **overall unemployment rate** represents the number unemployed as a percent of the labor force, including the resident Armed Forces. The **civilian unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **labor force** consists of all employed or unemployed civilians plus members of the Armed Forces stationed in the United States. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons who are retired, those engaged in their own housework, those not working while attending school, those unable to work because of long-term illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy, and members of the Armed Forces stationed in the United States. The **labor force participation rate** is the proportion of the noninstitutional population that is in the labor force. The **employment-population ratio** is total employment (including the resident Armed Forces) as a percent of the noninstitutional population.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 4–10 are seasonally adjusted, based on the seasonal experience through December 1984.

Additional sources of information

For detailed explanations of the data, see BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 1, and for additional data, *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). A detailed description of the Current Population Survey as well as additional data are available in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*. Historical data from 1948 to 1982 are available in *Labor Force Statistics Derived from the Current Population Survey: A Databook*, Vols. I and II, Bulletin 2096 (Bureau of Labor Statistics, 1982).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

Establishment survey data

Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by more than 200,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

An **establishment** is an economic unit which produces goods or services (such as a factory or store) at a single location and is engaged in one type of economic activity.

Employed persons are all persons who received pay (including holiday

and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 12–16 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in the following industries: transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for about four-fifths of the total employment on private nonagricutural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earner and Clerical Workers (CPI-W). The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

The Diffusion Index, introduced in the May 1983 *Review*, represents the percent of 185 nonagricultural industries in which employment was rising over the indicated period. One-half of the industries with unchanged employment are counted as rising. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. The diffusion index is useful for measuring the dispersion of economic gains or losses and is also an economic indicator.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of May 1985 data, published in the July 1985 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Unadjusted data have been revised back to April 1983; seasonally adjusted data have been revised back to January 1980. These revisions were published in the *Supplement to Employment and Earnings* (Bureau of Labor Statistics, 1985). Unadjusted data from April 1984 forward, and seasonally adjusted data from January 1981 forward are subject to revision in future benchmarks.

Additional sources of information

Detailed data from the establishment survey are published monthly in the BLS periodical, *Employment and Earnings*. Earlier comparable unadjusted and seasonally adjusted data are published in *Employment, Hours, and Earnings, United States, 1909–84*, Bulletin 1312–12 (Bureau of Labor Statistics, 1985) and its annual supplement. For a detailed discussion of the methodology of the survey, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 2. For additional data, see *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

Unemployment data by State

Description of the series

Data presented in this section are obtained from two major sources—the Current Population Survey (CPS) and the Local Area Unemployment Statistics (LAUS) program, which is conducted in cooperation with State employment security agencies.

Monthly estimates of the labor force, employment, and unemployment for States and sub-State areas are a key indicator of local economic conditions and form the basis for determining the eligibility of an area for benefits under Federal economic assistance programs such as the Job Training Partnership Act and the Public Works and Economic Development Act. Insofar as possible, the concepts and definitions underlying these data are those used in the national estimates obtained from the CPS.

Notes on the data

Data refer to State of residence. Monthly data for 11 States—California, Florida, Illinois, Massachusetts, Michigan, New York, New Jersey, North Carolina, Ohio, Pennsylvania, and Texas—are obtained directly from the CPS, because the size of the sample is large enough to meet BLS standards of reliability. Data for the remaining 39 States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates for the 11 States are revised to new population controls. For the remaining States and the District of Columbia, data are benchmarked to annual average CPS levels.

Additional sources of information

Information on the concepts, definitions, and technical procedures used to develop labor force data for States and sub-State areas as well as additional data on sub-States are provided in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*, and the annual report, *Geographic Profile of Employment and Unemployment* (Bureau of Labor Statistics). See also *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 4.

COMPENSATION AND WAGE DATA

(Tables 1–3; 22–29)

COMPENSATION AND WAGE DATA are gathered by the Bureau from business establishments, State and local governments, labor unions, collective bargaining agreements on file with the Bureau, and secondary sources.

Employment Cost Index

Description of the series

The **Employment Cost Index** (ECI) is a quarterly measure of the rate of change in compensation per hour worked and includes wages, salaries, and employer costs of employee benefits. It uses a fixed market basket of labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over time in employer costs of employing labor. The index is not seasonally adjusted.

Statistical series on total compensation costs and on wages and salaries are available for private nonfarm workers excluding proprietors, the self-employed, and household workers. Both series are also available for State and local government workers and for the civilian nonfarm economy, which consists of private industry and State and local government workers combined. Federal workers are excluded.

The Employment Cost Index probability sample consists of about 2,200 private nonfarm establishments providing about 12,000 occupational observations and 700 State and local government establishments providing

3,500 occupational observations selected to represent total employment in each sector. On average, each reporting unit provides wage and compensation information on five well-specified occupations. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Fixed employment weights from the 1970 Census of Population are used each quarter to calculate the indexes for civilian, private, and State and local governments. These fixed weights, also used to derive all of the industry and occupation series indexes, ensure that changes in these indexes reflect only changes in compensation, not employment shifts among industries or occupations with different levels of wages and compensation. For the bargaining status, region, and metropolitan/nonmetropolitan area series, however, employment data by industry and occupation are not available from the census. Instead, the 1970 employment weights are reallocated within these series each quarter based on the current sample. Therefore, these indexes are not strictly comparable to those for the aggregate, industry, and occupation series.

Definitions

Total compensation costs include wages, salaries, and the employer costs for employee benefits.

Wages and salaries consist of earnings before payroll deductions, including production bonuses, incentive earnings, commissions, and cost-of-living adjustments.

Benefits include the cost to employers for paid leave, supplemental pay (including nonproduction bonuses), insurance, retirement and savings plans, and legally required benefits (such as social security, workers' compensation, and unemployment insurance).

Excluded from wages and salaries and employee benefits are such items as payment-in-kind, free room and board, and tips.

Notes on the data

The Employment Cost Index data series began in the fourth quarter of 1975, with the quarterly percent change in wages and salaries in the private nonfarm sector. Data on employer costs for employee benefits were included in 1980 to produce, when combined with the wages and salaries series, a measure of the percent change in employer costs for employee total compensation. State and local government units were added to the ECI coverage in 1981, providing a measure of total compensation change in the *civilian* nonfarm economy (excluding Federal employees). Historical indexes (June 1981=100) of the quarterly rates of change are presented in the May issue of the BLS monthly periodical, *Current Wage Developments*.

Additional sources of information

For a more detailed discussion of the Employment Cost Index, see Chapter 11, "The Employment Cost Index," in the *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 11, and the following *Monthly Labor Review* articles: "Employment Cost Index: a measure of change in the 'price of labor'," July 1975; "How benefits will be incorporated into the Employment Cost Index," January 1978; "Estimation procedures for the Employment Cost Index," May 1982; and "Introducing new weights for the Employment Cost Index," June 1985.

Data on the ECI are also available in BLS quarterly press releases issued in the month following the reference months of March, June, September, and December; and from the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

Collective bargaining settlements

Description of the series

Collective bargaining settlements data provide statistical measures of negotiated adjustments (increases, decreases, and freezes) in compensation (wages and benefits costs) and wages alone, quarterly for private industry and semiannually for State and local government. Compensation measures cover all collective bargaining situations involving 5,000 workers or more and wage measures cover all situations involving 1,000 workers or more. These data, covering private nonagricultural industries and State and local governments, are calculated using information obtained from bargaining agreements on file with the Bureau, parties to the agreements, and secondary sources, such as newspaper accounts. The data are not seasonally adjusted.

Settlement data are measured in terms of future specified adjustments: those that will occur within 12 months after contract ratification—first year—and all adjustments that will occur over the life of the contract expressed as an average annual rate. Adjustments are worker weighted. Both first-year and over-the-life measures exclude wage changes that may occur under cost-of-living clauses that are triggered by future movements in the Consumer Price Index.

Effective wage adjustments measure all adjustments occurring in the reference period, regardless of the settlement date. Included are changes from settlements reached during the period, changes deferred from contracts negotiated in earlier periods, and changes under cost-of-living adjustment clauses. Each wage change is worker weighted. The changes are prorated over all workers under agreements during the reference period yielding the average adjustment.

Definitions

Wage rate changes are calculated by dividing newly negotiated wages by the average hourly earnings, excluding overtime, at the time the agreement is reached. Compensation changes are calculated by dividing the change in the value of the newly negotiated wage and benefit package by existing average hourly compensation, which includes the cost of previously negotiated benefits, legally required social insurance programs, and average hourly earnings.

Compensation changes are calculated by placing a value on the benefit portion of the settlements at the time they are reached. The cost estimates are based on the assumption that conditions existing at the time of settlement (for example, methods of financing pensions or composition of labor force) will remain constant. The data, therefore, are measures of negotiated changes and not of total changes in employer cost.

Contract duration runs from the effective date of the agreement to the expiration date or first wage reopening date, if applicable. Average annual percent changes over the contract term take account of the compounding of successive changes.

Notes on the data

Care should be exercised in comparing the size and nature of the settlements in State and local government with those in the private sector because of differences in bargaining practices and settlement characteristics. A principal difference is the incidence of cost-of-living adjustment (COLA) clauses which cover only about 2 percent of workers under a few local government settlements, but cover 50 percent of workers under private sector settlements. Agreements without COLA's tend to provide larger specified wage increases than those with COLA's. Another difference is that State and local government bargaining frequently excludes pension benefits which are often prescribed by law. In the private sector, in contrast, pensions are typically a bargaining issue.

Additional sources of information

For a more detailed discussion on the series, see of the *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 10. Comprehensive data are published in press releases issued quarterly (in January, April, July, and October) for private industry, and semi-

annually (in February and August) for State and local government. Historical data and additional detailed tabulations for the prior calendar year appear in the April issue of the BLS monthly periodical, *Current Wage Developments*.

Work stoppages

Description of the series

Data on **work stoppages** measure the number and duration of major strikes or lockouts (involving 1,000 workers or more) occurring during the month (or year), the number of workers involved, and the amount of time lost because of stoppage.

Data are largely from newspaper accounts and cover only establishments directly involved in a stoppage. They do not measure the indirect or secondary effect of stoppages on other establishments whose employees are idle owing to material shortages or lack of service.

Definitions

Number of stoppages: The number of strikes and lockouts involving 1,000 workers or more and lasting a full shift or longer.

Workers involved: The number of workers directly involved in the stoppage.

Number of days idle: The aggregate number of work days lost by workers involved in the stoppages.

Days of idleness as a percent of estimated working time: Aggregate work days lost as a percent of the aggregate number of standard work days in the period multiplied by total employment in the period.

Notes on the data

This series is not comparable with the one terminated in 1981 that covered strikes involving six workers or more.

Additional sources of information

Data for each calendar year are reported in a BLS press release issued in the first quarter of the following year. Monthly data appear in the BLS monthly periodical, *Current Wage Developments*. Historical data appear in the *BLS Handbook of Labor Statistics*.

Other compensation data

Other BLS data on pay and benefits, not included in the Current Labor Statistics section of the *Monthly Labor Review*, appear in and consist of the following:

Industry Wage Surveys provide data for specific occupations selected to represent an industry's wage structure and the types of activities performed by its workers. The Bureau collects information on weekly work schedules, shift operations and pay differentials, paid holiday and vacation practices, and information on incidence of health, insurance, and retirement plans. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Monthly Labor Review*.

Area Wage Surveys annually provide data for selected office, clerical, professional, technical, maintenance, toolroom, powerplant, material movement, and custodial occupations common to a wide variety of industries in the areas (labor markets) surveyed. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Review*.

The National Survey of Professional, Administrative, Technical, and Clerical Pay provides detailed information annually on salary levels and distributions for the types of jobs mentioned in the survey's title in private employment. Although the definitions of the jobs surveyed reflect the duties and responsibilities in private industry, they are designed to match specific pay grades of Federal white-collar employees under the General Schedule pay system. Accordingly, this survey provides the legally required information for comparing the pay of salaried employees in the Federal civil service with pay in private industry. (See Federal Pay Comparability Act of 1970, 5 U.S.C. 5305.) Data are published in a BLS news release issued in the summer and in a bulletin each fall; summaries and analytical articles also appear in the *Review*.

Employee Benefits Survey provides nationwide information on the incidence and characteristics of employee benefit plans in medium and large establishments in the United States, excluding Alaska and Hawaii. Data are published in an annual BLS news release and bulletin, as well as in special articles appearing in the *Review*.

PRICE DATA
(Tables 2; 30–41)

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Consumer Price Indexes

Description of the series

The **Consumer Price Index** (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI–W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all urban consumer index (CPI–U) introduced in 1978 is representative of the 1972–73 buying habits of about 80 percent of the noninstitutional population of the United States at that time, compared with 40 percent represented in the CPI–W. In addition to wage earners and clerical workers, the CPI–U covers professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items are kept essentially unchanged between major revisions so that only price changes will be measured. All taxes directly associated with the purchase and use of items are included in the index.

Data collected from more than 24,000 retail establishments and 24,000 tenants in 85 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 28 major urban centers are presented in table 31. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

Notes on the data

In January 1983, the Bureau changed the way in which homeownership costs are measured for the CPI–U. A rental equivalence method replaced the

asset-price approach to homeownership costs for that series. In January 1985, the same change was made in the CPI-W. The central purpose of the change was to separate shelter costs from the investment component of homeownership so that the index would reflect only the cost of shelter services provided by owner-occupied homes.

Additional sources of information

For a discussion of the general method for computing the CPI, see *BLS Handbook of Methods, Volume II, The Consumer Price Index*, Bulletin 2134–2 (Bureau of Labor Statistics, 1984). The recent change in the measurement of homeownership costs is discussed in Robert Gillingham and Walter Lane, "Changing the treatment of shelter costs for homeowners in the CPI," *Monthly Labor Review*, June 1982, pp. 9–14.

Additional detailed CPI data and regular analyses of consumer price changes are provided in the *CPI Detailed Report*, a monthly publication of the Bureau. Historical data for the overall CPI and for selected groupings may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

Producer price indexes

Description of the series

Producer Price Indexes (PPI) measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 60,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The stage of processing structure of Producer Price Indexes organizes products by class of buyer and degree of fabrication (that is, finished goods, intermediate goods, and crude materials). The traditional commodity structure of PPI organizes products by similarity of end-use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

Since January 1976, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

Notes on the data

Beginning with the January 1986 issue, the *Review* is no longer presenting tables of Producer Price Indexes for commodity groupings, special composite groups, or SIC industries. However, these data will continue to be presented in the Bureau's monthly publication *Producer Price Indexes*. Series on the net output of major mining and manufacturing industry groups will appear in the *Review* starting with data for July 1986.

The Bureau has completed the first major stage of its comprehensive overhaul of the theory, methods, and procedures used to construct the Producer Price Indexes. Changes include the replacement of judgment sampling with probability sampling techniques; expansion to systematic coverage of the net output of virtually all industries in the mining and manufacturing sectors; a shift from a commodity to an industry orientation; the exclusion of imports from, and the inclusion of exports in, the survey universe; and the respecification of commodities priced to conform to Bureau of the Census definitions. These and other changes have been phased in gradually since 1978. The result is a system of indexes that is easier to use in conjunction with data on wages, productivity, and employment and other series that are organized in terms of the Standard Industrial Classification and the Census product class designations.

Additional sources of information

For a discussion of the methodology for computing Producer Price Indexes, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 7.

Additional detailed data and analyses of price changes are provided monthly in *Producer Price Indexes*. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

International price indexes

Description of the series

The BLS **International Price Program** produces quarterly export and import price indexes for nonmilitary goods traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national income accounts: it includes corporations, businesses, and individuals but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents. With publication of an all-import index in February 1983 and an all-export index in February 1984, all U.S. merchandise imports and exports now are represented in these indexes. The reference period for the indexes is 1977 = 100, unless otherwise indicated.

The product universe for both the import and export indexes includes raw materials, agricultural products, semifinished manufactures, and finished manufactures, including both capital and consumer goods. Price data for these items are collected quarterly by mail questionnaire. In nearly all cases, the data are collected directly from the exporter or importer, although in a few cases, prices are obtained from other sources.

To the extent possible, the data gathered refer to prices at the U.S. border for exports and at either the foreign border or the U.S. border for imports. For nearly all products, the prices refer to transactions completed during the first 2 weeks of the third month of each calendar quarter—March, June, September, and December. Survey respondents are asked to indicate all discounts, allowances, and rebates applicable to the reported prices, so that the price used in the calculation of the indexes is the actual price for which the product was bought or sold.

In addition to general indexes of prices for U.S. exports and imports, indexes are also published for detailed product categories of exports and imports. These categories are defined by the 4- and 5-digit level of detail of the Standard Industrial Trade Classification System (SITC). The calculation of indexes by SITC category facilitates the comparison of U.S. price trends and sector production with similar data for other countries. Detailed indexes are also computed and published on a Standard Industrial Classification (SIC-based) basis, as well as by end-use class.

Notes on the data

The export and import price indexes are weighted indexes of the Laspeyeres type. Price relatives are assigned equal importance within each weight category and are then aggregated to the SITC level. The values assigned to each weight category are based on trade value figures compiled

by the Bureau of the Census. The trade weights currently used to compute both indexes relate to 1980.

Because a price index depends on the same items being priced from period to period, it is necessary to recognize when a product's specifications or terms of transaction have been modified. For this reason, the Bureau's quarterly questionnaire requests detailed descriptions of the physical and functional characteristics of the products being priced, as well as information on the number of units bought or sold, discounts, credit terms, packaging, class of buyer or seller, and so forth. When there are changes in either the specifications or terms of transaction of a product, the dollar value of each change is deleted from the total price change to obtain the "pure" change. Once this value is determined, a linking procedure is employed which allows for the continued repricing of the item.

For the export price indexes, the preferred pricing basis is f.a.s. (free alongside ship) U.S. port of exportation. When firms report export prices f.o.b. (free on board), production point information is collected which enables the Bureau to calculate a shipment cost to the port of exportation.

An attempt is made to collect two prices for imports. The first is the import price f.o.b. at the foreign port of exportation, which is consistent with the basis for valuation of imports in the national accounts. The second is the import price c.i.f. (cost, insurance, and freight) at the U.S. port of importation, which also includes the other costs associated with bringing the product to the U.S. border. It does not, however, include duty charges.

Additional sources of information

For a discussion of the general method of computing International Price Indexes, see BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 8.

Additional detailed data and analyses of international price developments are presented in the Bureau's quarterly publication *U.S. Import and Export Price Indexes* and in occasional *Monthly Labor Review* articles prepared by BLS analysts. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

PRODUCTIVITY DATA
(Tables 2; 42–47)

U. S. productivity and related data

Description of the series

The productivity measures relate real physical output to real input. As such, they encompass a family of measures which include single factor input measures, such as output per unit of labor input (output per hour) or output per unit of capital input, as well as measures of multifactor productivity (output per unit of labor and capital inputs combined). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

Corresponding indexes of hourly compensation, unit labor costs, unit nonlabor payments, and prices are also provided.

Definitions

Output per hour of all persons (labor productivity) is the value of goods and services in constant prices produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the value of goods and services in constant dollars produced per unit of capital services input.

Multifactor productivity is the ratio output per unit of labor and capital inputs combined. Changes in this measure reflect changes in a number of factors which affect the production process such as changes in technology, shifts in the composition of the labor force, changes in capacity utilization, research and development, skill and efforts of the work force, management, and so forth. Changes in the output per hour measures reflect the impact of these factors as well as the substitution of capital for labor.

Compensation per hour is the wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, and the wages, salaries, and supplementary payments for the self-employed (except for nonfinancial corporations in which there are no self-employed)—the sum divided by hours paid for. **Real compensation per hour** is compensation per hour deflated by the change in the Consumer Price Index for All Urban Consumers.

Unit labor costs is the labor compensation costs expended in the production of a unit of output and is derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from current dollar value of output and dividing by output. **Unit nonlabor costs** contain all the components of unit nonlabor payments *except* unit profits.

Unit profits include corporate profits and the value of inventory adjustments per unit of output.

Hours of all persons are the total hours paid of payroll workers, self-employed persons, and unpaid family workers.

Capital services is the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories—weighted by rental prices for each type of asset.

Labor and capital inputs combined are derived by combining changes in labor and capital inputs with weights which represent each component's share of total output. The indexes for capital services and combined units of labor and capital are based on changing weights which are averages of the shares in the current and preceding year (the Tornquist index-number formula).

Notes on the data

Output measures for the business sector and the nonfarm businesss sector exclude the constant dollar value of owner-occupied housing, rest of world, households and institutions, and general government output from the constant dollar value of gross national product. The measures are derived from data supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are developed from data of the Bureau of Labor Statistics and the Bureau of Economic Analysis.

The productivity and associated cost measures in tables 42–44 describe the relationship between output in real terms and the labor time and capital services involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input. Although these measures relate output to hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; capital investment; level of output; utilization of capacity, energy, and materials; the organization of production; managerial skill; and the characteristics and efforts of the work force.

Additional sources of information

Descriptions of methodology underlying the measurement of output per hour and multifactor productivity are found in the BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 13. Historical data for selected industries are provided in the Bureau's *Handbook of Labor Statistics*, 1985, Bulletin 2217.

International comparisons

Description of the series

Comparative measures of labor force, employment, and unemployment (tables 45 and 46) are prepared regularly for the United States, Canada, Australia, Japan, France, Germany, Great Britain, Italy, the Netherlands, and Sweden. Unemployment rates, approximating U.S. concepts, are prepared monthly for most of the countries; the other measures, annually.

The Bureau of Labor Statistics also prepares international comparisons of manufacturing labor productivity and labor costs (table 47) that cover the United States and 11 foreign countries—those listed above plus Belgium and Norway. These measures are limited to trend comparisons; that is, intercountry series of changes over time, rather than level comparisons because reliable international comparisons of the levels of manufacturing are unavailable. The U.S. measures are described in the notes on U.S. productivity measurement; the measures for foreign countries are compiled from various national and international data sources.

Definitions

Output measures are constant value output (value added) from the national accounts of each country, except for those for Japan prior to 1970 and for the Netherlands for 1969 forward, which are indexes of industrial production. The national accounting methods for measuring real output differ considerably among the 12 countries, but the use of different procedures does not, in itself, connote lack of comparability—rather, it reflects differences among countries in the availability and reliability of underlying data series.

Hours and compensation measures refer to all employed persons including the self-employed in the United States and Canada, and to all wage and salary employees in the other countries. *Hours* refer to hours *paid* in the United States, hours *worked* in the other countries. *Compensation (labor costs)* includes not only all payments made directly to employees and employer expenditures for social insurance and private benefit plans, but changes in significant employment or payroll taxes that are not compensation to employees but are labor costs to employers (France, Sweden, and the United Kingdom). Self-employed workers are included in the U.S. and Canadian figures by assuming that their hourly compensation is equal to the average for wage and salary employees.

Notes on the data

The data for the foreign countries in tables 45 and 46 have been adjusted, where necessary, for greater comparability with U.S. definitions of employment and unemployment. The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country. Therefore, the adjusted statistics relate to the civilian population age 16 and over in the United States, France, and Sweden, and from 1973 forward, Great Britain; 15 and over in Canada, Australia, Japan, Germany, and the Netherlands; and 14 and over in Italy. Prior to 1973, the data for Great Britain related to persons age 15 and over. The institutional population is included in the denominator of the labor force participation rates and employment-population ratios for Japan and Germany.

For most of the countries in table 47, the measures refer to total manufacturing as defined by the International Standard Industrial Classification. However, the measures for France (beginning 1959), Italy (beginning 1970), and the United Kingdom (beginning 1976) refer to manufacturing and mining less energy-related products. For all countries, manufacturing includes the activities of government enterprises.

In addition, for all countries, preliminary estimates for recent years are generally based on current indicators of manufacturing output, employment and hours, and hourly compensation until national accounts and other statistics used for the long-term measures become available.

Additional sources of information

For further information, see *International Comparisons of Unemployment*, Bulletin 1979 (Bureau of Labor Statistics, 1978), Appendix B and Supplements to Appendix B. Additional detail is also found in the BLS *Handbook of Methods*, Bulletin 2134–1, (Bureau of Labor Statistics, 1982), chapter 16. Additional international comparison statistics are available in the *Handbook of Labor Statistics* Bulletin 2217 (Bureau of Labor Statistics, 1985). The most recent statistics are presented and analyzed annually in the *Monthly Labor Review*, typically in the December issue (for the previous year) and in February.

OCCUPATIONAL INJURY AND ILLNESS DATA

(Table 48)

Description of the series

The Annual Survey of Occupational Injuries and Illnesses is designed to collect data on injuries and illnesses based on records which employers in the following industries maintain under the Occupational Safety and Health Act of 1970: agriculture, forestry, and fishing; oil and gas extraction; construction; manufacturing; transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. Excluded from the survey are self-employed individuals, farmers with fewer than 11 employees, employers regulated by other Federal safety and health laws, and Federal, State, and local government agencies.

Because the survey is a Federal–State cooperative program and the data must meet the needs of participating State agencies, an independent sample is selected for each State. The sample is selected to represent all private industries in the States and territories. The sample size for the survey is dependent upon (1) the characteristics for which estimates are needed; (2) the industries for which estimates are desired; (3) the characteristics of the population being sampled; (4) the target reliability of the estimates; and (5) the survey design employed.

While there are many characteristics upon which the sample design could be based, the total recorded case incidence rate is used because it is one of the most important characteristics and the least variable; therefore, it requires the smallest sample size.

The survey is based on stratified random sampling with a Neyman allocation and a ratio estimator. The characteristics used to stratify the establishments are the Standard Industrial Classification (SIC) code and size of employment.

Definitions

Recordable occupational injuries and illnesses are: (1) occupational deaths, regardless of the time between injury and death, or the length of the illness; or (2) nonfatal occupational illnesses; or (3) nonfatal occupational injuries which involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment (other than first aid).

Occupational injury is any injury such as a cut, fracture, sprain, amputation, and so forth, which results from a work accident or from exposure involving a single incident in the work environment.

Occupational illness is an abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. It includes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion, or direct contact.

Lost workday cases are cases which involve days away from work, or days of restricted work activity, or both.

Lost workday cases involving restricted work activity are those cases which result in restricted work activity only.

Lost workdays away from work are the number of workdays (consecutive or not) on which the employee would have worked but could not because of occupational injury or illness.

Lost workdays—restricted work activity are the number of workdays (consecutive or not) on which, because of injury or illness: (1) the employee was assigned to another job on a temporary basis; or (2) the employee worked at a permanent job less than full time; or (3) the employee worked at a permanently assigned job but could not perform all duties normally connected with it.

The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked even though able to work.

Incidence rates represent the number of injuries and/or illnesses or lost workdays per 100 full-time workers.

Notes on the data

Estimates are made for industries and employment-size classes and for severity classification: fatalities, lost workday cases, and nonfatal cases without lost workdays. Lost workday cases are separated into those where the employee would have worked but could not and those in which work activity was restricted. Estimates of the number of cases and the number of days lost are made for both categories.

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses, or lost workdays, per 100 full-time employees. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Only a few of the available measures are included in the *Handbook of Labor Statistics*. Full detail is presented in the annual bulletin, *Occupational Injuries and Illnesses in the United States, by Industry*.

Comparable data for individual States are available from the BLS Office of Occupational Safety and Health Statistics.

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration, respectively. Data from these organizations are included in BLS and State publications. Federal employee experience is compiled and published by the Occupational Safety and Health Administration. Data on State and local government employees are collected by about half of the States and territories; these data are not compiled nationally.

Additional sources of information

The Supplementary Data System provides detailed information describing various factors associated with work-related injuries and illnesses. These data are obtained from information reported by *employers* to State workers' compensation agencies. The Work Injury Report program examines selected types of accidents through an employee survey which focuses on the circumstances surrounding the injury. These data are not included in the *Handbook of Labor Statistics* but are available from the BLS Office of Occupational Safety and Health Statistics.

The definitions of occupational injuries and illnesses and lost workdays are from *Recordkeeping Requirements under the Occupational Safety and Health Act of 1970*. For additional data, see *Occupational Injuries and Illnesses in the United States, by Industry*, annual Bureau of Labor Statistics bulletin; BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 17; *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985), pp. 411–14; annual reports in the *Monthly Labor Review*; and annual U.S. Department of Labor press releases.

1. Labor market indicators

Selected indicators	1984	1985	1984				1985			
			I	II	III	IV	I	II	III	IV
Employment data										
Employment status of the civilian noninstitutionalized population (household survey)[1]										
Labor force participation rate	64.4	64.8	64.1	64.5	64.4	64.5	64.8	64.7	64.7	64
Employment-population ratio	59.5	60.1	59.0	59.6	59.7	59.8	60.1	60.0	60.1	60
Unemployment rate	7.5	7.2	7.9	7.5	7.4	7.2	7.3	7.3	7.2	7
Men	7.4	7.0	7.9	7.4	7.3	7.1	7.1	7.1	7.0	6
16 to 24 years	14.4	14.1	15.0	14.3	14.5	13.8	14.1	14.2	14.0	14
25 years and over	5.7	5.3	6.1	5.7	5.5	5.4	5.4	5.4	5.3	5
Women	7.6	7.4	7.9	7.8	7.8	7.5	7.6	7.5	7.4	7
16 to 24 years	13.3	13.0	13.9	13.5	13.1	12.9	13.1	13.0	12.7	13
25 years and over	6.0	5.9	6.1	5.9	6.0	5.9	6.0	6.0	5.9	5
Unemployment rate, 15 weeks and over	2.4	2.0	2.7	2.5	2.3	2.1	2.0	2.0	2.0	1
Employment, nonagricultural (payroll data):[1],										
Total	94,461	97,699	93,035	94,013	94,915	95,849	96,840	97,338	97,957	98,0
Private sector	78,477	81,404	77,153	78,082	78,898	79,745	80,522	81,143	81,588	82,1
Goods-producing	24,730	25,057	24,402	24,680	24,861	24,973	25,077	25,056	24,976	25,0
Manufacturing	19,412	19,426	19,182	19,394	19,509	19,584	19,564	19,430	19,331	19,3
Service-producing	69,731	72,643	68,633	69,333	70,056	70,876	71,563	72,283	72,981	73,7
Average hours:										
Private sector	35.3	35.1	35.3	35.3	35.3	35.2	35.1	35.1	35.1	3
Manufacturing	40.7	40.5	40.9	40.8	40.5	40.5	40.4	40.3	40.5	4
Overtime	3.4	3.3	3.5	3.5	3.3	3.4	3.3	3.2	3.3	3
Employment Cost Index										
Percent change in the ECI, compensation:[2]										
All workers (excluding farm, household, and Federal workers)	–	–	1.7	.8	1.3	1.2	1.3	.7	1.6	
Private industry workers	–	–	1.7	.9	.8	1.3	1.2	.8	1.3	
Goods-producing[3]	–	–	1.6	.9	.9	1.1	1.5	.7	.8	
Servicing-producing[3]	–	–	1.9	1.0	.7	1.4	1.0	1.0	1.8	
State and local government workers	–	–	1.6	.4	3.5	1.0	1.2	.2	3.4	
Workers by bargaining status (private industry)										
Union	–	–	1.5	.9	.7	1.1	.7	.6	.8	
Nonunion	–	–	1.8	1.0	.9	1.3	1.6	1.0	1.4	

[1] Quarterly data seasonally adjusted.

[2] Annual changes are December-to-December change. Quarterly changes calculated using the last month of each quarter.

[3] Goods-producing industries include mining, construction, and manufacturing. Servi producing industries include all other private sector industries.

– Data not available.

2. Annual and quarterly percent changes in compensation, prices, and productivity

Selected measures	1984	1985	1984				1985			
			I	II	III	IV	I	II	III	IV
Compensation data: [1], [2]										
Employment Cost Index--Compensation (wages, salaries, benefits)										
Civilian nonfarm	–	–	1.7	0.8	1.3	1.2	1.3	0.7	1.6	0.6
Private nonfarm	–	–	1.7	.9	.8	1.3	1.2	.8	1.3	.6
Employment Cost Index--Wages and Salaries										
Civilian nonfarm	–	–	1.2	.8	1.3	1.2	1.2	.9	1.7	.6
Private nonfarm	–	–	1.2	.9	.8	1.2	1.2	1.1	1.3	.6
Price data[1]										
Consumer Price Index (All urban consumers): All items	3.8	4.0	1.3	1.1	1.2	.3	1.0	1.1	.7	.8
Producer Price Index										
Finished goods	1.7	1.8	1.5	-.2	-.5	.9	.0	.7	-1.4	2.5
Finished consumer goods	1.6	1.5	1.7	-.3	-.5	.8	-.3	.7	-1.4	2.5
Capital equipment	1.8	2.7	.7	.5	-.5	1.1	1.3	.4	-1.4	2.4
Intermediate materials, supplies, components	1.3	-.3	1.3	.6	-.4	-.1	-.4	.2	-.5	.3
Crude materials	-1.2	-5.5	5.4	-3.6	-2.9	.1	-4.0	-3.8	-7.8	9.9
U.S. Export Price Index	–	–	–	–	–	–	–	–	–	–
U.S. Import Price Index	–	–	–	–	–	–	–	–	–	–
Productivity data[1]										
Output per hour of all persons:										
Business sector	2.1	.2	2.6	2.0	2.2	1.3	.3	-.1	.5	.1
Nonfarm business sector	1.6	-.2	2.6	1.7	1.2	.8	.1	-.4	.1	-.4
Nonfinancial corporations [3]	2.1	-.1	3.5	2.9	1.5	.8	-.3	-.9	.4	–

[1] Annual changes are December-to-December change. Quarterly changes are calculated using the last month of each quarter. Compensation and Price data are not seasonally adjusted and the price data are not compounded. Productivity data are seasonally adjusted.

[2] Excludes Federal and private household workers.

[3] Output per hour of all employees.

– Data not available.

3. Alternative measures of wage and compensation changes

Components	Quarterly average						Four quarters ended in--					
	1984		1985				1984		1985			
	III	IV	I	II	III	IV	III	IV	I	II	III	IV
Average hourly compensation:[1]												
All persons, business sector	–	–	–	–	–	–	–	–	–	–	–	–
All employees, nonfarm business sector	–	–	–	–	–	–	–	–	–	–	–	–
Hourly earnings index:[2]												
All private nonfarm	–	–	–	–	–	–	–	–	–	–	–	–
Employment Cost Index--compensation:												
Civilian nonfarm [3]	1.3	1.2	1.3	0.7	1.6	0.6	5.1	5.2	4.8	4.6	4.9	4.3
Private nonfarm	.8	1.3	1.2	.8	1.3	.6	4.8	4.9	4.4	4.2	4.7	3.9
Union	.7	1.1	.7	.6	.8	.5	4.1	4.3	3.5	3.1	3.2	2.6
Nonunion	.9	1.3	1.6	1.0	1.4	.6	5.2	5.2	4.9	4.9	5.4	4.6
State and local governments	3.5	1.0	1.2	.2	3.4	.7	6.6	6.6	6.3	6.1	6.0	5.7
Employment Cost Index--wages and salaries:												
Civilian nonfarm[3]	1.3	1.2	1.2	.9	1.7	.6	4.3	4.5	4.4	4.5	5.0	4.4
Private nonfarm	.8	1.2	1.2	1.1	1.3	.6	4.1	4.1	4.1	4.3	4.8	4.1
Union	.7	.9	.7	1.1	.9	.5	3.3	3.4	3.0	3.4	3.6	3.1
Nonunion	.8	1.3	1.4	1.1	1.5	.6	4.5	4.5	4.6	4.8	5.1	4.6
State and local governments	3.4	.8	1.0	.2	3.5	.8	5.8	5.9	5.6	5.5	5.6	5.6
Total effective wage adjustments[4]	1.2	.7	.8	.8	1.2	.5	4.2	3.7	3.6	3.5	3.5	3.3
From current settlements	.2	.3	.1	.2	.2	.2	1.0	.8	.7	.9	.9	.7
From prior settlements	.7	.2	.6	.5	.6	.2	2.1	2.0	2.2	1.9	1.8	1.8
From cost-of-living provision	.3	.2	.1	.1	.4	.1	1.2	.9	.7	.7	.8	.8
Negotiated wage adjustments from settlements[4]												
First-year adjustments	2.1	2.3	3.3	2.5	2.0	2.1	3.2	2.4	2.4	2.4	2.4	2.3
Annual rate over life of contract	2.6	1.5	3.2	2.8	3.1	1.9	2.6	2.4	2.3	2.4	2.5	2.7
Negotiated wage and benefit adjustments from settlements:[5]												
First-year adjustment	2.7	3.7	3.6	3.5	2.0	2.0	4.2	3.6	3.4	3.5	3.1	-
Annual rate over life of contract	3.1	2.0	2.7	3.4	3.0	1.4	3.2	2.8	2.6	2.7	2.7	2.8

[1] Seasonally adjusted.

[2] Production or nonsupervisory workers.

[3] Excludes Federal and household workers.

[4] Limited to major collective bargaining units of 1,000 workers or more. The most recent data are preliminary.

[5] Limited to major collective bargaining units of 5,000 workers or more. The most recent data are preliminary.

– Data not available.

4. Employment status of the total population, by sex, monthly data seasonally adjusted

(Number in thousands)

Employment status	Annual average		1985											1986	
	1984	1985	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
TOTAL															
Noninstitutional population [1], [2]	178,080	179,912	179,219	179,368	179,501	179,649	179,798	179,967	180,131	180,304	180,470	180,642	180,810	181,361	181,51
Labor force[2]	115,241	117,167	116,685	117,036	116,958	117,044	116,726	116,976	117,069	117,522	117,814	117,832	117,927	118,477	118,77
Participation rate [3]	64.7	65.1	65.1	65.2	65.2	65.2	64.9	65.0	65.0	65.2	65.3	65.2	65.2	65.3	65.
Total employed [2]	106,702	108,856	108,290	108,652	108,574	108,644	108,303	108,575	108,936	109,251	109,513	109,671	109,904	110,646	110,2
Employment-population ratio [4]	59.9	60.5	60.4	60.6	60.5	60.5	60.2	60.3	60.5	60.6	60.7	60.7	60.8	61.0	60.
Resident Armed Forces [1]	1,697	1,706	1,703	1,701	1,702	1,705	1,702	1,704	1,726	1,732	1,700	1,702	1,698	1,691	1,69
Civilian employed	105,005	107,150	106,587	106,951	106,872	106,939	106,601	106,871	107,210	107,519	107,813	107,969	108,206	108,955	108,56
Agriculture	3,321	3,179	3,325	3,314	3,353	3,284	3,140	3,120	3,095	3,017	3,058	3,070	3,151	3,299	3,09
Nonagricultural industries	101,685	103,971	103,262	103,637	103,519	103,655	103,461	103,751	104,115	104,502	104,755	104,899	105,055	105,655	105,4
Unemployed	8,539	8,312	8,395	8,384	8,384	8,400	8,423	8,401	8,133	8,271	8,301	8,161	8,023	7,831	8,52
Unemployment rate [5]	7.4	7.1	7.2	7.2	7.2	7.2	7.2	7.2	6.9	7.0	7.0	6.9	6.8	6.6	7.
Not in labor force	62,839	62,744	62,534	62,332	62,543	62,605	63,072	62,991	63,062	62,782	62,656	62,810	62,883	62,885	62,73
Men, 16 years and over															
Noninstitutional population [1], [2]	85,156	86,025	85,692	85,764	85,827	85,898	85,970	86,052	86,132	86,217	86,293	86,374	86,459	86,882	86,9
Labor force[2]	65,386	65,967	65,782	65,898	65,929	66,012	65,808	65,884	65,945	66,074	66,227	66,176	66,139	66,679	66,8
Participation rate [3]	76.8	76.7	76.8	76.8	76.8	76.8	76.5	76.6	76.6	76.6	76.7	76.6	76.5	76.7	76.
Total employed [2]	60,642	61,447	61,207	61,381	61,373	61,498	61,175	61,273	61,510	61,629	61,656	61,731	61,793	62,458	62,24
Employment-population ratio [4]	71.2	71.4	71.4	71.6	71.5	71.6	71.2	71.2	71.4	71.5	71.4	71.5	71.5	71.9	71.
Resident Armed Forces [1]	1,551	1,556	1,554	1,553	1,553	1,556	1,552	1,554	1,574	1,580	1,551	1,552	1,549	1,539	1,5
Civilian employed	59,091	59,891	59,653	59,828	59,820	59,942	59,623	59,719	59,936	60,049	60,105	60,179	60,244	60,919	60,70
Unemployed	4,744	4,521	4,575	4,517	4,556	4,514	4,633	4,611	4,435	4,445	4,571	4,445	4,346	4,221	4,5
Unemployment rate [5]	7.3	6.9	7.0	6.9	6.9	6.8	7.0	7.0	6.7	6.7	6.9	6.7	6.6	6.3	6.
Women, 16 years and over															
Noninstitutional population [1], [2]	92,924	93,886	93,527	93,603	93,674	93,751	93,828	93,915	93,999	94,087	94,177	94,266	94,351	94,479	94,5
Labor force[2]	49,855	51,200	50,903	51,138	51,029	51,032	50,918	51,092	51,124	51,448	51,587	51,655	51,788	51,797	51,9
Participation rate [3]	53.7	54.5	54.4	54.6	54.5	54.4	54.3	54.4	54.4	54.7	54.8	54.8	54.9	54.8	54.
Total employed[2]	46,061	47,409	47,083	47,271	47,201	47,146	47,128	47,302	47,426	47,622	47,857	47,939	48,111	48,187	48,0
Employment-population ratio [4]	49.6	50.5	50.3	50.5	50.4	50.3	50.2	50.4	50.5	50.6	50.8	50.9	51.0	51.0	50.
Resident Armed Forces [1]	146	150	149	148	149	149	150	150	152	152	149	149	149	152	15
Civilian employed	45,915	47,259	46,934	47,123	47,052	46,997	46,978	47,152	47,274	47,470	47,708	47,790	47,962	48,035	47,8
Unemployed	3,794	3,791	3,820	3,867	3,828	3,886	3,790	3,790	3,698	3,826	3,730	3,716	3,677	3,610	3,9
Unemployment rate [5]	7.6	7.4	7.5	7.6	7.5	7.6	7.4	7.4	7.2	7.4	7.2	7.2	7.1	7.0	7.

[1] The population and Armed Forces figures are not adjusted for seasonal variation.

[2] Includes members of the Armed Forces stationed in the United States.

[3] Labor force as a percent of the noninstitutional population.

[4] Total employed as a percent of the noninstitutional population.

[5] Unemployment as a percent of the labor force (including the resident Arme Forces).

5. Employment status of the civilian population, by sex, age, race and Hispanic origin, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1985											1986	
	1984	1985	Feb.	Mar	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
TOTAL															
Civilian noninstitutional population[1]	176,383	178,206	177,516	177,667	177,799	177,944	178,096	178,263	178,405	178,572	178,770	178,940	179,112	179,670	179,821
Civilian labor force	113,544	115,461	114,982	115,335	115,256	115,339	115,024	115,272	115,343	115,790	116,114	116,130	116,229	116,786	117,088
Participation rate	64.4	64.8	64.8	64.9	64.8	64.8	64.6	64.7	64.7	64.8	65.0	64.9	64.9	65.0	65.1
Employed	105,005	107,150	106,587	106,951	106,872	106,939	106,601	106,871	107,210	107,519	107,813	107,969	108,206	108,955	108,561
Employment-population ratio[2]	59.5	60.1	60.0	60.2	60.1	60.1	59.9	60.0	60.1	60.2	60.3	60.3	60.4	60.6	60.4
Unemployed	8,539	8,312	8,395	8,384	8,384	8,400	8,423	8,401	8,133	8,271	8,301	8,161	8,023	7,831	8,527
Unemployment rate	7.5	7.2	7.3	7.3	7.3	7.3	7.3	7.3	7.1	7.1	7.1	7.0	6.9	6.7	7.3
Not in labor force	62,839	62,744	62,534	62,332	62,543	62,605	63,072	62,991	63,062	62,782	62,656	62,810	62,883	62,885	62,733
Men, 20 years and over															
Civilian noninstitutional population[1]	76,219	77,195	76,829	76,904	76,968	77,068	77,135	77,243	77,308	77,389	77,488	77,568	77,651	78,101	78,171
Civilian labor force	59,701	60,277	60,037	60,154	60,165	60,240	60,246	60,158	60,269	60,407	60,526	60,553	60,548	61,212	61,183
Participation rate	78.3	78.1	78.1	78.2	78.1	78.2	78.1	77.9	78.0	78.1	78.1	78.1	78.0	78.4	78.3
Employed	55,769	56,562	56,274	56,411	56,390	56,544	56,384	56,403	56,636	56,751	56,849	56,897	56,982	57,705	57,384
Employment-population ratio[2]	73.2	73.3	73.2	73.4	73.2	73.4	73.1	73.0	73.3	73.3	73.4	73.4	73.4	73.9	73.4
Agriculture	2,418	2,278	2,368	2,329	2,358	2,352	2,260	2,230	2,231	2,171	2,188	2,210	2,278	2,349	2,258
Nonagricultural industries	53,351	54,284	53,906	54,082	54,032	54,192	54,124	54,173	54,405	54,580	54,661	54,687	54,704	55,356	55,127
Unemployed	3,932	3,715	3,763	3,743	3,775	3,696	3,862	3,755	3,633	3,656	3,677	3,656	3,566	3,507	3,799
Unemployment rate	6.6	6.2	6.3	6.2	6.3	6.1	6.4	6.2	6.0	6.1	6.1	6.0	5.9	5.7	6.2
Women, 20 years and over															
Civilian noninstitutional population[1]	85,429	86,506	86,080	86,181	86,274	86,380	86,477	86,575	86,652	86,727	86,810	86,901	86,988	87,112	87,185
Civilian labor force	45,900	47,283	46,853	47,095	47,103	47,082	47,185	47,190	47,340	47,558	47,663	47,713	47,870	47,895	47,921
Participation rate	53.7	54.7	54.4	54.6	54.6	54.5	54.6	54.5	54.6	54.8	54.9	54.9	55.0	55.0	55.0
Employed	42,793	44,154	43,713	43,927	43,925	43,883	44,033	44,070	44,197	44,363	44,609	44,656	44,882	44,980	44,710
Employment-population ratio[2]	50.1	51.0	50.8	51.0	50.9	50.8	50.9	50.9	51.0	51.2	51.4	51.4	51.6	51.6	51.3
Agriculture	595	598	606	630	633	600	572	596	581	557	609	591	597	696	593
Nonagricultural industries	42,198	43,556	43,107	43,297	43,292	43,283	43,461	43,474	43,616	43,806	44,000	44,065	44,285	44,284	44,117
Unemployed	3,107	3,129	3,140	3,168	3,178	3,199	3,152	3,120	3,143	3,195	3,054	3,057	2,988	2,915	3,211
Unemployment rate	6.8	6.6	6.7	6.7	6.7	6.8	6.7	6.6	6.6	6.7	6.4	6.4	6.2	6.1	6.7
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	14,735	14,506	14,600	14,582	14,539	14,496	14,483	14,445	14,448	14,456	14,463	14,472	14,474	14,458	14,465
Civilian labor force	7,943	7,901	8,092	8,086	7,988	8,017	7,593	7,924	7,734	7,825	7,925	7,864	7,811	7,678	7,984
Participation rate	53.9	54.5	55.4	55.5	54.9	55.3	52.4	54.9	53.5	54.1	54.8	54.3	54.0	53.1	55.2
Employed	6,444	6,434	6,600	6,613	6,557	6,512	6,184	6,398	6,377	6,405	6,355	6,416	6,342	6,269	6,467
Employment-population ratio[2]	43.7	44.4	45.2	45.4	45.1	44.9	42.7	44.3	44.1	44.3	43.9	44.3	43.8	43.4	44.7
Agriculture	309	305	351	355	362	332	308	294	283	289	261	269	276	254	246
Nonagricultural industries	6,135	6,129	6,249	6,258	6,195	6,180	5,876	6,104	6,094	6,116	6,094	6,147	6,066	6,015	6,221
Unemployed	1,499	1,468	1,492	1,473	1,431	1,505	1,409	1,526	1,357	1,420	1,570	1,448	1,469	1,409	1,517
Unemployment rate	18.9	18.6	18.4	18.2	17.9	18.8	18.6	19.3	17.5	18.1	19.8	18.4	18.8	18.4	19.0
White															
Civilian noninstitutional population[1]	152,347	153,679	153,191	153,296	153,388	153,489	153,597	153,717	153,819	153,938	154,082	154,200	154,327	154,784	154,889
Civilian labor force	98,492	99,926	99,612	99,862	99,718	99,771	99,527	99,705	99,817	100,179	100,533	100,478	100,533	100,961	101,232
Participation rate	64.6	65.0	65.0	65.1	65.0	65.0	64.8	64.9	64.9	65.1	65.2	65.2	65.1	65.2	65.4
Employed	92,120	93,736	93,414	93,617	93,470	93,574	93,132	93,378	93,684	94,055	94,369	94,507	94,585	95,165	94,803
Employment-population ratio[2]	60.5	61.0	61.0	61.1	60.9	61.0	60.6	60.7	60.9	61.1	61.2	61.3	61.3	61.5	61.2
Unemployed	6,372	6,191	6,198	6,245	6,248	6,197	6,395	6,327	6,133	6,124	6,164	5,971	5,948	5,796	6,429
Unemployment rate	6.5	6.2	6.2	6.3	6.3	6.2	6.4	6.3	6.1	6.1	6.1	5.9	5.9	5.7	6.4
Black															
Civilian noninstitutional population[1]	19,348	19,664	19,542	19,569	19,594	19,620	19,648	19,675	19,700	19,728	19,761	19,790	19,819	19,837	19,863
Civilian labor force	12,033	12,364	12,299	12,294	12,364	12,372	12,317	12,354	12,289	12,378	12,412	12,457	12,522	12,548	12,545
Participation rate	62.2	62.9	62.9	62.8	63.1	63.1	62.7	62.8	62.4	62.7	62.8	62.9	63.2	63.3	63.2
Employed	10,119	10,501	10,333	10,422	10,489	10,466	10,538	10,499	10,560	10,500	10,566	10,518	10,657	10,737	10,690
Employment-population ratio[2]	52.3	53.4	52.9	53.3	53.5	53.3	53.6	53.4	53.6	53.2	53.5	53.1	53.8	54.1	53.8
Unemployed	1,914	1,864	1,966	1,872	1,875	1,906	1,779	1,855	1,729	1,878	1,846	1,939	1,865	1,810	1,855
Unemployment rate	15.9	15.1	16.0	15.2	15.2	15.4	14.4	15.0	14.1	15.2	14.9	15.6	14.9	14.4	14.8

See footnotes at end of table.

5. Continued— Employment status of the civilian population, by sex, age, race and Hispanic origin, monthly data seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		1985											1986
	1984	1985	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Hispanic origin														
Civilian noninstitutional population[1]	11,478	11,915	11,753	11,789	11,826	11,862	11,897	11,933	11,969	12,004	12,040	12,075	12,111	12,148
Civilian labor force	7,451	7,698	7,591	7,621	7,607	7,616	7,669	7,713	7,781	7,844	7,854	7,782	7,772	7,787
Participation rate	64.9	64.6	64.6	64.6	64.3	64.2	64.5	64.6	65.0	65.3	65.2	64.4	64.2	64.1
Employed	6,651	6,888	6,832	6,838	6,814	6,806	6,856	6,870	6,973	7,026	6,982	6,953	6,962	6,998
Employment-population ratio[2]	57.9	57.8	58.1	58.0	57.6	57.4	57.6	57.6	58.3	58.5	58.0	57.6	57.5	57.6
Unemployed	800	811	759	783	793	810	813	843	808	818	872	829	810	789
Unemployment rate	10.7	10.5	10.0	10.3	10.4	10.6	10.6	10.9	10.4	10.4	11.1	10.7	10.4	10.1

[1] The population figures are not seasonally adjusted.

[2] Civilian employment as a percent of the civilian noninstitutional population.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to to because data for the "other races" groups are not presented and Hispanics are includ in both the white and black population groups.

6. Selected employment indicators, monthly data seasonally adjusted

[In thousands]

Selected categories	Annual average		1985											1986
	1984	1985	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
CHARACTERISTIC														
Civilian employed, 16 years and over	105,005	107,150	106,587	106,951	106,872	106,929	106,801	106,871	107,210	107,519	107,813	107,969	108,206	108,955
Men	59,091	59,891	59,653	59,828	59,820	59,942	59,823	59,719	59,936	60,049	60,105	60,179	60,244	60,919
Women	45,915	47,259	46,934	47,123	47,052	46,987	46,978	47,152	47,274	47,470	47,708	47,790	47,962	48,035
Married men, spouse present	39,056	39,248	39,324	39,467	39,362	39,280	38,986	39,086	39,142	39,103	39,272	39,314	39,278	39,615
Married women, spouse present	25,636	26,336	26,079	26,163	26,087	26,036	26,174	26,316	26,392	26,531	26,702	26,721	26,804	26,958
Women who maintain families	5,465	5,597	5,533	5,600	5,603	5,626	5,643	5,607	5,627	5,556	5,514	5,605	5,683	5,702
MAJOR INDUSTRY AND CLASS OF WORKER														
Agriculture:														
Wage and salary workers	1,555	1,535	1,587	1,598	1,653	1,582	1,530	1,479	1,496	1,436	1,465	1,537	1,572	1,673
Self-employed workers	1,553	1,458	1,508	1,502	1,493	1,498	1,451	1,474	1,444	1,414	1,436	1,381	1,409	1,492
Unpaid family workers	213	185	229	223	219	198	159	170	176	179	172	156	184	183
Nonagricultural industries:														
Wage and salary workers	93,565	95,871	95,235	95,606	95,493	95,660	95,391	95,523	95,791	96,546	96,530	96,676	96,921	97,911
Government	15,770	16,031	15,957	15,969	15,955	15,936	16,000	15,949	16,075	16,145	16,213	16,157	16,194	16,418
Private industries	77,794	79,841	79,278	79,637	79,538	79,724	79,391	79,574	79,716	80,401	80,317	80,519	80,727	81,494
Private households	1,238	1,249	1,288	1,225	1,218	1,255	1,229	1,251	1,295	1,266	1,271	1,197	1,131	1,256
Other	76,556	78,592	77,990	78,412	78,320	78,469	78,163	78,323	78,421	79,135	79,046	79,322	79,596	80,238
Self-employed workers	7,785	7,811	7,694	7,764	7,717	7,711	7,728	7,724	7,874	7,846	7,901	8,013	7,903	7,895
Unpaid family workers	335	289	336	321	305	290	292	277	303	266	248	249	250	273
PERSONS AT WORK PART TIME[1]														
All industries:														
Part time for economic reasons	5,744	5,590	5,356	5,682	5,690	5,876	5,544	5,586	5,680	5,554	5,475	5,498	5,494	5,543
Slack work	2,430	2,430	2,244	2,585	2,567	2,807	2,524	2,414	2,480	2,433	2,251	2,306	2,303	2,384
Could only find part-time work	2,948	2,819	2,817	2,783	2,767	2,871	2,751	2,766	2,835	2,815	2,897	2,883	2,864	2,883
Voluntary part time	13,169	13,489	13,524	13,517	13,356	13,078	13,430	13,634	13,622	13,496	13,713	13,645	13,556	13,958
Nonagricultural industries:														
Part time for economic reasons	5,512	5,334	5,098	5,421	5,402	5,550	5,278	5,328	5,413	5,299	5,241	5,295	5,294	5,275
Slack work	2,291	2,273	2,073	2,397	2,380	2,418	2,334	2,251	2,319	2,292	2,115	2,196	2,195	2,208
Could only find part-time work	2,868	2,730	2,732	2,670	2,679	2,785	2,675	2,686	2,740	2,730	2,801	2,784	2,760	2,778
Voluntary part time	12,704	13,036	13,057	13,016	12,926	12,612	12,995	13,235	13,179	13,063	13,277	13,194	13,122	13,441

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

7. Selected unemployment indicators, monthly data seasonally adjusted

(Unemployment rates)

Selected categories	Annual average		1985											1986	
	1984	1985	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
CHARACTERISTIC															
Total, all civilian workers	7.5	7.2	7.3	7.3	7.3	7.3	7.3	7.3	7.1	7.1	7.1	7.0	6.9	6.7	7.3
Both sexes, 16 to 19 years	18.9	18.6	18.4	18.2	17.9	18.8	18.6	18.3	17.5	18.1	19.8	18.4	18.8	18.4	19.0
Men, 20 years and over	6.6	6.2	6.3	6.2	6.3	6.1	6.4	6.2	6.0	6.1	6.1	6.0	5.9	5.7	6.2
Women, 20 years and over	6.8	6.6	6.7	6.7	6.7	6.8	6.7	6.6	6.6	6.7	6.4	6.4	6.2	6.1	6.7
White, total	6.5	6.2	6.2	6.3	6.3	6.2	6.4	6.3	6.1	6.1	6.1	5.9	5.9	5.7	6.4
Both sexes, 16 to 19 years	16.0	15.7	15.4	15.1	15.2	16.0	16.0	16.1	15.2	15.3	17.0	15.5	15.9	14.9	16.2
Men, 16 to 19 years	16.8	16.5	16.8	15.6	15.7	16.7	16.7	17.1	17.2	16.2	18.5	15.8	16.2	14.7	16.5
Women, 16 to 19 years	15.2	14.8	14.0	14.7	14.5	15.1	15.2	15.0	13.0	14.4	15.3	15.1	15.5	15.1	15.8
Men, 20 years and over	5.7	5.4	5.4	5.4	5.4	5.2	5.7	5.6	5.3	5.2	5.2	5.2	5.1	5.0	5.4
Women, 20 years and over	5.8	5.7	5.7	5.9	5.8	5.8	5.8	5.7	5.7	5.7	5.5	5.4	5.4	5.3	5.9
Black, total	15.9	15.1	16.0	15.2	15.2	15.4	14.4	15.0	14.1	15.2	14.9	15.6	14.9	14.4	14.8
Both sexes, 16 to 19 years	42.7	40.2	42.1	41.5	39.3	40.4	39.5	41.2	35.3	38.8	39.7	40.8	41.6	41.9	39.1
Men, 16 to 19 years	42.7	41.0	40.8	41.1	39.4	39.3	41.0	43.1	34.9	41.1	41.0	45.2	41.0	41.3	38.7
Women, 16 to 19 years	42.6	39.2	43.3	41.9	39.3	41.5	37.8	39.0	35.9	36.1	38.2	36.0	42.3	42.4	39.5
Men, 20 years and over	14.3	13.2	14.2	13.3	13.3	13.4	12.5	12.8	11.9	13.3	13.7	13.7	13.1	12.7	13.3
Women, 20 years and over	13.5	13.1	13.7	13.0	13.2	13.5	12.7	13.1	13.1	13.5	12.1	13.6	12.6	12.0	12.5
Hispanic origin, total	10.7	10.5	10.0	10.3	10.4	10.6	10.6	10.9	10.4	10.4	11.1	10.7	10.4	10.1	12.3
Married men, spouse present	4.6	4.3	4.4	4.3	4.3	4.0	4.6	4.4	4.1	4.3	4.2	4.3	4.3	4.3	4.5
Married women, spouse present	5.7	5.6	5.4	5.8	5.8	5.7	5.8	5.7	5.4	5.8	5.3	5.5	5.3	5.1	5.5
Women who maintain families	10.3	10.4	10.9	10.3	10.7	10.8	9.8	10.3	10.8	11.3	10.4	10.0	9.4	9.9	9.9
Full-time workers	7.2	6.8	7.0	6.9	6.9	6.9	6.9	7.0	6.8	6.8	6.6	6.7	6.6	6.4	6.9
Part-time workers	9.3	9.3	8.8	9.5	9.7	10.0	9.5	9.4	9.0	9.3	8.6	8.8	9.0	8.4	9.4
Unemployed 15 weeks and over	2.4	2.0	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.8	2.0
Labor force time lost[1]	8.6	8.1	8.2	8.2	8.2	8.3	8.2	8.2	8.1	8.1	7.9	7.9	7.8	7.6	8.1
INDUSTRY															
Nonagricultural private wage and salary workers	7.4	7.2	7.3	7.2	7.3	7.2	7.3	7.3	7.1	7.2	7.1	7.0	6.9	6.7	7.2
Mining	10.0	9.5	10.8	10.9	10.6	7.5	10.9	9.9	8.6	8.9	7.7	7.3	10.3	10.9	9.2
Construction	14.3	13.1	13.4	13.3	13.3	11.0	13.5	13.4	13.1	13.6	13.5	13.4	12.6	12.9	13.2
Manufacturing	7.5	7.7	7.6	7.7	7.9	7.8	7.7	7.9	7.8	7.7	7.5	7.7	7.3	7.0	7.2
Durable goods	7.2	7.6	7.3	7.5	7.7	7.8	7.9	7.9	7.9	7.7	7.3	7.6	7.3	7.0	7.4
Nondurable goods	7.8	7.8	8.0	8.1	8.2	7.8	7.5	7.9	7.6	7.8	7.8	7.8	7.3	7.1	7.0
Transportation and public utilities	5.5	5.1	5.4	4.7	5.4	5.2	5.3	5.7	4.5	5.3	5.1	5.1	5.0	4.3	5.3
Wholesale and retail trade	8.0	7.6	7.7	7.5	7.4	7.8	7.7	7.6	7.7	7.8	7.7	7.5	7.6	7.2	7.8
Finance and service industries	5.9	5.6	5.7	5.7	5.7	6.1	5.7	5.6	5.5	5.5	5.4	5.4	5.3	5.2	5.9
Government workers	4.5	3.9	4.0	4.0	3.9	3.9	3.9	4.0	3.9	3.8	3.9	3.6	3.8	3.4	3.8
Agricultural wage and salary workers	13.5	13.2	13.6	12.5	13.2	11.9	12.5	14.0	14.0	13.3	12.9	12.5	10.6	10.9	14.3

[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

8. Unemployment rates by sex and age, monthly data seasonally adjusted

(Civilian workers)

Sex and age	Annual average		1985											1986
	1984	1985	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Total, 16 years and over	7.5	7.2	7.3	7.3	7.3	7.3	7.3	7.3	7.1	7.1	7.1	7.0	6.9	6.7
16 to 24 years	13.9	13.6	13.7	13.5	13.4	14.0	13.6	13.9	13.0	13.3	13.9	13.5	13.3	13.0
16 to 19 years	18.9	18.6	18.4	18.2	17.9	18.8	18.6	19.3	17.5	18.1	19.8	18.4	18.8	18.4
16 to 17 years	21.2	21.0	20.4	20.6	20.8	21.2	21.6	21.7	19.1	20.3	22.7	21.4	21.1	20.9
18 to 19 years	17.4	17.0	17.4	16.5	16.3	17.1	16.4	17.3	16.8	16.7	17.8	16.9	17.5	16.4
20 to 24 years	11.5	11.1	11.2	11.1	11.1	11.6	11.2	11.2	10.8	10.9	10.9	11.0	10.6	10.4
25 years and over	5.8	5.6	5.6	5.6	5.7	5.5	5.8	5.6	5.5	5.6	5.4	5.4	5.3	5.1
25 to 54 years	6.1	5.8	5.9	6.0	6.1	5.8	6.0	5.9	5.8	5.8	5.7	5.6	5.5	5.4
55 years and over	4.5	4.1	4.0	4.0	4.1	4.3	4.3	4.4	4.1	4.1	3.9	3.8	3.9	3.9
Men, 16 years and over	7.4	7.0	7.1	7.0	7.1	7.0	7.2	7.2	6.9	6.9	7.1	6.9	6.7	6.5
16 to 24 years	14.4	14.1	14.3	13.9	13.8	14.7	14.2	14.6	13.8	13.8	14.6	13.9	13.5	12.8
16 to 19 years	19.6	19.5	19.4	18.5	18.5	19.4	19.2	20.5	19.6	19.3	21.5	19.4	19.3	18.2
16 to 17 years	21.9	21.9	21.3	21.7	21.4	22.2	23.2	22.1	21.9	20.7	24.0	20.9	21.6	20.9
18 to 19 years	18.3	17.9	18.4	16.1	16.8	17.6	16.4	18.7	18.1	18.3	19.9	18.7	18.0	16.2
20 to 24 years	11.9	11.4	11.8	11.7	11.4	12.3	11.7	11.6	10.9	11.0	11.1	11.2	10.6	10.3
25 years and over	5.7	5.3	5.4	5.3	5.5	5.1	5.6	5.4	5.3	5.3	5.3	5.2	5.1	5.0
25 to 54 years	5.9	5.6	5.6	5.6	5.8	5.3	5.8	5.6	5.6	5.5	5.5	5.4	5.4	5.3
55 years and over	4.6	4.1	4.1	3.9	4.0	4.1	4.4	4.6	3.6	4.0	4.1	4.0	3.9	3.9
Women, 16 years and over	7.6	7.4	7.5	7.6	7.5	7.6	7.5	7.4	7.3	7.5	7.3	7.2	7.1	7.0
16 to 24 years	13.3	13.0	13.0	13.1	12.9	13.3	12.9	13.1	12.2	12.9	13.1	13.1	13.2	13.2
16 to 19 years	18.0	17.6	17.4	17.9	17.2	18.1	17.8	17.9	15.3	16.9	17.9	17.4	18.3	18.5
16 to 17 years	20.4	20.0	19.4	19.3	20.0	20.1	19.9	21.2	15.8	19.8	21.2	22.0	20.6	20.8
18 to 19 years	16.6	16.0	16.3	16.9	15.7	16.5	16.4	15.7	15.3	14.9	15.5	15.1	16.9	16.5
20 to 24 years	10.9	10.7	10.6	10.5	10.7	10.8	10.6	10.7	10.7	10.9	10.7	10.8	10.8	10.5
25 years and over	6.0	5.9	6.0	6.0	6.0	6.1	6.0	5.9	5.8	6.0	5.6	5.6	5.4	5.3
25 to 54 years	6.3	6.2	6.3	6.4	6.3	6.4	6.3	6.2	6.1	6.2	5.9	5.9	5.7	5.6
55 years and over	4.2	4.1	3.9	4.2	4.2	4.4	4.1	4.2	4.5	4.2	3.7	3.6	3.8	3.8

9. Unemployed persons by reason for unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Reason for unemployment	Annual average		1985											1986
	1984	1985	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Job losers	4,421	4,139	4,236	4,177	4,229	3,994	4,167	4,206	4,144	4,142	4,040	4,081	3,933	3,778
On layoff	1,171	1,157	1,203	1,155	1,182	1,068	1,135	1,134	1,112	1,167	1,161	1,175	1,132	1,163
Other job losers	3,250	2,982	3,033	3,022	3,047	2,926	3,032	3,072	3,032	2,975	2,879	2,906	2,801	2,613
Job leavers	823	877	868	861	852	870	983	894	875	852	911	808	876	986
Reentrants	2,184	2,256	2,239	2,301	2,283	2,378	2,233	2,184	2,191	2,335	2,237	2,226	2,225	2,066
New entrants	1,110	1,039	1,056	1,074	1,051	1,142	1,018	1,098	941	918	1,045	1,066	1,033	1,025
PERCENT OF UNEMPLOYED														
Job losers	51.8	49.8	50.4	49.6	50.3	47.6	49.6	50.2	50.8	50.2	49.1	50.0	48.8	48.0
On layoff	13.7	13.9	14.3	13.7	14.0	12.7	13.5	13.5	13.6	14.2	14.1	14.4	14.0	14.8
Other job losers	38.1	35.9	36.1	35.9	36.2	34.9	36.1	36.6	37.2	36.1	35.0	35.6	34.7	33.2
Job leavers	9.6	10.6	10.3	10.2	10.1	10.4	11.7	10.7	10.7	10.3	11.1	9.9	10.9	12.7
Reentrants	25.6	27.1	26.6	27.4	27.1	28.4	26.6	26.1	26.9	28.3	27.2	27.2	27.6	26.3
New entrants	13.0	12.5	12.6	12.8	12.5	13.6	12.1	13.1	11.5	11.1	12.7	12.9	12.8	13.0
PERCENT OF CIVILIAN LABOR FORCE														
Job losers	3.9	3.6	3.7	3.6	3.7	3.5	3.6	3.6	3.6	3.6	3.5	3.5	3.4	3.2
Job leavers	.7	.8	.8	.7	.7	.8	.9	.8	.8	.7	.8	.7	.8	.9
Reentrants	1.9	2.0	1.9	2.0	2.0	2.1	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.8
New entrants	1.0	.9	.9	.9	.9	1.0	.9	1.0	.8	.8	.9	.9	.9	.8

10. Duration of unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Weeks of unemployment	Annual average		1985											1986	
	1984	1985	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Less than 5 weeks	3,350	3,498	3,501	3,556	3,528	3,607	3,466	3,525	3,422	3,484	3,430	3,465	3,374	3,311	3,562
5 to 14 weeks	2,451	2,509	2,486	2,487	2,516	2,594	2,536	2,514	2,509	2,505	2,536	2,446	2,460	2,441	2,622
15 weeks and over	2,737	2,305	2,413	2,400	2,374	2,274	2,328	2,329	2,274	2,307	2,277	2,205	2,188	2,056	2,340
15 to 26 weeks	1,104	1,025	1,066	1,061	1,031	1,063	1,033	1,078	1,047	1,035	1,057	894	973	969	1,149
27 weeks and over	1,634	1,280	1,348	1,339	1,343	1,211	1,295	1,251	1,227	1,272	1,220	1,311	1,215	1,087	1,191
Mean duration in weeks	18.2	15.6	16.0	15.9	16.1	15.0	15.5	15.5	15.5	15.5	15.4	15.7	15.4	14.9	15.3
Median duration in weeks	7.9	6.8	7.1	7.0	6.8	6.7	6.8	7.1	7.2	6.9	7.0	6.9	6.9	6.8	6.9

11. Unemployment rates of civilian workers by State, data not seasonally adjusted

State	Jan. 1985	Jan. 1986	State	Jan. 1985	Jan. 1986
Alabama	11.4	9.1	Montana	8.2	9.5
Alaska	11.2	11.5	Nebraska	6.0	7.0
Arizona	5.6	6.5	Nevada	8.8	8.5
Arkansas	9.7	9.7	New Hampshire	5.8	3.8
California	8.0	8.6			
			New Jersey	6.7	6.9
Colorado	7.0	-	New Mexico	7.9	9.2
Connecticut	5.6	4.5	New York	7.0	6.7
Delaware	7.4	5.2	North Carolina	7.1	5.9
District of Columbia	8.6	7.8	North Dakota	7.2	7.9
Florida	6.5	5.6			
			Ohio	9.0	9.3
Georgia	6.0	5.6	Oklahoma	6.3	7.3
Hawaii	5.2	5.9	Oregon	10.6	8.8
Idaho	9.6	-	Pennsylvania	8.6	8.1
Illinois	9.8	8.6	Rhode Island	5.3	5.3
Indiana	10.2	-			
			South Carolina	6.0	7.8
Iowa	9.5	9.2	South Dakota	5.9	5.6
Kansas	5.8	6.1	Tennessee	9.4	8.5
Kentucky	9.7	11.6	Texas	6.9	6.9
Louisiana	11.4	12.7	Utah	7.5	6.5
Maine	7.3	6.8			
			Vermont	5.1	5.3
Maryland	6.1	4.9	Virginia	5.9	6.1
Massachusetts	4.6	4.1	Washington	10.0	8.7
Michigan	12.1	9.4	West Virginia	15.9	13.4
Minnesota	7.5	7.7	Wisconsin	8.2	8.5
Mississippi	11.7	11.1			
Missouri	8.2	6.6	Wyoming	7.5	10.3

- Data not available.

NOTE: Some data in this table may differ from data published elsewhere because of the continued updating of the database.

12. Employment of workers on nonagricultural payrolls by State, data not seasonally adjusted

(In thousands)

State	Jan., 1985	Dec., 1985	Jan., 1986p	State	Jan., 1985	Dec., 1985	Jan., 1986p
Alabama	1,392.9	1,438.9	1,474.8	Nebraska	636.7	654.7	642.1
Alaska	213.1	224.5	217.0	Nevada	429.0	453.1	447.8
Arizona	1,250.6	1,323.6	1,304.1	New Hampshire	446.2	480.5	473.0
Arkansas	770.1	814.8	803.2				
California	10,718.3	11,186.2	11,051.3	New Jersey	3,318.2	3,471.8	3,400.7
				New Mexico	504.9	526.8	519.2
Colorado	1,403.0	1,440.6	1,425.3	New York	7,553.3	7,809.6	7,725.7
Connecticut	1,532.2	1,601.2	1,571.1	North Carolina	2,596.5	2,706.7	2,672.7
Delaware	280.2	300.2	291.7	North Dakota	245.3	251.2	243.6
District of Columbia	616.2	637.5	629.5				
Florida	4,351.8	4,532.1	4,518.3	Ohio	4,237.6	4,483.7	4,384.1
				Oklahoma	1,171.2	1,177.1	1,150.8
Georgia	2,490.1	2,626.1	2,596.6	Oregon	988.5	1,043.0	1,024.0
Hawaii	415.2	430.2	427.3	Pennsylvania	4,602.7	4,824.9	4,710.6
Idaho	325.6	343.0	332.6	Rhode Island	416.2	431.4	425.7
Illinois	4,686.0	4,794.4	4,665.4				
Indiana	2,112.2	2,220.6	2,167.0	South Carolina	1,280.3	1,321.6	1,307.2
				South Dakota	242.3	247.1	242.1
Iowa	1,048.6	1,080.6	1,063.5	Tennessee	1,804.0	1,900.9	1,879.2
Kansas	940.6	986.0	980.3	Texas	6,568.4	6,786.7	6,710.0
Kentucky	1,213.6	1,271.7	1,244.8	Utah	608.4	638.1	629.0
Louisiana	1,585.8	1,600.4	1,569.6				
Maine	436.4	465.2	452.5	Vermont	217.0	231.0	228.3
				Virginia	2,362.8	2,522.8	2,486.5
Maryland	1,816.2	1,926.0	1,870.6	Washington	1,648.1	1,738.6	1,707.1
Massachusetts	2,849.5	2,950.9	2,911.6	West Virginia	581.4	590.9	580.9
Michigan	3,413.4	3,588.7	3,511.2	Wisconsin	1,921.4	2,001.0	1,959.3
Minnesota	1,808.8	1,885.2	1,839.6				
Mississippi	818.5	855.8	841.8	Wyoming	185.5	201.9	195.9
Missouri	2,030.6	2,131.5	2,062.6	Puerto Rico	665.5	702.8	687.2
Montana	271.1	276.8	271.3	Virgin Islands	36.6	36.6	36.4

p = preliminary

NOTE: Some data in this table may differ from data published elsewhere because of the continued updating of the database.

13. Employment of workers on nonagricultural payrolls by industry, monthly data seasonally adjusted

[In thousands]

Industry	Annual average		1985											1986	
	1984	1985	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[p]	Feb.[p]
TOTAL	94,461	97,699	96,591	96,910	97,120	97,421	97,473	97,707	97,977	98,217	98,559	98,801	99,086	99,507	99,73
PRIVATE SECTOR	78,477	81,404	80,480	80,767	80,962	81,208	81,260	81,366	81,634	81,765	82,073	82,317	82,573	83,026	83,23
GOODS PRODUCING	24,730	25,057	25,062	25,056	25,090	25,066	25,010	24,980	25,015	24,962	25,051	25,069	25,155	25,317	25,24
Mining	974	969	976	977	982	982	974	969	965	962	960	954	952	946	93
Oil and gas extraction	613	616	620	618	623	624	619	619	615	615	610	605	603	599	58
Construction	4,345	4,662	4,525	4,553	4,641	4,658	4,638	4,660	4,688	4,721	4,753	4,754	4,770	4,909	4,88
General building contractors	1,158	1,240	1,214	1,223	1,233	1,234	1,223	1,228	1,242	1,252	1,262	1,269	1,274	1,328	1,32
Manufacturing	19,412	19,426	19,561	19,526	19,467	19,426	19,398	19,351	19,362	19,279	19,338	19,381	19,433	19,460	19,43
Production workers	13,310	13,214	13,347	13,309	13,249	13,203	13,169	13,137	13,145	13,087	13,140	13,169	13,219	13,231	13,21
Durable goods	11,522	11,566	11,675	11,651	11,608	11,586	11,560	11,509	11,519	11,449	11,493	11,512	11,534	11,546	11,52
Production workers	7,749	7,692	7,806	7,776	7,730	7,704	7,671	7,630	7,636	7,586	7,627	7,636	7,651	7,655	7,6
Lumber and wood products	707	703	704	701	694	697	694	697	700	701	708	712	715	721	71
Furniture and fixtures	487	497	498	499	497	493	494	494	499	494	496	497	499	499	49
Stone, clay, and glass products	595	600	600	601	600	599	598	599	601	598	600	601	604	607	60
Primary metal industries	858	816	840	832	823	819	815	806	798	795	799	804	810	803	80
Blast furnaces and basic steel products	334	303	313	311	306	305	304	302	289	291	292	299	303	299	30
Fabricated metal products	1,464	1,472	1,483	1,480	1,479	1,477	1,472	1,467	1,467	1,462	1,465	1,466	1,463	1,463	1,43
Machinery, except electrical	2,197	2,181	2,224	2,220	2,207	2,203	2,191	2,175	2,167	2,143	2,143	2,137	2,133	2,135	2,12
Electrical and electronic equipment	2,208	2,208	2,248	2,243	2,223	2,216	2,205	2,190	2,194	2,175	2,179	2,180	2,186	2,190	2,19
Transportation equipment	1,906	1,990	1,972	1,969	1,982	1,981	1,990	1,985	1,995	1,986	2,006	2,017	2,025	2,026	2,01
Motor vehicles and equipment	860	872	876	867	876	873	875	866	868	861	872	868	875	874	8
Instruments and related products	714	724	725	727	726	723	725	724	725	722	722	723	725	725	72
Miscellaneous manufacturing industries	384	376	381	379	377	378	376	372	373	373	373	375	374	377	37
Nondurable goods	7,890	7,860	7,886	7,875	7,859	7,840	7,838	7,842	7,843	7,830	7,845	7,869	7,899	7,914	7,91
Production workers	5,561	5,523	5,541	5,533	5,519	5,499	5,496	5,507	5,507	5,501	5,513	5,533	5,568	5,576	5,57
Food and kindred products	1,619	1,637	1,633	1,636	1,630	1,634	1,644	1,630	1,638	1,633	1,636	1,638	1,655	1,652	1,6
Tobacco manufactures	65	65	66	66	66	66	66	65	64	65	64	65	64	65	6
Textile mill products	746	703	712	706	707	701	699	696	697	695	696	700	700	702	70
Apparel and other textile products	1,197	1,162	1,175	1,167	1,164	1,153	1,142	1,160	1,152	1,155	1,158	1,150	1,171	1,173	1,15
Paper and allied products	681	683	682	682	681	682	684	684	683	681	682	688	686	689	6
Printing and publishing	1,372	1,422	1,406	1,407	1,411	1,414	1,419	1,426	1,429	1,427	1,431	1,442	1,442	1,450	1,45
Chemicals and allied products	1,048	1,042	1,052	1,052	1,049	1,044	1,042	1,040	1,038	1,040	1,036	1,033	1,033	1,032	1,03
Petroleum and coal products	189	177	184	183	182	181	180	178	176	170	170	169	169	169	1
Rubber and misc. plastics products	782	795	799	798	795	791	789	787	792	790	795	800	804	810	81
Leather and leather products	192	175	177	176	174	174	173	176	174	174	175	174	175	172	17
SERVICE-PRODUCING	69,731	72,643	71,529	71,854	72,030	72,355	72,463	72,727	72,962	73,255	73,508	73,712	73,931	74,190	74,4
Transportation and public utilities	5,171	5,300	5,272	5,269	5,278	5,301	5,295	5,302	5,282	5,317	5,327	5,342	5,350	5,360	5,35
Transportation	2,929	3,050	3,029	3,028	3,037	3,057	3,052	3,060	3,038	3,078	3,087	3,106	3,115	3,127	3,11
Communication and public utilities	2,242	2,241	2,243	2,241	2,241	2,244	2,243	2,242	2,244	2,239	2,240	2,236	2,235	2,239	2,2
Wholesale trade	5,550	5,769	5,697	5,714	5,733	5,748	5,768	5,773	5,791	5,805	5,830	5,833	5,848	5,874	5,90
Durable goods	3,272	3,417	3,367	3,377	3,388	3,402	3,414	3,426	3,434	3,442	3,454	3,464	3,473	3,489	3,50
Nondurable goods	2,278	2,352	2,330	2,337	2,345	2,346	2,354	2,347	2,357	2,363	2,376	2,369	2,375	2,385	2,3
Retail trade	16,584	17,425	17,160	17,249	17,280	17,392	17,425	17,453	17,514	17,539	17,610	17,640	17,702	17,840	17,9
General merchandise stores	2,278	2,354	2,343	2,349	2,348	2,371	2,361	2,344	2,354	2,356	2,365	2,367	2,353	2,367	2,40
Food stores	2,655	2,827	2,773	2,790	2,794	2,823	2,831	2,842	2,849	2,852	2,869	2,865	2,882	2,914	2,91
Automotive dealers and service stations	1,802	1,892	1,865	1,873	1,884	1,890	1,895	1,895	1,902	1,906	1,912	1,914	1,916	1,929	1,9
Eating and drinking places	5,403	5,692	5,588	5,615	5,642	5,660	5,692	5,728	5,725	5,740	5,758	5,774	5,803	5,819	5,8
Finance, insurance, and real estate	5,682	5,924	5,809	5,835	5,858	5,868	5,906	5,932	5,959	5,987	6,011	6,048	6,068	6,100	6,12
Finance	2,855	2,978	2,919	2,933	2,941	2,956	2,968	2,984	2,996	3,011	3,023	3,038	3,054	3,070	3,0
Insurance	1,753	1,816	1,789	1,792	1,799	1,808	1,814	1,817	1,827	1,831	1,837	1,850	1,852	1,862	1,87
Real estate	1,074	1,130	1,101	1,110	1,118	1,124	1,124	1,131	1,134	1,145	1,151	1,160	1,162	1,168	1,17
Services	20,761	21,930	21,480	21,644	21,723	21,813	21,856	21,926	22,073	22,155	22,244	22,365	22,450	22,535	22,6
Business services	4,076	4,453	4,324	4,377	4,402	4,424	4,441	4,446	4,489	4,504	4,539	4,571	4,607	4,621	4,6
Health services	6,104	6,267	6,186	6,204	6,218	6,240	6,243	6,260	6,291	6,308	6,333	6,363	6,389	6,406	6,44
Government	15,984	16,295	16,111	16,143	16,158	16,213	16,213	16,341	16,343	16,452	16,486	16,484	16,513	16,481	16,4
Federal	2,807	2,875	2,834	2,850	2,859	2,873	2,872	2,878	2,886	2,904	2,892	2,904	2,914	2,910	2,91
State	3,712	3,780	3,733	3,744	3,749	3,759	3,765	3,788	3,789	3,818	3,827	3,833	3,827	3,832	3,6
Local	9,465	9,640	9,544	9,549	9,550	9,581	9,576	9,675	9,668	9,730	9,767	9,747	9,772	9,739	9,74

[p] = preliminary

NOTE: See notes on the data for a description of the most recent benchmark revision.

14. Average weekly hours of production or nonsupervisory workers on private nonagricultural payrolls by industry, monthly data seasonally adjusted

Industry	Annual average		1985											1986	
	1984	1985	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.ᵖ	Feb.ᵖ
PRIVATE SECTOR	35.3	35.1	35.1	35.2	35.0	35.1	35.1	35.0	35.1	35.1	35.1	35.0	35.1	35.2	35.0
CONSTRUCTION	37.7	37.7	37.8	38.1	38.0	37.6	37.2	37.6	37.5	37.9	37.9	37.4	37.1	38.7	38.3
MANUFACTURING	40.7	40.5	40.1	40.4	40.2	40.4	40.4	40.3	40.6	40.7	40.7	40.7	41.0	40.9	40.6
Overtime hours	3.4	3.3	3.3	3.2	3.4	3.1	3.2	3.2	3.3	3.3	3.4	3.4	3.6	3.5	3.4
Durable goods	41.4	41.2	40.7	41.1	40.9	41.1	41.2	41.0	41.3	41.3	41.3	41.3	41.7	41.6	41.3
Overtime hours	3.6	3.5	3.5	3.5	3.6	3.2	3.3	3.3	3.4	3.5	3.5	3.6	3.8	3.7	3.5
Lumber and wood products	39.9	39.8	38.9	39.6	39.5	39.8	40.1	39.7	40.0	40.1	40.3	39.9	40.2	40.3	39.6
Furniture and fixtures	39.7	39.4	39.5	39.5	39.3	38.9	38.9	38.8	39.2	39.4	39.4	39.4	40.1	40.6	39.9
Stone, clay, and glass products	42.0	41.9	41.6	42.0	42.0	42.1	41.9	42.0	42.0	42.0	42.1	41.6	41.7	42.7	41.9
Primary metal industries	41.7	41.5	40.9	41.1	41.0	41.2	41.6	41.4	41.7	41.5	41.8	41.8	42.2	41.3	41.9
Blast furnaces and basic steel products	40.6	41.1	40.5	40.5	40.2	40.7	41.2	41.2	41.8	41.0	41.7	42.0	41.9	42.1	41.5
Fabricated metal products	41.4	41.3	40.9	41.1	41.1	41.1	41.3	41.3	41.4	41.6	41.5	41.4	41.6	41.6	41.6
Machinery except electrical	41.9	41.5	41.1	41.6	41.2	41.4	41.6	41.3	41.6	41.6	41.6	41.6	41.8	41.6	41.5
Electrical and electronic equipment	41.0	40.6	40.2	40.7	40.2	40.4	40.6	40.3	40.7	40.5	40.6	41.0	41.4	41.2	40.8
Transportation equipment	42.7	42.7	41.9	42.5	42.3	42.6	42.3	42.5	42.9	42.9	42.8	42.6	43.2	43.0	42.6
Motor vehicles and equipment	43.8	43.5	42.4	43.2	43.3	43.5	42.7	43.3	43.8	43.8	43.8	43.7	44.2	43.7	43.6
Instruments and related products	41.3	41.0	40.7	41.0	40.7	40.9	41.1	40.7	40.7	40.9	40.8	41.1	41.9	41.3	41.1
Miscellaneous manufacturing	39.4	39.4	39.0	39.1	39.0	39.3	39.4	39.0	39.3	39.8	39.9	39.7	40.0	40.4	39.8
Nondurable goods	39.6	39.5	39.3	39.4	39.1	39.4	39.4	39.4	39.6	39.8	39.9	39.8	40.1	40.0	39.6
Overtime hours	3.1	3.1	2.9	2.9	3.0	2.9	3.0	3.0	3.1	3.1	3.2	3.2	3.4	3.3	3.2
Food and kindred products	39.8	40.0	39.7	39.8	39.6	40.1	39.6	40.0	39.9	40.2	40.3	39.9	40.3	40.2	39.9
Tobacco manufactures	38.9	37.2	39.2	38.9	35.4	37.0	36.6	34.6	36.8	36.9	38.2	35.2	38.0	38.3	37.7
Textile mill products	39.9	39.7	38.8	39.1	38.8	38.9	39.4	39.1	40.0	40.7	40.7	41.0	41.3	40.9	40.2
Apparel and other textile products	36.4	36.3	35.9	36.1	35.6	36.2	36.3	36.3	36.4	36.5	36.6	36.8	37.0	37.0	36.0
Paper and allied products	43.1	43.1	42.9	42.9	43.0	43.0	42.9	42.7	43.0	43.1	43.3	43.3	43.6	43.7	43.6
Printing and publishing	37.9	37.7	37.7	37.6	37.6	37.4	37.5	37.5	37.9	38.0	37.9	37.8	38.2	37.9	37.7
Chemicals and allied products	41.9	41.9	41.9	42.1	41.9	41.9	42.0	41.8	41.8	41.6	41.7	41.9	42.0	42.0	41.8
Petroleum and coal products	43.7	43.0	43.1	43.3	42.0	41.7	42.6	42.9	43.3	43.4	44.3	43.1	43.7	43.5	43.3
Leather and leather products	36.8	37.3	36.4	37.1	37.0	37.1	37.0	37.0	37.3	37.8	37.9	37.7	37.8	37.4	36.8
TRANSPORTATION AND PUBLIC UTILITIES	39.4	39.4	39.4	39.5	39.4	39.5	39.5	39.2	39.6	39.5	39.5	39.4	39.5	39.6	39.7
WHOLESALE TRADE	38.6	38.7	38.6	38.7	38.6	38.7	38.8	38.6	38.6	38.7	38.6	38.7	38.7	38.8	38.8
RETAIL TRADE	30.0	29.7	29.8	29.8	29.7	29.9	29.9	29.7	29.6	29.6	29.5	29.5	29.3	29.5	29.4
SERVICES	32.8	32.8	32.8	32.8	32.7	32.8	32.8	32.7	32.8	32.8	32.9	32.8	32.8	32.9	32.9

ᵖ = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark adjustment.

15. Average hourly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1985											1986	
	1984	1985	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.p	Feb.p
PRIVATE SECTOR	$8.33	$8.57	$8.52	$8.52	$8.54	$8.53	$8.56	$8.54	$8.54	$8.60	$8.65	$8.66	$8.73	$8.74	$8.74
Seasonally adjusted	–	–	8.49	8.52	8.54	8.55	8.58	8.57	8.60	8.65	8.64	8.67	8.74	8.68	8.72
MINING	11.63	11.95	11.90	11.91	11.93	11.86	11.90	11.88	11.95	12.00	11.95	12.02	12.22	12.19	12.29
CONSTRUCTION	12.12	12.26	12.33	12.22	12.21	12.19	12.12	12.16	12.22	12.40	12.36	12.32	12.42	12.29	12.31
MANUFACTURING	9.18	9.52	9.43	9.45	9.48	9.46	9.50	9.53	9.48	9.55	9.54	9.61	9.72	9.68	9.66
Durable goods	9.74	10.09	9.99	10.01	10.03	10.04	10.06	10.10	10.05	10.15	10.14	10.21	10.34	10.27	10.26
Lumber and wood products	8.03	8.20	8.09	8.06	8.04	8.12	8.24	8.20	8.26	8.31	8.29	8.28	8.34	8.28	8.29
Furniture and fixtures	6.85	7.19	7.01	7.07	7.06	7.11	7.18	7.22	7.22	7.29	7.31	7.34	7.40	7.36	7.36
Stone, clay, and glass products	9.57	9.83	9.73	9.71	9.80	9.80	9.84	9.89	9.87	9.90	9.86	9.90	9.94	9.94	9.96
Primary metal industries	11.47	11.68	11.69	11.66	11.64	11.64	11.65	11.78	11.63	11.69	11.61	11.76	11.84	11.82	11.91
Blast furnaces and basic steel products	12.99	13.25	13.42	13.27	13.32	13.31	13.29	13.51	13.37	13.45	13.24	13.44	13.46	13.50	13.68
Fabricated metal products	9.38	9.66	9.59	9.62	9.64	9.63	9.65	9.66	9.61	9.70	9.68	9.73	9.88	9.81	9.84
Machinery, except electrical	9.96	10.29	10.14	10.15	10.17	10.22	10.26	10.31	10.27	10.39	10.41	10.48	10.56	10.49	10.54
Electrical and electronic equipment	9.04	9.47	9.33	9.39	9.40	9.39	9.46	9.47	9.50	9.56	9.56	9.61	9.68	9.62	9.60
Transportation equipment	12.22	12.71	12.63	12.59	12.63	12.63	12.66	12.65	12.65	12.78	12.77	12.83	13.06	12.90	12.86
Motor vehicles and equipment	12.74	13.44	13.35	13.29	13.40	13.38	13.39	13.38	13.34	13.51	13.46	13.55	13.84	13.69	13.64
Instruments and related products	8.85	9.19	9.11	9.10	9.11	9.13	9.15	9.20	9.22	9.28	9.27	9.30	9.42	9.35	9.36
Miscellaneous manufacturing	7.04	7.28	7.19	7.20	7.22	7.26	7.28	7.30	7.26	7.30	7.30	7.35	7.47	7.46	7.47
Nondurable goods	8.37	8.66	8.60	8.61	8.67	8.64	8.65	8.72	8.67	8.70	8.69	8.75	8.84	8.82	8.83
Food and kindred products	8.39	8.54	8.51	8.53	8.59	8.58	8.55	8.54	8.47	8.51	8.48	8.58	8.66	8.70	8.66
Tobacco manufactures	11.27	12.06	11.80	12.00	12.16	12.65	12.83	12.91	12.44	11.47	11.45	12.08	11.90	11.98	12.28
Textile mill products	6.46	6.71	6.60	6.64	6.70	6.66	6.69	6.69	6.72	6.75	6.76	6.79	6.83	6.85	6.83
Apparel and other textile products	5.56	5.73	5.70	5.73	5.74	5.69	5.70	5.70	5.68	5.75	5.73	5.75	5.80	5.82	5.80
Paper and allied products	10.41	10.82	10.64	10.64	10.72	10.75	10.79	10.91	10.86	10.90	10.91	10.97	11.07	10.99	11.00
Printing and publishing	9.40	9.69	9.60	9.61	9.60	9.60	9.61	9.67	9.73	9.79	9.75	9.81	9.90	9.81	9.83
Chemicals and allied products	11.08	11.57	11.39	11.37	11.48	11.46	11.52	11.60	11.62	11.67	11.72	11.82	11.87	11.86	11.84
Petroleum and coal products	13.43	14.04	13.99	14.08	14.18	14.00	13.97	14.03	13.99	14.07	13.97	14.06	14.22	14.25	14.06
Rubber and miscellaneous plastics products	8.29	8.53	8.48	8.46	8.48	8.45	8.50	8.54	8.51	8.56	8.53	8.62	8.72	8.68	8.71
Leather and leather products	5.70	5.82	5.79	5.82	5.84	5.83	5.83	5.83	5.80	5.82	5.78	5.83	5.83	5.87	5.87
TRANSPORTATION AND PUBLIC UTILITIES	11.11	11.38	11.27	11.24	11.27	11.24	11.32	11.35	11.40	11.52	11.48	11.57	11.69	11.60	11.67
WHOLESALE TRADE	8.96	9.26	9.22	9.19	9.24	9.24	9.28	9.27	9.25	9.33	9.25	9.32	9.41	9.37	9.38
RETAIL TRADE	5.88	5.97	5.99	5.97	5.96	5.97	5.94	5.93	5.91	5.99	5.97	6.00	6.02	6.06	6.06
FINANCE, INSURANCE, AND REAL ESTATE	7.62	7.93	7.87	7.87	7.85	7.83	7.95	7.87	7.90	8.03	8.00	8.05	8.14	8.14	8.23
SERVICES	7.64	7.95	7.87	7.87	7.89	7.86	7.91	7.96	7.87	8.04	8.04	8.10	8.16	8.17	8.22

– Data not available.
p = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

16. Average weekly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1985											1986	
	1984	1985	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.^{p}	Feb.^{p}
PRIVATE SECTOR															
Current dollars	$294.05	$301.16	$294.79	$298.20	$298.05	$298.95	$303.02	$301.46	$302.32	$305.54	$303.62	$302.93	$308.17	$304.15	$302.40
Seasonally adjusted	–	–	298.00	299.90	298.20	300.11	301.51	299.95	301.86	303.62	303.26	303.45	306.77	305.54	305.20
Constant (1977) dollars	173.48	171.80	170.50	171.88	170.80	170.90	172.56	171.48	171.68	173.01	171.54	170.47	172.93	170.20	–
MINING	520.58	518.83	514.88	519.28	516.57	515.81	523.96	509.65	517.44	524.40	516.24	520.47	535.24	542.46	528.47
CONSTRUCTION	456.92	462.20	461.29	460.69	461.54	464.44	461.77	469.38	468.03	477.40	472.15	448.47	458.30	456.42	432.08
MANUFACTURING															
Current dollars	373.63	385.56	374.37	381.78	380.15	382.04	385.70	382.15	382.99	389.64	388.28	393.05	404.35	393.98	389.14
Constant (1977) dollars	220.43	219.89	218.52	219.79	217.85	218.18	219.65	217.38	217.48	220.63	219.37	221.19	226.91	220.47	–
Durable goods	403.24	415.71	408.80	412.41	410.23	411.84	417.31	410.06	412.05	420.21	418.78	423.72	439.45	425.18	421.48
Lumber and wood products	320.40	326.36	309.85	317.58	317.58	325.61	336.19	325.54	333.70	337.39	334.92	327.06	335.27	327.89	323.31
Furniture and fixtures	271.95	283.29	270.50	277.85	276.83	275.18	281.48	276.53	285.19	290.14	292.40	292.13	304.14	291.46	287.39
Stone, clay, and glass products	401.94	411.88	393.09	404.91	411.60	415.59	418.20	418.35	418.49	420.75	418.06	413.82	414.50	412.51	405.37
Primary metal industries	478.30	484.72	478.12	481.56	480.73	479.57	486.97	485.34	480.32	487.47	480.65	491.57	504.38	495.26	499.03
Blast furnaces and basic steel products	527.39	546.69	544.85	540.09	547.45	543.05	552.86	559.31	550.84	554.14	545.61	557.76	565.32	564.30	570.87
Fabricated metal products	388.33	396.96	387.44	396.34	395.24	395.79	400.48	394.13	395.93	403.52	401.72	404.77	420.89	406.13	404.42
Machinery, except electrical	417.32	427.04	415.74	424.27	417.99	421.08	427.65	420.65	422.10	432.22	430.97	438.06	451.54	436.38	436.36
Electrical and electronic equipment	370.84	384.48	373.20	383.11	376.00	377.48	385.02	376.91	383.80	387.73	388.14	396.89	408.50	395.38	389.76
Transportation equipment	521.79	542.72	524.15	537.50	538.04	538.30	539.32	531.30	531.30	544.43	545.28	550.41	578.56	554.70	542.69
Motor vehicles and equipment	569.01	584.64	559.37	576.79	586.82	587.38	579.79	574.00	566.95	586.33	586.86	590.78	626.95	598.25	586.52
Instruments and related products	365.51	376.79	369.87	374.01	369.96	372.50	376.07	370.76	373.41	381.41	377.29	384.09	400.35	385.22	383.76
Miscellaneous manufacturing	277.38	286.80	276.82	282.24	280.88	285.38	286.10	281.78	284.59	292.00	294.19	295.47	303.28	297.70	293.57
Nondurable goods	331.45	342.86	333.88	338.37	337.28	339.55	342.54	341.82	344.20	348.00	346.73	350.00	358.02	350.15	348.14
Food and kindred products	333.52	341.60	331.89	335.23	336.73	343.20	340.29	341.60	341.34	347.21	343.00	344.92	353.28	347.13	340.26
Tobacco manufactures	438.40	448.28	442.50	452.40	424.38	469.32	483.69	437.65	461.52	438.15	448.84	439.71	452.20	446.11	441.36
Textile mill products	257.75	266.39	254.10	258.96	257.28	260.52	266.93	258.23	270.14	275.40	276.48	279.75	283.45	278.80	272.52
Apparel and other textile products	202.02	208.00	202.35	206.85	203.20	205.98	209.19	206.34	207.32	209.88	210.86	212.18	215.18	213.01	206.48
Paper and allied products	449.67	466.34	451.14	454.33	458.82	460.10	463.97	465.86	465.89	473.06	472.40	477.20	490.40	478.07	474.10
Printing and publishing	356.28	365.31	358.08	362.30	360.00	358.08	358.45	360.69	369.74	373.98	369.53	373.76	384.12	368.86	367.64
Chemicals and allied products	464.25	484.78	476.10	478.88	481.01	480.17	484.99	482.56	483.39	487.81	486.38	496.44	504.48	496.93	493.73
Petroleum and coal products	586.89	603.72	594.59	601.77	595.56	583.80	596.52	606.10	605.77	620.49	620.27	610.20	621.41	614.18	600.36
Rubber and miscellaneous plastics products	345.89	350.58	343.44	347.71	346.83	345.61	350.20	346.72	346.36	351.41	350.58	356.01	366.24	358.48	357.11
Leather and leather products	209.76	217.09	207.28	212.43	215.50	218.04	221.54	218.63	216.92	219.41	216.58	219.79	221.54	217.19	212.49
TRANSPORTATION AND PUBLIC UTILITIES	437.73	448.37	440.86	441.73	441.78	441.73	449.40	448.33	454.86	457.34	452.67	457.02	460.52	454.72	458.63
WHOLESALE TRADE	346.86	358.36	352.20	353.82	354.82	357.59	360.99	359.66	356.90	362.00	357.98	361.62	366.39	361.68	360.19
RETAIL TRADE	176.40	177.31	174.31	175.52	175.22	177.91	179.39	180.27	179.07	177.90	175.52	175.80	180.00	174.53	173.92
FINANCE, INSURANCE, AND REAL ESTATE	278.13	286.65	286.47	286.47	286.74	294.23	291.77	285.68	286.77	292.29	290.40	291.41	298.74	297.11	304.51
SERVICES	250.59	260.76	256.96	256.56	257.21	257.86	261.03	260.17	260.50	263.71	263.71	264.87	267.65	267.16	268.79

- Data not available.
^{p} = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

17. The Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Not seasonally adjusted				Seasonally adjusted					
	Feb. 1985	Dec. 1985	Jan. 1986^p	Feb. 1986^p	Feb. 1985	Oct. 1985	Nov. 1985	Dec. 1985	Jan. 1986	Feb. 1986^p
PRIVATE SECTOR (in current dollars)	164.3	168.5	168.3	168.8	164.0	166.4	167.1	168.4	167.5	168.5
Mining[1]	178.4	181.7	180.8	180.7	–	–	–	–	–	–
Construction	148.9	151.0	149.4	149.4	150.8	149.4	148.9	150.5	149.3	150.3
Manufacturing	167.0	171.3	171.3	171.6	166.9	169.4	170.1	170.8	170.7	171.4
Transportation and public utilities	164.7	169.9	169.9	171.1	164.2	167.0	168.1	169.2	169.1	170.6
Wholesale trade[1]	170.2	173.9	172.9	173.2	–	–	–	–	–	–
Retail trade	155.9	157.8	157.7	158.0	155.4	156.7	157.4	158.9	157.1	157.6
Finance, insurance, and real estate[1]	170.2	176.0	175.9	178.1	–	–	–	–	–	–
Services	167.2	173.6	173.6	174.4	166.2	171.1	172.1	173.4	171.9	173.4
PRIVATE SECTOR (in constant dollars)	95.0	94.5	94.2	–	94.7	94.1	94.1	94.4	93.6	–

[1] This series is not seasonally adjusted because the seasonal component is small relative to the trend-cycle, irregular components, or both, and consequently cannot be separated with sufficient precision.

- Data not available.

^{p} = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

18. Indexes of diffusion: Industries in which employment increased, data seasonally adjusted

(In percent)

Time span and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Over 1-month span												
1984	67.3	72.7	66.8	67.3	60.5	64.3	65.7	58.1	48.4	66.5	55.1	63.5
1985	57.6	50.3	55.9	44.6	50.3	47.0	54.9	56.8	45.7	63.5	61.6	63.2
1986	p65.4	p51.6	–	–	–	–	–	–	–	–	–	–
Over 3-month span												
1984	78.1	75.9	77.6	68.9	69.7	67.0	65.4	60.3	60.0	56.5	67.0	60.0
1985	58.6	54.1	46.6	45.9	44.1	49.7	50.5	49.2	53.8	52.7	65.1	p67.8
1986	p63.5	–	–	–	–	–	–	–	–	–	–	–
Over 6-month span												
1984	79.2	77.8	77.3	75.4	69.2	64.9	63.2	64.1	67.0	59.7	57.6	60.3
1985	52.2	49.5	44.3	44.6	44.3	42.4	46.8	50.0	56.8	p61.6	p58.1	–
1986	–	–	–	–	–	–	–	–	–	–	–	–
Over 12-month span												
1984	81.9	78.4	76.8	75.1	72.7	73.0	70.0	65.7	63.5	60.5	56.2	51.9
1985	50.8	48.4	49.5	47.3	46.2	47.3	p48.6	p48.4	–	–	–	–
1986	–	–	–	–	–	–	–	–	–	–	–	–

– Data not available.

NOTE: Figures are the percent of industries with employment rising. (Half of the unchanged components are counted as rising.) Data are centered within the spans. See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

p = preliminary

19. Annual data: Employment status of the noninstitutional population

(Numbers in thousands)

Employment status	1977	1978	1979	1980	1981	1982	1983	1984	1985
Noninstitutional population	160,689	163,541	166,460	169,349	171,775	173,939	175,891	178,080	179,912
Labor force									
Total (number)	100,665	103,882	106,559	108,544	110,315	111,872	113,226	115,241	117,167
Percent of population	62.6	63.5	64.0	64.1	64.2	64.3	64.4	64.7	65.1
Employed									
Total (number)	93,673	97,679	100,421	100.907	102,042	101,194	102,510	106,702	108,856
Percent of population	58.3	59.7	60.3	59.6	59.4	58.2	58.3	59.9	60.5
Resident Armed Forces	1,656	1,631	1,597	1,604	1,645	1,668	1,676	1,697	1,706
Civilian									
Total	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005	107,150
Agriculture	3,283	3,387	3,347	3,364	3,368	3,401	3,383	3,321	3,179
Nonagricultural industries	88,734	92,661	95,477	95,938	97,030	96,125	97,450	101,685	103,971
Unemployed									
Total (number)	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539	8,312
Percent of labor force	6.9	6.0	5.8	7.0	7.5	9.5	9.5	7.4	7.1
Not in labor force (number)	60,025	59,659	59,900	60,806	61,460	62,067	62,665	62,839	62,744

20. Annual data: Employment levels by industry

(Numbers in thousands)

Industry	1977	1978	1979	1980	1981	1982	1983	1984	1985
Total employment	82,471	86,697	89,823	90,406	91,156	89,566	90,196	94,461	97,699
Private sector	67,344	71,026	73,876	74,166	75,126	73,729	74,330	78,477	81,404
Goods-producing	24,346	25,585	26,461	25,658	25,497	23,813	23,334	24,730	25,057
Mining	813	851	958	1,027	1,139	1,128	952	974	969
Construction	3,851	4,229	4,463	4,346	4,188	3,905	3,948	4,345	4,662
Manufacturing	19,682	20,505	21,040	20,285	20,170	18,781	18,434	19,412	19,426
Service-producing	58,125	61,113	63,363	64,748	65,659	65,753	66,862	69,731	72,643
Transportation and public utilities	4,713	4,923	5,136	5,146	5,165	5,082	4,954	5,171	5,300
Wholesale trade	4,708	4,969	5,204	5,275	5,358	5,278	5,268	5,550	5,769
Retail trade	13,808	14,573	14,989	15,035	15,189	15,179	15,613	16,584	17,425
Finance, insurance, and real estate	4,467	4,724	4,975	5,160	5,298	5,341	5,468	5,682	5,924
Services	15,303	16,252	17,112	17,890	18,619	19,036	19,694	20,761	21,930
Government	15,127	15,672	15,947	16,241	16,031	15,837	15,869	15,984	16,295
Federal	2,727	2,753	2,773	2,866	2,772	2,739	2,774	2,807	2,875
State	3,377	3,474	3,541	3,610	3,640	3,640	3,662	3,712	3,780
Local	9,023	9,446	9,633	9,765	9,619	9,458	9,434	9,465	9,640

NOTE: Data include Alaska and Hawaii beginning in 1959. See "Notes on the data" for a description of the most recent benchmark revision.

21. Annual data: Average hours and earnings of production or nonsupervisory workers on nonagricultural payrolls, by industry

Industry	1977	1978	1979	1980	1981	1982	1983	1984	1985
Private sector									
Average weekly hours	36.0	35.8	35.7	35.3	35.2	34.8	35.0	35.3	35.1
Average hourly earnings	5.25	5.69	6.16	6.66	7.25	7.68	8.02	8.33	8.58
Average weekly earnings	189.00	203.70	219.91	235.10	255.20	267.26	280.70	294.05	301.16
Mining									
Average weekly hours	43.4	43.4	43.0	43.3	43.7	42.7	42.5	43.3	43.4
Average hourly earnings	6.94	7.67	8.49	9.17	10.04	10.77	11.28	11.63	11.95
Average weekly earnings	301.20	332.88	365.07	397.06	438.75	459.88	479.40	503.58	518.63
Construction									
Average weekly hours	36.5	36.8	37.0	37.0	36.9	36.7	37.1	37.7	37.7
Average hourly earnings	8.10	8.66	9.27	9.94	10.82	11.63	11.94	12.12	12.26
Average weekly earnings	295.65	318.69	342.99	367.78	399.26	426.82	442.97	456.92	462.20
Manufacturing									
Average weekly hours	40.3	40.4	40.2	39.7	39.8	38.9	40.1	40.7	40.5
Average hourly earnings	5.68	6.17	6.70	7.27	7.99	8.49	8.83	9.18	9.52
Average weekly earnings	228.90	249.27	269.34	288.62	318.00	330.26	354.08	373.63	385.56
Transportation and public utilities									
Average weekly hours	39.9	40.0	39.9	39.6	39.4	39.0	39.0	39.4	39.4
Average hourly earnings	6.99	7.57	8.16	8.87	9.70	10.32	10.79	11.11	11.38
Average weekly earnings	278.90	302.80	325.58	351.25	382.18	402.48	420.81	437.73	448.37
Wholesale trade									
Average weekly hours	38.8	38.8	38.8	38.5	38.5	38.3	38.5	38.6	38.7
Average hourly earnings	5.39	5.88	6.39	6.96	7.56	8.09	8.55	8.96	9.26
Average weekly earnings	209.13	228.14	247.93	267.96	291.06	309.85	329.18	345.86	358.36
Retail trade									
Average weekly hours	31.6	31.0	30.6	30.2	30.1	29.9	29.8	30.0	29.7
Average hourly earnings	3.85	4.20	4.53	4.88	5.25	5.48	5.74	5.88	5.97
Average weekly earnings	121.66	130.20	138.62	147.38	158.03	163.85	171.05	176.40	177.31
Finance, insurance, and real estate									
Average weekly hours	36.4	36.4	36.2	36.2	36.3	36.2	36.2	36.5	36.4
Average hourly earnings	4.54	4.89	5.27	5.79	6.31	6.78	7.29	7.62	7.93
Average weekly earnings	165.26	178.00	190.77	209.60	229.05	245.44	263.90	278.13	288.65
Services									
Average weekly hours	33.0	32.8	32.7	32.6	32.6	32.6	32.7	32.8	32.8
Average hourly earnings	4.65	4.99	5.36	5.85	6.41	6.92	7.31	7.64	7.95
Average weekly earnings	153.45	163.67	175.27	190.71	208.97	225.59	239.04	250.59	260.76

22. Employment Cost Index, compensation,[1] by occupation and industry group

(June 1981 = 100)

Series	1983	1984				1985				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec., 1985	
Civilian workers [2]	117.8	119.8	120.8	122.4	123.9	125.5	126.4	128.4	129.2	0.6	4.3
Workers, by occupational group:											
White-collar workers	118.9	120.9	122.1	124.0	125.5	127.3	128.3	130.7	131.6	.7	4.9
Blue-collar workers	115.8	117.7	118.6	119.6	120.9	122.2	123.1	124.4	124.9	.4	3.3
Service workers	119.1	122.0	122.1	124.6	126.8	127.8	128.0	130.9	131.8	.7	3.9
Workers, by industry division:											
Manufacturing	116.0	117.9	119.1	120.4	122.0	123.9	124.6	125.5	126.0	.4	3.3
Nonmanufacturing	118.6	120.7	121.6	123.3	124.8	126.2	127.2	129.7	130.6	.7	4.6
Services	122.6	125.0	125.5	128.8	130.9	131.9	132.6	136.4	137.1	.5	4.7
Public administration [3]	121.4	122.9	123.7	126.9	128.6	130.1	130.3	134.2	134.8	.4	4.8
Private industry workers	117.0	119.0	120.1	121.1	122.7	124.2	125.2	126.8	127.5	.6	3.9
Workers, by occupational group:											
White-collar workers	117.9	119.9	121.4	122.4	123.9	125.8	127.1	128.8	129.8	.8	4.8
Blue-collar workers	115.7	117.5	118.4	119.3	120.6	121.9	122.8	124.0	124.4	.3	3.2
Service workers	117.9	121.5	121.2	123.2	125.7	126.3	126.5	128.8	129.5	.5	3.0
Workers, by industry division:											
Manufacturing	116.0	117.9	119.1	120.4	122.0	123.9	124.6	125.5	126.0	.4	3.3
Nonmanufacturing	117.5	118.6	120.7	121.6	123.1	124.4	125.6	127.6	128.4	.6	4.3
State and local government workers	122.0	123.9	124.4	128.8	130.1	131.7	132.0	136.5	137.5	.7	5.7
Workers, by occupational group:											
White-collar workers	122.6	124.5	125.0	129.7	131.1	132.5	132.9	137.6	138.6	.7	5.7
Blue-collar workers	119.2	121.9	122.3	125.0	125.9	128.1	128.5	131.9	132.7	.6	5.4
Workers, by industry division:											
Services	122.5	124.5	125.0	129.9	131.3	132.8	133.2	137.9	139.1	.9	5.9
Schools	122.6	124.5	124.7	130.6	132.0	133.4	133.7	139.1	140.3	.9	6.3
Elementary and secondary	123.9	125.4	125.7	132.1	133.5	134.4	134.6	140.9	142.0	.8	6.4
Hospitals and other services[4]	122.6	124.4	125.7	127.9	129.2	131.1	131.5	134.1	135.2	.8	4.6
Public administration[3]	121.4	122.9	123.7	126.9	128.6	130.1	130.3	134.2	134.8	.4	4.8

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[1] Cost (cents-per-hour worked) measured in the Employment Cost Index consists of wages, salaries and employer cost of employee benefits.

[2] Consist of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[3] Consists of legislative, judicial, administrative, and regulatory activities.

[4] Includes, for example, library, social, and health services.

23. Employment Cost Index, wages and salaries, by occupation and industry group

(June 1981 = 100)

Series	1983	1984				1985				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec., 1985	
Civilian workers [1]	116.5	117.9	118.8	120.3	121.7	123.1	124.2	126.3	127.0	0.6	4.4
Workers, by occupational group:											
White-collar workers	117.9	119.3	120.4	122.2	123.5	125.2	126.4	128.8	129.8	.8	5.1
Blue-collar workers	114.0	115.3	116.1	117.0	118.2	119.3	120.5	122.0	122.3	.2	3.5
Service workers	117.4	120.0	119.8	122.3	124.3	124.6	125.3	126.0	126.6	.5	3.5
Workers, by industry division											
Manufacturing	114.5	115.7	116.8	118.0	119.5	121.0	122.3	123.2	123.8	.5	3.6
Nonmanufacturing	117.4	118.9	119.7	121.3	122.6	123.9	125.0	127.6	128.4	.6	4.7
Services	121.3	123.3	123.6	127.2	128.9	129.7	130.5	134.2	134.8	.4	4.6
Public administration [2]	119.4	120.4	121.3	124.4	125.7	127.0	127.2	131.4	132.0	.5	5.0
Private industry workers	115.8	117.2	118.2	119.2	120.6	122.0	123.3	124.9	125.6	.6	4.1
Workers, by occupational group:											
White-collar workers	117.2	118.5	119.9	120.9	122.3	124.0	125.5	127.3	128.3	.8	4.9
Professional and technical	120.4	122.2	123.8	125.2	127.3	127.7	128.7	131.2	131.5	.2	3.3
Managers and administrators	115.7	118.0	119.2	121.0	122.2	123.6	126.5	127.7	128.4	.5	5.1
Salesworkers	111.2	110.2	111.9	110.5	111.6	116.3	117.4	119.3	122.5	2.7	9.8
Clerical workers	118.3	119.8	120.7	122.0	122.9	124.7	125.6	127.1	127.9	.6	4.1
Blue-collar workers	113.9	115.1	115.9	116.7	118.0	119.1	120.3	121.7	122.0	.2	3.4
Craft and kindred workers	115.4	116.5	117.3	118.0	119.4	120.6	122.0	123.7	123.8	.1	3.7
Operatives, except transport	113.6	114.9	115.8	116.6	117.9	118.9	120.1	121.1	121.6	.4	3.1
Transport equipment operatives	110.2	111.7	112.7	113.4	114.0	114.5	115.7	117.7	117.8	.1	3.3
Nonfarm laborers	112.1	112.9	114.1	114.7	115.9	116.7	118.5	118.6	119.8	1.0	3.4
Service workers	116.5	119.8	119.3	121.2	123.7	123.6	124.4	126.3	126.6	.2	2.3
Workers, by industry division:											
Manufacturing	114.5	115.7	116.8	118.0	119.5	121.0	122.3	123.2	123.8	.5	3.6
Durables	114.4	115.7	116.6	117.7	119.1	120.6	122.0	122.7	123.4	.6	3.6
Nondurables	114.6	115.8	117.1	118.6	120.2	121.6	122.6	124.0	124.6	.5	3.7
Nonmanufacturing	116.5	118.0	119.0	119.9	121.2	122.6	123.9	125.9	126.6	.6	4.5
Construction	112.9	113.3	114.0	114.3	114.4	115.5	116.6	117.3	117.9	.5	3.1
Transportation and public utilities	116.8	118.5	119.3	119.9	120.7	121.7	122.8	124.8	125.2	.3	3.7
Wholesale and retail trade	112.3	114.3	116.0	116.5	118.1	118.8	121.1	122.7	123.7	.8	4.7
Wholesale trade	116.5	118.2	120.0	120.7	122.9	123.7	126.8	127.7	128.3	.5	4.4
Retail trade	110.6	112.8	114.4	114.9	116.2	116.9	118.9	120.8	121.9	.9	4.9
Finance, insurance, and real estate	116.9	116.1	116.9	115.3	115.8	122.0	121.7	124.1	126.5	1.9	9.2
Services	121.9	124.2	124.7	127.1	129.5	129.9	131.0	133.9	134.1	.1	3.6
State and local government workers	120.0	121.6	122.0	126.1	127.1	128.4	128.7	133.2	134.2	.8	5.6
Workers, by occupational group											
White-collar workers	120.6	122.2	122.5	127.1	128.0	129.3	129.6	134.3	135.3	.7	5.7
Blue-collar workers	116.9	119.1	119.6	121.9	122.5	124.2	124.5	127.9	128.4	.4	4.8
Workers, by industry division											
Services	120.6	122.2	122.5	127.2	128.1	129.4	129.7	134.5	135.6	.8	5.9
Schools	120.6	122.2	122.3	127.6	128.7	129.9	130.2	135.8	137.0	.9	6.4
Elementary and secondary	121.7	122.9	123.0	129.3	130.2	130.6	131.1	137.5	138.5	.7	6.4
Hospitals and other services [3]	120.6	121.9	123.1	125.1	125.9	127.7	128.0	130.2	130.9	.5	4.0
Public administration [2]	119.4	120.4	121.3	124.4	125.7	127.0	127.2	131.4	132.0	.5	5.0

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[1] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[2] Consists of legislative, judicial, administrative, and regulatory activities.

[3] Includes, for example, library, social and health services.

24. Employment Cost Index, private nonfarm workers, by bargaining status, region, and area size

(June 1981 = 100)

Series	1983	1984				1985				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec., 1985	
COMPENSATION											
Workers, by bargaining status[1]											
Union	118.8	120.6	121.7	122.6	123.9	124.8	125.5	126.5	127.1	0.5	2.6
Manufacturing	117.2	119.3	120.5	121.6	123.2	124.2	124.2	125.0	125.5	.4	1.9
Nonmanufacturing	120.4	121.9	122.8	123.6	124.5	125.3	126.6	127.8	128.6	.6	3.3
Nonunion	115.9	118.0	119.2	120.3	121.9	123.8	125.0	126.8	127.5	.6	4.6
Manufacturing	114.9	116.6	117.9	119.3	120.8	123.6	124.8	125.7	126.3	.5	4.6
Nonmanufacturing	116.4	118.6	119.8	120.7	122.4	123.9	125.1	127.3	128.1	.6	4.7
Workers, by region[1]											
Northeast	117.5	118.9	120.7	122.4	123.8	125.1	126.4	128.8	129.9	.9	4.9
South	117.1	119.7	120.7	120.7	122.2	124.2	125.2	126.5	127.2	.6	4.1
Midwest (formerly North Central)	114.7	117.2	117.9	119.7	120.8	122.0	122.7	124.2	124.6	.3	3.1
West	120.0	121.0	122.2	122.5	124.9	126.8	127.9	129.1	129.8	.5	3.9
Workers, by area size[1]											
Metropolitan areas	117.4	119.4	120.6	121.5	123.2	124.7	125.7	127.3	128.1	.6	4.0
Other areas	114.5	116.7	117.4	119.0	119.8	121.4	122.5	123.9	123.9	.0	3.4
WAGES AND SALARIES											
Workers, by bargaining status[1]											
Union	116.9	118.1	119.0	119.8	120.9	121.7	123.0	124.1	124.7	.5	3.1
Manufacturing	114.8	116.1	117.1	118.1	119.5	120.4	121.7	122.8	123.3	.4	3.2
Nonmanufacturing	118.9	120.1	120.7	121.3	122.1	122.8	124.1	125.3	125.9	.5	3.1
Nonunion	115.2	116.7	117.8	118.8	120.4	122.1	123.4	125.2	125.9	.6	4.6
Manufacturing	114.2	115.4	116.5	117.9	119.5	121.5	122.8	123.7	124.4	.6	4.1
Nonmanufacturing	115.6	117.2	118.3	119.2	120.7	122.3	123.6	125.9	126.6	.6	4.9
Workers, by region[1]											
Northeast	116.6	117.4	118.9	120.5	121.9	123.0	124.6	126.8	128.1	1.0	5.1
South	115.7	117.9	119.0	119.0	120.2	122.3	123.4	124.8	125.4	.5	4.3
Midwest (formerly North Central)	113.6	115.5	116.0	117.8	118.7	119.6	121.1	122.5	122.9	.3	3.5
West	118.5	118.8	119.6	120.0	122.5	124.0	125.1	126.6	127.1	.4	3.8
Workers, by area size[1]											
Metropolitan areas	116.2	117.6	118.6	119.5	121.0	122.4	123.8	125.5	126.3	.6	4.4
Other areas	113.4	115.1	116.0	117.5	118.3	119.6	120.6	121.9	122.0	.1	3.1

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[1] The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the *Monthly Labor Review* Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

25. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		Quarterly average							
			1984				1985			
	1984	1985	I	II	III	IV	I	II^{p}	III^{p}	IV^{p}
Specified adjustments:										
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:										
First year of contract	3.6	2.6	5.1	3.5	2.7	3.7	3.6	3.5	2.0	2.0
Annual rate over life of contract	2.8	2.7	4.7	3.2	3.1	2.0	2.7	3.4	3.0	1.4
Wage adjustments, settlements covering 1,000 workers or more:										
First year of contract	2.4	2.3	2.8	2.6	2.1	2.3	3.3	2.5	2.0	2.1
Annual rate over life of contract	2.4	2.7	3.3	2.7	2.6	1.5	3.2	2.8	3.1	1.9
Effective adjustments:										
Total effective wage adjustment [3]	3.7	3.3	.9	.9	1.2	.7	.8	.8	1.2	.5
From settlements reached in period	.8	.7	.1	.1	.2	.3	.1	.2	.2	.2
Deferred from settlements reached in earlier periods	2.0	1.8	.4	.7	.7	.2	.6	.5	.6	.2
From cost-of-living-adjustments clauses	.9	.8	.3	.2	.3	.2	.1	.1	.4	.1

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[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases and no changes in compensation or wages.

[3] Because of rounding total may not equal sum of parts.

[p] = preliminary.

26. Average specified compensation and wage adjustments, major collective bargaining settlements in private industry situations covering 1,000 workers or more during 4-quarter periods (in percent)

Measure	Average for four quarters ending--							
	1984				1985			
	I	II	III	IV	I	II^{p}	III^{p}	IV^{p}
Specified total compensation adjustments, settlements covering 5,000 workers or more, all industries:								
First year of contract	4.8	4.7	4.2	3.6	3.4	3.5	3.1	(1)
Annual rate over life of contract	3.6	3.5	3.2	2.8	2.6	2.7	2.7	2.8
Specified wage adjustments, settlements covering 1,000 workers or more:								
All industries								
First year of contract	3.5	3.5	3.2	2.4	2.4	2.4	2.4	2.3
Contracts with COLA clauses	4.0	4.6	4.5	2.9	2.5	2.3	1.9	1.6
Contracts without COLA clauses	3.0	2.7	2.3	2.1	2.4	2.4	2.7	2.7
Annual rate over life of contract	3.0	3.1	2.6	2.4	2.3	2.4	2.5	2.7
Contracts with COLA clauses	2.6	2.9	2.5	1.8	1.3	1.5	1.8	2.5
Contracts without COLA clauses	3.4	3.2	2.8	2.7	2.8	2.6	3.0	2.8
Manufacturing								
First year of contract	2.6	3.0	2.8	2.3	2.1	2.0	1.5	.8
Contracts with COLA clauses	2.4	3.2	1.5	2.1	2.0	1.9	1.5	.6
Contracts without COLA clauses	2.9	2.8	3.7	2.9	2.5	2.2	1.5	.9
Annual rate over life of contract	2.8	3.1	2.8	1.5	1.4	1.5	1.6	1.8
Contracts with COLA clauses	2.2	2.8	1.8	1.0	.9	1.0	1.4	2.1
Contracts without COLA clauses	3.7	3.6	3.8	3.3	3.2	3.0	2.4	1.8
Nonmanufacturing								
First year of contract	3.8	3.7	3.3	2.5	2.6	2.7	3.2	3.3
Contracts with COLA clauses	4.9	5.2	5.4	5.5	5.1	4.3	4.0	3.6
Contracts without COLA clauses	3.0	2.6	2.1	2.0	2.4	2.5	3.0	3.3
Annual rate over life of contract	3.1	3.0	2.8	2.9	2.8	2.9	3.3	3.3
Contracts with COLA clauses	2.9	3.0	3.1	4.8	4.0	3.8	3.9	3.6
Contracts without COLA clauses	3.3	3.0	2.6	2.6	2.7	2.8	3.2	3.3
Construction								
First year of contract	1.2	.8	.9	.5	.9	1.1	1.0	1.5
Contracts with COLA clauses	.1	-.4	4.0	4.0	4.6	9.2	(1)	(1)
Contracts without COLA clauses	1.4	.9	.9	.4	.8	1.0	(1)	(1)
Annual rate over life of contract	2.0	1.7	1.4	1.0	1.4	1.7	1.7	2.1
Contracts with COLA clauses	.7	.0	1.4	1.4	1.7	4.6	(1)	(1)
Contracts without COLA clauses	2.2	1.8	1.4	1.0	1.4	1.7	(1)	(1)

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[1] Data do not meet publication standards.

[p] = preliminary.

27. Average effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more during 4-quarter periods (in percent)

Effective wage adjustment	Average for four quarters ending–						
	1984			1985			
	II	III	IV	I	II^p	III^p	IV^p
For all workers:[1]							
Total	4.3	4.2	3.7	3.6	3.5	3.5	3.3
From settlements reached in period	1.0	1.0	.8	.7	.9	.9	.7
Deferred from settlements reached in earlier period	2.2	2.1	2.0	2.2	1.9	1.8	1.8
From cost-of-living-adjustments clauses	1.1	1.2	.9	.7	.7	.8	.8
For workers receiving changes:							
Total	5.3	5.0	4.4	4.5	4.2	4.3	4.1
From settlements reached in period	3.6	3.7	3.0	2.9	2.9	2.8	3.4
Deferred from settlements reached in earlier period	4.8	4.2	4.0	4.2	3.9	3.7	3.7
From cost-of-living-adjustments clauses	4.0	3.2	2.7	2.3	2.3	2.8	2.2

[1] Because of rounding total may not equal sum of parts.

p = preliminary.

28. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, State and local government collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		Second 6 months 1985^p
	1984	1985	
Specified adjustments:			
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:			
First year of contract	5.2	4.2	3.8
Annual rate over life of contract	5.4	5.2	5.3
Wage adjustments, settlements covering 1,000 workers or more:			
First year of contract	4.8	4.6	4.4
Annual rate over life of contract	5.1	5.4	5.6
Effective adjustments:			
Total effective wage adjustment [3]	5.0	5.8	4.1
From settlements reached in period	1.9	4.1	3.2
Deferred from settlements reached in earlier periods	3.1	1.8	.9
From cost-of-living-adjustment clauses	(4)	(4)	(4)

[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases and no changes in compensation or wages.

[3] Because of rounding total may not equal sum of parts.

[4] Less than 0.05 percent.

p = preliminary.

29. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1985											1986	
	1984	1985	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.^{p}	Oct.^{p}	Nov.^{p}	Dec.^{p}	Jan.^{p}	Feb.^{p}
Number of stoppages:															
Beginning in period	62	–	4	4	3	2	2	9	6	11	4	2	2	–	–
In effect during period	68	–	13	12	8	6	8	13	18	20	18	11	8	–	–
Workers involved:															
Beginning in period (in thousands)	376.0	–	29.3	15.2	6.2	6.9	15.7	52.3	15.3	69.5	74.6	25.0	8.2	–	–
In effect during period (in thousands)	391.0	–	43.9	48.2	14.1	14.8	28.5	60.2	66.8	93.9	117.3	64.6	38.1	–	–
Days idle:															
Number (in thousands)	8,499.0	–	250.3	698.5	229.5	203.3	454.3	500.2	869.7	931.4	1,433.0	651.2	665.4	–	–
Percent of estimated working time[1]	.04	–	.01	.03	.01	.01	.02	.02	.03	.04	.06	.03	.03	–	–

[1] Agricultural and government employees are included in the total employed and total working time: private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time worked is found in 'Total Economy' Measure of Strike Idleness,' *Monthly Labor Review*, October 1968, pp. 54-58.

– Data not available.

p = preliminary

30. Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967 = 100, unless otherwise indicated)

Series	Annual average		1985											1986	
	1984	1985	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS:															
All items	311.1	322.2	317.4	318.8	320.1	321.3	322.3	322.8	323.5	324.5	325.5	326.6	327.4	328.4	327.5
All items (1957-59 = 100)	361.9	374.7	369.1	370.7	372.3	373.7	374.8	375.5	376.2	377.4	378.5	379.9	380.8	381.9	380.8
Food and beverages	295.1	302.0	301.4	301.6	301.6	301.0	301.4	301.6	301.8	302.1	302.5	303.6	305.6	307.9	307.7
Food	302.9	309.8	309.5	309.7	309.6	308.9	309.3	309.5	309.7	309.9	309.8	311.0	313.2	315.6	315.3
Food at home	292.6	296.8	298.6	298.4	297.7	296.2	296.0	296.2	295.9	295.6	295.3	296.6	299.3	302.5	301.5
Cereals and bakery products	305.3	317.0	313.7	314.4	314.8	315.9	317.3	317.3	318.5	319.2	318.9	319.9	321.9	322.0	322.5
Meats, poultry, fish, and eggs	266.6	263.4	267.0	266.1	263.6	259.8	259.8	260.5	259.7	260.6	261.1	266.1	269.9	271.5	269.4
Dairy products	253.2	258.0	259.2	258.9	258.3	258.4	257.8	257.8	257.4	258.0	257.1	257.1	256.9	257.2	257.3
Fruits and vegetables	317.4	325.7	333.0	332.1	333.2	330.3	329.0	328.9	326.3	319.9	317.1	314.3	323.9	334.4	320.7
Other foods at home	352.2	361.1	359.8	360.5	360.8	361.3	360.8	360.6	361.7	362.6	363.0	362.2	361.3	365.7	375.1
Sugar and sweets	380.1	389.8	394.8	394.8	396.1	397.6	398.3	400.2	401.8	401.1	402.6	401.4	402.2	405.1	408.6
Fats and oils	288.0	294.4	295.1	294.9	294.0	294.0	296.0	297.8	297.1	294.8	291.2	292.1	290.3	292.1	291.4
Nonalcoholic beverages	443.0	451.7	452.7	454.0	454.0	454.1	451.5	448.2	449.6	452.8	454.1	451.7	448.8	459.7	485.3
Other prepared foods	284.9	294.2	291.5	292.2	292.8	293.4	293.4	294.5	295.8	296.3	296.8	296.8	297.3	298.0	299.5
Food away from home	333.4	346.6	341.4	342.6	343.9	345.1	346.9	347.3	348.4	349.6	350.3	351.3	352.1	353.1	354.2
Alcoholic beverages	222.1	229.5	225.8	226.5	226.7	227.7	227.8	227.8	228.9	229.3	236.4	236.2	236.2	237.5	238.3
Housing	336.5	349.9	343.6	344.7	345.9	348.5	350.4	351.6	352.9	353.8	354.4	355.0	355.8	356.8	356.5
Shelter	361.7	382.0	373.3	374.3	375.9	379.5	381.0	383.2	385.9	386.9	389.1	391.3	392.3	393.8	394.8
Renters' costs (12/82 = 100)	108.6	115.4	112.4	112.9	113.5	114.5	115.1	115.8	116.6	117.0	117.9	118.4	118.3	118.8	119.0
Rent, residential	249.3	264.6	258.4	259.2	260.4	262.6	263.6	265.0	266.6	267.7	269.9	271.7	272.4	273.4	273.7
Other renters' costs	373.4	396.4	381.9	386.1	390.9	396.5	401.6	405.1	409.9	410.7	412.5	408.7	398.1	401.1	404.1
Homeowners' costs (12/82 = 100)	107.3	113.1	110.7	110.8	111.3	112.4	112.8	113.5	114.3	114.6	115.1	115.8	116.3	116.7	117.0
Owners' equivalent rent (12/82 = 100)	107.3	113.2	110.7	110.9	111.3	112.5	112.8	113.5	114.3	114.6	115.1	115.9	116.3	116.7	117.0
Household insurance (12/82 = 100)	107.5	112.4	109.5	110.4	111.4	112.0	112.7	112.7	113.0	113.7	114.6	114.5	115.0	115.7	117.4
Maintenance and repairs	359.2	368.9	366.8	370.0	368.0	366.2	367.6	367.8	370.6	368.7	368.5	372.7	373.7	379.1	379.6
Maintenance and repair services	409.7	421.1	415.8	422.2	418.2	416.0	423.2	421.1	425.1	421.9	422.2	426.4	426.2	432.6	432.8
Maintenance and repair commodities	262.7	269.6	270.5	270.6	270.4	269.2	265.7	267.8	269.2	268.6	268.0	271.5	273.3	277.1	277.8
Fuel and other utilities	387.3	393.6	386.5	388.2	386.7	393.0	399.4	399.9	398.9	400.5	395.6	392.1	393.3	394.6	390.0
Fuels	485.5	488.1	480.8	482.2	483.0	490.0	497.7	497.3	494.4	496.8	488.4	481.5	483.6	484.7	476.3
Fuel oil, coal, and bottled gas	641.8	619.5	623.4	620.8	623.5	620.8	612.0	601.9	594.6	601.7	615.3	641.6	657.3	650.3	591.2
Gas (piped) and electricity	445.2	452.7	443.3	445.5	445.9	454.7	465.6	467.1	465.1	466.5	453.9	440.5	439.9	442.6	444.5
Other utilities and public services	230.2	240.7	234.3	236.3	236.4	236.8	241.1	242.8	244.2	244.6	244.7	245.9	245.8	247.3	247.9
Household furnishings and operations	242.5	247.2	246.2	246.9	247.9	247.6	247.1	246.5	247.0	247.1	248.4	248.9	248.8	248.8	249.0
Housefurnishings	199.1	200.1	200.7	200.6	201.7	201.2	200.0	198.8	199.1	199.0	200.3	200.8	200.1	199.8	199.7
Housekeeping supplies	303.2	313.6	311.5	311.8	312.6	312.9	313.6	313.1	313.5	313.9	315.7	316.4	317.7	318.3	318.6
Housekeeping services	327.5	338.9	333.9	337.4	337.9	338.0	338.3	339.8	340.7	341.5	342.2	342.7	343.2	343.9	344.5
Apparel and upkeep	200.2	206.0	201.8	205.3	205.9	205.3	204.6	202.8	205.3	209.6	211.1	211.2	209.0	205.0	204.1
Apparel commodities	187.0	191.6	187.5	191.3	191.8	191.0	190.2	188.0	190.6	195.3	196.7	196.8	194.2	189.5	188.5
Men's and boys' apparel	192.4	197.9	192.8	195.2	197.4	197.8	196.4	194.5	197.2	201.5	203.2	203.6	202.0	198.6	196.8
Women's and girls' apparel	163.6	169.5	164.1	169.9	170.0	168.0	166.5	163.4	167.7	176.1	177.9	176.5	172.6	164.4	163.4
Infants' and toddlers' apparel	287.0	299.7	298.8	302.1	295.3	298.3	300.7	294.5	300.6	302.0	302.1	307.0	304.1	313.9	311.5
Footwear	209.5	212.1	210.1	213.1	213.2	213.2	213.9	211.4	210.3	210.9	212.3	215.5	213.1	209.1	[illegible]
Other apparel commodities	216.4	215.5	215.5	216.9	215.8	215.1	216.3	216.7	217.5	215.2	214.9	214.9	214.6	215.5	[illegible]
Apparel services	305.0	320.9	316.0	317.1	318.4	319.4	319.9	321.4	322.9	324.1	325.7	326.3	326.9	329.8	330.7
Transportation	311.7	319.9	314.3	316.7	320.0	321.4	321.8	321.8	320.7	319.7	320.9	323.2	324.0	323.9	319.2
Private transportation	306.6	314.2	308.7	311.0	314.6	316.0	316.3	316.1	314.9	313.6	314.7	317.0	317.8	317.3	312.2
New vehicles	208.0	214.9	213.6	213.8	213.9	214.2	214.3	214.3	214.2	214.2	215.9	218.2	219.2	219.7	220.2
New cars	208.5	215.2	213.9	214.1	214.1	214.5	214.7	214.7	214.6	214.5	216.2	218.4	219.4	219.9	220.4
Used cars	375.7	379.7	384.6	386.1	386.4	384.2	380.3	376.7	374.0	374.3	375.3	376.4	375.6	374.1	370.7
Motor fuel	370.7	373.8	352.4	360.6	374.2	381.6	384.7	385.5	381.9	377.7	374.6	376.7	377.5	373.3	351.5
Gasoline	370.2	373.3	351.6	360.0	373.8	381.4	384.5	385.3	381.8	377.4	374.2	376.1	376.8	372.5	350.8
Maintenance and repair	341.5	351.4	348.2	348.5	348.2	349.6	350.4	351.1	351.9	353.5	355.7	355.8	357.5	357.9	358.9
Other private transportation	273.3	287.6	284.4	284.5	285.8	285.6	286.6	287.6	287.7	285.8	289.6	293.9	295.2	297.7	299.2
Other private transportation commodities	201.5	202.6	203.8	201.9	202.8	201.3	203.9	202.2	202.8	203.4	202.8	201.6	202.1	203.4	202.9
Other private transportation services	295.0	312.8	308.5	309.1	310.5	310.7	311.3	313.0	313.0	310.4	315.4	321.2	322.7	325.5	327.6
Public transportation	385.2	402.8	394.4	397.3	398.0	398.4	399.3	402.4	403.7	408.0	411.5	412.8	412.9	419.6	422.2
Medical care	379.5	403.1	393.8	396.5	398.0	399.5	401.7	404.0	406.6	408.3	410.5	413.0	414.7	418.2	422.3
Medical care commodities	239.7	256.7	249.8	251.9	253.9	255.2	257.0	257.8	259.3	260.2	261.3	262.7	262.9	264.5	267.4
Medical care services	410.3	435.1	425.3	428.1	429.4	430.9	433.0	435.8	438.6	440.5	443.0	445.8	448.0	451.9	456.2
Professional services	346.1	367.3	359.3	361.9	363.0	364.5	366.4	368.1	370.0	371.7	373.2	375.5	377.1	378.9	381.6
Other medical care services	488.0	517.0	505.2	508.0	509.6	511.2	513.6	517.6	521.6	523.9	527.4	530.8	533.6	540.3	546.4
Entertainment	255.1	265.0	261.3	262.2	263.3	263.6	264.8	265.7	265.7	266.8	268.4	269.0	268.3	270.8	272.0
Entertainment commodities	253.3	260.6	257.9	258.7	259.5	259.5	260.1	260.8	260.5	262.5	264.0	264.0	262.5	264.7	265.2
Entertainment services	258.3	271.8	266.7	267.6	269.2	269.9	272.0	273.3	273.6	273.3	275.2	276.6	277.1	279.9	282.1
Other goods and services	307.7	326.6	320.5	321.1	321.8	322.3	323.0	325.0	326.0	333.3	334.9	335.3	336.5	339.1	340.3
Tobacco products	310.0	328.5	323.2	323.7	324.0	324.1	324.8	330.0	331.5	332.8	334.4	334.7	337.4	342.7	344.7
Personal care	271.4	281.9	278.2	278.7	279.8	280.9	281.7	282.3	283.3	284.1	285.0	285.4	286.3	288.1	289.1
Toilet goods and personal care appliances	269.6	278.5	275.4	276.0	277.1	277.5	277.9	278.9	279.4	280.6	281.4	281.1	282.5	285.3	286.0
Personal care services	274.1	286.0	281.7	282.0	283.3	285.0	286.1	286.3	287.7	288.2	289.2	290.2	290.6	291.8	293.0
Personal and educational expenses	365.7	397.1	386.9	387.6	388.3	388.5	389.1	390.1	390.7	412.5	414.7	415.4	415.5	416.8	417.7
School books and supplies	322.8	350.8	343.8	343.9	344.5	344.5	344.9	345.5	346.1	362.1	364.5	364.7	364.7	371.0	373.8
Personal and educational services	375.6	407.7	396.9	397.8	398.5	398.8	399.4	400.4	401.1	423.9	426.2	426.9	427.0	427.6	428.1

See footnotes at end of table.

30. Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity service group; and CPI for Urban Wage Earners and Clerical Workers, all items

[1967 = 100, unless otherwise indicated]

Series	Annual average		1985											1986	
	1984	1985	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
All items	311.1	322.2	317.4	318.8	320.1	321.3	322.3	322.8	323.5	324.5	325.5	326.6	327.4	328.4	327.5
Commodities	280.7	286.7	284.0	285.3	286.8	287.0	286.9	286.5	286.5	287.1	287.9	289.2	289.9	290.1	287.4
Food and beverages	295.1	302.0	301.4	301.6	301.6	301.0	301.4	301.6	301.8	302.1	302.5	303.6	305.6	307.9	307.7
Commodities less food and beverages	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nondurables less food and beverages	275.7	282.1	274.7	277.9	281.5	283.1	283.5	282.9	283.1	284.6	285.3	286.8	286.8	284.9	278.6
Apparel commodities	187.0	191.6	187.5	191.3	191.8	191.0	190.2	188.0	190.6	195.3	196.7	196.8	194.2	189.5	188.5
Nondurables less food, beverages, and apparel	325.8	333.3	324.2	327.1	332.3	335.1	336.2	336.4	335.4	335.3	335.6	337.8	339.1	338.7	329.5
Durables	268.5	270.7	271.4	271.9	272.6	271.6	270.4	269.3	268.6	268.7	270.2	271.5	271.4	271.4	270.5
Services	363.0	381.5	373.5	375.0	376.2	378.9	381.3	383.3	384.9	386.5	387.7	388.7	389.5	391.7	393.3
Rent of shelter	107.7	113.9	111.3	111.5	112.0	113.2	113.6	114.3	115.1	115.4	116.1	116.7	117.0	117.4	117.7
Household services less rent of shelter	108.1	111.2	108.9	109.7	109.6	110.9	112.7	113.2	113.2	113.5	112.1	110.8	110.8	111.4	111.8
Transportation services	321.1	337.0	332.2	333.2	334.1	334.5	336.3	337.0	337.4	337.1	341.1	344.7	348.1	349.0	351.0
Medical care services	410.3	435.1	425.3	428.1	429.4	430.9	433.0	435.8	438.6	440.5	443.0	445.8	448.0	451.9	456.2
Other services	296.0	314.1	307.8	308.6	309.9	310.7	312.0	313.0	313.8	319.7	321.4	322.5	322.9	324.8	326.1
Special indexes:															
All items less food	311.3	323.3	317.4	319.1	320.8	322.4	323.6	324.2	325.0	326.2	327.4	328.5	328.9	329.5	328.5
All items less shelter	295.1	303.9	300.0	301.5	302.8	303.4	304.3	304.4	304.6	305.7	306.3	307.2	307.9	308.8	307.4
All items less homeowners' costs	106.3	108.7	108.2	108.7	109.2	109.5	109.8	109.9	110.1	110.4	110.7	111.1	111.3	111.6	111.2
All items less medical care	307.3	317.7	313.1	314.5	315.8	317.0	317.9	318.4	318.9	318.9	320.8	321.9	322.6	323.4	322.2
Commodities less food	267.0	272.5	268.6	270.6	272.8	273.4	273.1	272.4	272.3	273.1	274.4	275.7	275.7	274.7	270.9
Nondurables less food	270.8	277.2	270.2	273.2	276.5	278.0	278.4	277.9	278.1	279.6	280.7	282.0	282.0	280.4	274.5
Nondurables less food and apparel	311.9	319.2	310.8	313.5	318.1	320.7	321.7	321.9	321.1	321.0	322.0	324.0	325.1	324.9	316.8
Nondurables	288.6	293.2	289.2	291.0	292.7	293.3	293.7	293.5	293.7	294.6	295.1	296.4	297.4	297.7	294.3
Services less rent of shelter	108.5	113.5	111.3	111.9	112.2	112.8	113.7	114.2	114.5	115.0	115.1	115.2	115.4	116.2	116.8
Services less medical care	355.6	373.3	365.5	366.9	368.1	370.9	373.3	375.2	376.7	378.3	379.3	380.1	380.8	382.7	384.0
Energy	423.6	426.5	411.4	416.6	424.4	431.7	436.8	437.1	433.8	432.6	427.1	425.1	426.5	424.7	408.9
All items less energy	302.9	314.8	310.9	312.0	312.7	313.3	313.9	314.5	315.6	316.8	318.4	319.8	320.5	321.8	322.3
All items less food and energy	301.2	314.4	309.5	310.8	311.8	312.8	313.4	314.1	315.3	316.9	318.9	320.4	320.7	321.6	322.3
Commodities less food and energy	253.1	259.7	258.1	259.3	260.0	259.6	259.0	258.2	258.8	260.2	262.0	262.7	262.2	261.8	261.6
Energy commodities	409.8	409.9	391.3	398.3	410.8	417.0	418.7	418.1	414.0	411.2	410.1	415.2	417.9	413.2	386.5
Services less energy	356.4	375.9	368.0	369.4	370.7	372.9	374.6	376.6	378.6	380.2	382.5	384.8	385.8	387.9	389.4
Purchasing power of the consumer dollar:															
1967 = $1.00	32.1	31.0	31.5	31.4	31.2	31.1	31.0	31.0	30.9	30.8	30.7	30.6	30.5	30.5	30.5
1957-59 = $1.00	27.6	26.7	27.1	27.0	26.9	26.8	26.7	26.6	26.6	26.5	26.4	26.3	26.3	26.2	26.3
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS:															
All items	307.6	318.5	313.9	315.3	316.7	317.8	318.7	319.1	319.6	320.5	321.3	322.6	323.4	324.3	323.2
All items (1957-59 = 100)	357.7	370.4	365.1	366.7	368.3	369.6	370.6	371.2	371.8	372.7	373.7	375.1	376.1	377.1	375.8
Food and beverages	295.2	301.8	301.2	301.6	301.4	300.8	301.2	301.4	301.6	301.8	302.2	303.4	305.4	307.7	307.5
Food	302.7	309.3	309.0	309.3	309.2	308.4	308.8	309.0	309.1	309.3	309.3	310.6	312.8	315.1	314.9
Food at home	291.2	295.3	297.0	296.9	296.1	294.6	294.5	294.6	294.3	294.0	293.7	295.2	297.9	300.9	300.1
Cereals and bakery products	303.7	315.4	311.9	312.7	313.1	314.1	315.7	315.7	316.8	317.6	317.3	318.2	320.4	320.4	320.9
Meats, poultry, fish, and eggs	260.0	262.7	266.3	265.6	262.9	259.2	259.3	259.7	259.0	259.9	260.4	265.4	269.2	270.7	267.7
Dairy products	252.2	256.9	258.3	257.8	257.2	257.3	256.7	256.6	256.3	256.8	255.9	255.9	255.7	256.0	256.0
Fruits and vegetables	312.5	320.3	327.1	326.8	328.1	324.8	323.5	323.9	320.6	313.6	311.2	309.4	319.3	329.7	316.0
Other foods at home	352.7	361.5	360.2	361.0	361.3	361.6	361.3	361.1	362.2	362.9	363.4	362.5	361.6	366.1	375.2
Sugar and sweets	388.6	398.3	394.4	394.2	395.5	396.9	398.0	399.8	401.4	400.8	402.2	400.9	401.8	404.7	408.1
Fats and oils	287.5	293.9	294.7	294.3	293.7	293.6	295.6	297.3	296.5	294.1	290.6	291.8	289.6	291.6	290.8
Nonalcoholic beverages	444.4	453.2	454.2	455.5	455.6	455.4	453.0	449.8	451.2	454.1	455.6	453.1	450.4	461.0	485.5
Other prepared foods	286.4	295.7	292.9	293.7	294.2	294.9	295.0	296.1	297.3	297.7	298.3	298.3	298.7	299.4	300.9
Food away from home	336.7	349.7	344.6	345.8	347.1	348.4	350.1	350.4	351.5	353.0	353.4	354.4	355.2	356.2	357.3
Alcoholic beverages	225.3	232.6	229.1	229.9	229.9	230.8	231.0	231.0	232.2	232.6	239.1	238.8	239.1	240.1	240.9
Housing	329.2	343.3	337.2	338.2	339.5	342.1	344.0	345.0	346.2	347.2	347.5	348.3	349.1	350.1	349.7
Shelter	350.0	370.4	362.0	363.0	364.7	368.1	369.5	371.5	374.0	375.0	377.1	379.3	380.4	381.8	382.9
Renters' costs (12/84 = 100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rent, residential	248.6	263.7	257.5	258.4	259.6	261.8	262.7	264.1	265.7	266.8	268.9	270.7	271.5	272.5	272.8
Other renters' costs	372.4	397.9	380.8	385.3	391.0	396.7	401.0	405.2	409.6	409.8	411.6	406.0	397.5	400.8	403.5
Homeowners' costs (12/84 = 100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Owners' equivalent rent (12/84 = 100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Household insurance (12/84 = 100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Maintenance and repairs	356.3	364.1	361.5	364.3	363.1	361.8	362.9	363.4	365.6	364.4	364.6	367.7	368.5	373.2	374.0
Maintenance and repair services	403.5	415.0	408.8	414.8	411.7	410.1	417.0	415.3	419.6	416.8	417.4	420.9	420.1	426.2	426.5
Maintenance and repair commodities	257.2	261.1	261.1	261.6	261.6	260.7	258.4	260.0	260.6	260.5	260.5	262.7	264.2	267.2	268.1
Fuel and other utilities	388.6	394.7	387.5	389.2	389.7	393.8	400.9	401.2	400.1	401.9	396.3	393.2	394.3	395.6	390.9
Fuels	485.0	487.5	480.3	481.6	482.3	488.9	497.7	497.0	494.0	496.7	487.2	481.0	483.1	484.1	475.7
Fuel oil, coal, and bottled gas	644.3	622.0	625.7	623.1	625.9	623.2	614.3	604.2	596.9	604.3	618.1	644.3	659.9	652.7	593.6
Gas (piped) and electricity	444.1	451.6	442.3	444.4	444.6	453.0	465.1	466.3	464.2	465.9	452.0	439.5	438.8	441.4	443.2
Other utilities and public services	231.2	241.6	235.1	237.2	237.3	237.7	242.0	243.7	245.1	245.6	245.7	246.8	246.7	248.3	248.8
Household furnishings and operations	239.1	243.4	242.6	243.2	244.1	244.0	243.3	242.6	243.1	243.2	244.5	245.1	245.2	245.1	245.3
Housefurnishings	197.0	197.6	198.3	198.2	199.2	198.9	197.6	196.2	196.6	196.5	197.7	198.3	197.8	197.3	197.2
Housekeeping supplies	300.2	310.7	308.5	308.9	309.8	310.0	310.8	310.3	310.4	311.0	312.7	313.5	315.0	315.8	316.4
Housekeeping services	328.0	340.2	334.9	336.5	339.0	339.2	339.5	341.0	342.2	342.9	343.9	344.5	345.0	345.6	346.3
Apparel and upkeep	199.1	205.0	200.7	204.2	204.9	204.2	203.7	201.8	204.3	208.7	210.2	210.2	208.1	204.1	203.1

See footnotes at end of table.

30. Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967 = 100, unless otherwise indicated)

Series	Annual average		1985											1986	
	1984	1985	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Apparel commodities	186.6	191.3	187.2	190.9	191.5	190.7	190.0	187.8	190.4	195.1	196.6	196.5	194.1	189.4	188.2
Men's and boys' apparel	192.9	198.2	193.1	195.7	197.8	198.2	196.6	194.8	197.3	201.8	203.5	203.7	202.2	198.8	196.8
Women's and girls' apparel	165.0	171.3	165.8	171.5	172.0	169.7	158.4	165.5	169.9	178.2	180.0	178.3	174.5	166.1	165.2
Infants' and toddlers' apparel	297.6	311.7	310.1	314.5	308.4	310.6	313.5	306.4	311.2	314.9	314.8	320.7	317.3	332.7	328.6
Footwear	210.0	212.5	210.8	213.4	213.3	213.3	214.1	211.6	210.5	211.0	212.6	215.9	213.6	209.9	208.4
Other apparel commodities	204.5	203.1	203.0	204.2	203.3	202.7	204.0	204.5	205.2	202.5	202.4	202.5	202.4	203.5	204.2
Apparel services	302.9	318.5	313.6	314.7	316.1	317.0	317.6	319.0	320.5	321.6	323.2	323.6	324.4	327.2	328.1
Transportation	313.9	321.6	316.3	318.7	322.0	323.3	323.6	323.5	322.3	321.1	322.2	324.6	325.3	325.1	320.1
Private transportation	310.1	317.4	312.2	314.6	318.0	319.4	319.6	319.3	318.0	316.6	317.6	320.1	320.8	320.2	314.8
New vehicles	207.3	214.2	212.8	213.2	213.2	213.5	213.6	213.6	213.5	213.5	215.3	217.5	218.6	219.0	219.4
New cars	207.9	214.5	213.1	213.4	213.4	213.8	214.0	214.0	213.9	213.8	215.5	217.8	218.8	219.2	219.7
Used cars	375.7	379.7	384.6	386.2	386.4	384.2	380.3	376.7	374.0	374.3	375.3	376.4	375.6	374.1	370.7
Motor fuel	372.2	375.4	354.0	362.2	375.7	383.0	386.2	387.2	383.8	379.5	376.3	378.7	379.6	375.3	353.0
Gasoline	371.8	375.0	353.2	361.6	375.3	382.7	386.0	387.0	383.7	379.2	375.8	378.1	378.9	374.6	352.3
Maintenance and repair	342.2	352.6	349.2	349.6	349.3	350.6	351.5	352.2	352.9	354.5	356.9	357.2	359.0	359.4	360.4
Other private transportation	274.2	287.7	285.2	285.1	286.3	285.9	286.9	287.7	287.6	285.2	289.2	293.7	294.7	296.9	298.4
Other private transportation commodities	203.9	204.7	206.1	204.2	205.1	203.5	205.9	204.3	204.9	205.6	205.0	203.7	204.3	205.6	205.4
Other private transportation services	295.4	312.3	308.7	309.2	310.4	310.4	310.9	312.4	312.1	308.9	314.1	320.2	321.3	323.7	325.7
Public transportation	376.8	391.7	384.2	386.7	387.4	387.6	388.4	392.1	393.5	396.8	399.3	400.1	400.2	408.6	412.6
Medical care	377.7	401.2	392.0	394.6	396.1	397.7	399.8	402.0	404.5	406.3	408.5	410.9	412.6	416.0	420.0
Medical care commodities	239.7	256.3	249.6	251.5	253.5	254.8	256.7	257.4	259.0	259.8	260.9	262.2	262.3	264.1	267.0
Medical care services	407.9	432.7	423.1	425.7	427.1	428.7	430.7	433.3	436.1	438.1	440.6	443.2	445.4	449.2	453.5
Professional services	346.5	367.7	359.7	362.4	363.6	365.0	366.8	368.5	370.4	372.1	373.7	375.8	377.6	379.3	382.2
Other medical care services	484.7	513.9	502.3	505.0	506.6	508.2	510.5	514.4	518.4	520.7	524.4	527.5	530.4	536.9	543.0
Entertainment	251.2	260.1	256.9	257.3	258.6	258.9	260.1	260.9	260.8	261.6	263.0	263.7	263.0	265.4	266.5
Entertainment commodities	247.7	254.2	251.9	252.2	253.2	253.1	253.9	254.5	254.3	256.0	257.1	257.2	255.7	257.8	258.3
Entertainment services	258.5	271.6	266.8	267.4	269.2	270.0	272.0	273.2	273.3	272.6	274.6	276.3	276.8	280.0	282.0
Other goods and services	304.9	322.7	317.1	317.6	318.3	318.8	319.5	321.8	322.9	328.7	330.1	330.5	331.9	334.9	336.1
Tobacco products	309.7	328.1	323.0	323.4	323.6	323.6	324.4	329.7	331.1	332.4	334.0	334.3	337.1	342.4	344.4
Personal care	269.4	279.6	275.9	276.3	277.5	278.6	279.2	279.9	280.9	281.8	282.7	283.1	284.0	285.9	286.8
Toilet goods and personal care appliances	270.3	279.0	275.9	276.5	277.5	277.8	278.2	279.2	280.0	281.1	282.0	281.9	283.3	285.9	286.7
Personal care services	268.8	280.5	276.3	276.5	278.0	279.7	280.7	280.9	282.2	282.8	283.7	284.8	285.2	286.4	287.4
Personal and educational expenses	368.2	399.3	389.3	390.1	390.7	390.9	391.6	392.5	393.2	414.5	416.5	417.3	417.4	418.9	419.9
School books and supplies	327.5	355.7	348.7	348.8	349.4	349.5	349.9	350.6	351.2	366.9	369.2	369.3	369.4	375.6	378.4
Personal and educational services	378.2	410.1	399.4	400.3	401.0	401.2	401.9	402.9	403.6	426.1	428.1	428.9	429.1	429.7	430.3
All items	307.6	318.5	313.9	315.3	316.7	317.8	318.7	319.1	319.6	320.5	321.3	322.6	323.4	324.3	323.2
Commodities	280.4	286.5	283.8	285.2	286.7	286.8	286.8	286.4	286.3	286.8	287.6	288.9	289.7	289.8	287.0
Food and beverages	295.2	301.8	301.2	301.6	301.4	300.8	301.2	301.4	301.6	301.8	302.2	303.4	305.4	307.7	307.5
Commodities less food and beverages	269.3	-	271.4	273.6	276.3	277.5	277.7	-	-	-	-	-	-	-	-
Nondurables less food and beverages	277.5	283.8	276.2	279.4	283.2	284.9	285.4	285.0	285.1	286.5	287.0	288.5	288.7	286.9	280.1
Apparel commodities	186.6	191.3	187.2	190.9	191.5	190.7	190.0	187.8	190.4	195.1	196.6	196.5	194.1	189.4	188.2
Nondurables less food, beverages, and apparel	327.0	334.2	324.7	327.8	333.1	336.0	337.2	337.6	336.6	336.4	336.5	338.8	340.1	339.6	330.1
Durables	261.1	265.2	266.2	266.7	267.3	266.3	265.1	263.8	263.1	263.1	264.5	265.7	265.7	265.6	264.6
Services	358.0	377.3	369.6	371.0	372.2	374.9	377.4	379.2	380.7	382.0	383.0	384.2	385.1	387.2	388.8
Rent of shelter (12/84 = 100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Household services less rent of shelter (12/84 = 100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transportation services	317.2	332.2	328.1	328.8	329.6	329.9	330.6	332.2	332.4	331.4	335.5	339.3	340.5	343.3	345.4
Medical care services	407.9	432.7	423.1	425.7	427.1	428.7	430.7	433.3	436.1	438.1	440.6	443.2	445.4	449.2	453.5
Other services	292.9	310.1	304.2	304.9	306.2	307.2	308.4	309.3	310.1	315.0	316.7	317.8	318.3	320.4	321.6
Special indexes:															
All items less food	307.5	319.4	313.7	315.4	317.2	318.7	319.8	320.3	320.9	321.9	322.9	324.2	324.6	325.1	323.8
All items less shelter	295.1	303.4	299.7	301.1	302.4	303.0	303.9	304.0	304.0	304.8	305.4	306.4	307.2	307.9	306.4
All items less homeowners' costs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All items less medical care	304.0	314.3	309.9	311.3	312.6	313.7	314.6	314.9	315.3	316.1	316.9	318.1	318.9	319.6	318.3
Commodities less food	267.1	272.8	269.0	271.0	273.3	273.8	273.6	272.8	272.7	273.4	274.5	275.9	275.9	275.0	270.9
Nondurables less food	272.6	279.0	271.7	274.7	278.2	279.8	280.4	280.0	280.2	281.5	282.4	283.8	283.9	282.3	276.1
Nondurables less food and apparel	313.2	320.3	311.5	314.4	319.1	321.8	322.9	323.2	322.4	322.3	323.1	325.0	326.3	325.9	317.5
Nondurables	287.4	293.9	289.8	291.6	293.4	294.0	294.4	294.3	294.5	295.2	295.7	297.1	298.2	298.4	295.0
Services less rent of shelter (12/84 = 100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Services less medical care	350.5	369.0	361.6	362.8	364.1	366.8	369.3	371.1	372.5	373.6	374.5	375.5	376.2	378.2	379.5
Energy	423.3	426.3	410.6	416.0	424.2	431.3	436.9	437.2	433.9	432.5	426.6	425.4	426.8	424.7	408.1
All items less energy	298.3	309.9	306.4	307.4	308.1	308.6	309.1	309.5	310.4	311.5	313.0	314.5	315.3	316.5	316.9
All items less food and energy	295.8	308.7	304.3	305.5	306.4	307.3	307.8	308.3	309.4	310.7	312.7	314.2	314.6	315.4	316.1
Commodities less food and energy	250.5	256.8	255.5	256.6	257.2	256.8	256.2	255.3	255.8	257.2	258.8	259.5	259.2	258.8	258.5
Energy commodities	410.5	410.9	391.8	399.0	411.6	418.0	419.9	419.6	415.7	412.6	411.2	416.3	418.9	414.1	387.3
Services less energy	350.8	371.1	363.6	364.9	366.2	368.4	369.9	371.9	373.7	374.9	377.3	379.8	380.8	382.9	384.5
Purchasing power of the consumer dollar:															
1967 = $1.00	32.5	31.4	31.9	31.7	31.6	31.5	31.4	31.3	31.3	31.2	31.1	31.0	30.9	30.8	30.9
1957-59 = $1.00	28.0	27.0	27.4	27.3	27.2	27.1	27.0	26.9	26.9	26.8	26.8	26.7	26.6	26.5	26.6

- Data not available.

31. Consumer Price Index: U.S. city average and available local area data: all items

(1967=100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1985					1986		1985					1986	
			Feb.	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Feb.	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.
U.S. city average		–	317.4	318.8	325.5	326.6	327.4	328.4	327.5	313.9	315.3	321.3	322.6	323.4	324.3	323.2
Chicago, Ill.-Northwestern Ind.	M	–	316.7	317.4	322.6	324.2	325.9	326.3	326.4	304.0	304.7	306.9	310.9	312.6	312.9	312.8
Detroit, Mich.	M	–	313.7	315.5	319.7	323.1	323.1	323.1	322.9	304.0	306.0	309.7	313.2	313.1	313.4	312.3
Los Angeles-Long Beach, Anaheim, Calif.	M	–	314.1	314.7	326.1	325.0	326.1	326.8	326.6	309.1	309.8	320.0	319.1	320.1	320.9	320.4
New York, N.Y.-Northeastern N.J.	M	–	310.2	310.9	317.4	319.9	320.8	323.1	322.3	303.6	304.2	309.8	312.5	313.5	315.8	314.7
Philadelphia, Pa.-N.J.	M	–	309.2	310.4	317.4	318.8	319.7	320.3	320.1	312.4	313.5	320.3	321.5	322.5	323.0	322.8
Anchorage, Alaska (10/67 = 100)	1	10/67	–	280.0	–	286.9	–	287.1	–	–	273.1	–	280.1	–	280.2	–
Baltimore, Md.	1	–	–	320.7	–	327.3	–	332.0	–	–	320.2	–	326.3	–	331.1	–
Boston, Mass.	1	–	–	314.4	–	325.4	–	327.1	–	–	312.3	–	323.0	–	324.5	–
Cincinnati, Ohio-Ky.-Ind.	1	–	–	328.4	–	333.4	–	333.2	–	–	322.2	–	326.2	–	326.0	–
Denver-Boulder, Colo.	1	–	–	355.1	–	359.4	–	364.4	–	–	350.7	–	354.1	–	359.1	–
Miami, Fla. (11/77 = 100)	1	11/77	–	170.1	–	173.9	–	174.6	–	–	171.3	–	174.9	–	175.7	–
Milwaukee, Wis.	1	–	–	327.8	–	333.9	–	333.9	–	–	346.9	–	353.2	–	353.0	–
Northeast, Pa.	1	–	–	304.9	–	310.6	–	311.6	–	–	304.2	–	309.6	–	310.6	–
Portland, Oreg.-Wash.	1	–	–	309.0	–	317.1	–	321.3	–	–	299.8	–	307.3	–	311.0	–
St. Louis, Mo.-Ill.	1	–	–	314.3	–	321.6	–	322.4	–	–	311.0	–	318.5	–	319.1	–
San Diego, Calif.	1	–	–	369.2	–	379.0	–	381.9	–	–	333.7	–	341.9	–	344.7	–
Seattle-Everett, Wash.	1	–	–	321.4	–	324.0	–	327.0	–	–	309.0	–	310.8	–	313.5	–
Washington, D.C.-Md.-Va.	1	–	–	319.2	–	326.9	–	331.1	–	–	322.3	–	330.5	–	332.6	–
Atlanta, Ga.	2	–	322.6	–	333.0	–	335.3	–	336.9	320.3	–	330.0	–	332.6	–	334.3
Buffalo, N.Y.	2	–	301.3	–	309.3	–	309.8	–	310.1	288.1	–	295.3	–	295.9	–	295.8
Cleveland, Ohio	2	–	340.4	–	348.6	–	348.8	–	350.2	319.8	–	327.0	–	327.5	–	328.3
Dallas-Ft. Worth, Tex.	2	–	333.2	–	343.9	–	344.5	–	347.0	326.9	–	337.5	–	338.3	–	340.4
Honolulu, Hawaii	2	–	292.6	–	295.6	–	298.5	–	301.2	300.3	–	302.7	–	305.8	–	308.5
Houston, Tex.	2	–	333.6	–	337.6	–	336.8	–	337.2	331.1	–	335.0	–	334.1	–	334.3
Kansas City, Mo.-Kansas	2	–	314.6	–	323.1	–	321.8	–	321.1	304.4	–	312.9	–	311.7	–	310.1
Minneapolis-St. Paul, Minn.-Wis.	2	–	330.4	–	340.6	–	340.4	–	339.9	326.0	–	336.0	–	338.0	–	334.9
Pittsburgh, Pa.	2	–	323.8	–	328.4	–	331.5	–	330.1	306.0	–	309.9	–	312.8	–	311.4
San Francisco-Oakland, Calif.	2	–	328.7	–	336.7	–	336.4	–	341.1	324.2	–	331.0	–	331.3	–	336.0
Region[3]																
Northeast	2	12/77	168.2	–	172.5	–	174.3	–	174.5	166.4	–	170.3	–	172.1	–	172.3
North Central	2	12/77	171.2	–	174.9	–	176.0	–	175.4	168.1	–	171.4	–	172.6	–	171.8
South	2	12/77	171.5	–	175.7	–	176.3	–	176.6	171.3	–	175.3	–	176.0	–	176.1
West	2	12/77	171.3	–	176.9	–	177.2	–	177.5	169.6	–	174.8	–	175.2	–	175.4
Population size class[3]																
A-1	2	12/77	168.5	–	172.9	–	174.2	–	174.7	164.9	–	168.7	–	170.2	–	170.5
A-2	2	12/77	173.1	–	177.6	–	178.4	–	178.7	170.4	–	174.6	–	175.4	–	175.5
B	2	12/77	171.8	–	176.3	–	177.2	–	176.9	169.6	–	173.6	–	174.6	–	174.2
C	2	12/77	169.7	–	173.8	–	174.9	–	174.7	170.2	–	174.1	–	175.3	–	175.0
D	2	12/77	169.4	–	173.8	–	174.7	–	174.0	171.2	–	174.9	–	176.0	–	175.2
Region/population size class cross classification[3]																
Class A:																
Northeast	2	12/77	165.5	–	169.6	–	171.2	–	171.8	162.4	–	166.1	–	167.7	–	168.1
North Central	2	12/77	174.3	–	178.2	–	179.4	–	179.2	169.6	–	173.1	–	174.5	–	174.0
South	2	12/77	171.0	–	175.6	–	176.5	–	177.3	171.2	–	175.7	–	176.5	–	177.0
West	2	11/77	173.5	–	179.1	–	179.3	–	179.8	169.6	–	174.6	–	175.0	–	175.5
Class B:																
Northeast	2	12/77	171.5	–	174.9	–	176.7	–	176.4	168.7	–	171.8	–	173.5	–	173.4
North Central	2	12/77	169.7	–	173.4	–	174.2	–	173.7	166.4	–	169.5	–	170.5	–	169.7
South	2	12/77	173.0	–	177.4	–	176.0	–	176.2	169.9	–	173.9	–	174.7	–	174.6
West	2	12/77	172.0	–	177.9	–	176.4	–	177.6	172.7	–	176.4	–	176.9	–	176.2

See footnotes at end of table.

31. Continued— Consumer Price Index: U.S. city average and available local area data: all items

(1967=100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1985					1986		1985					1986	
			Feb.	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Feb.	Mar.	Oct.	Nov.	Dec.	Jan.	Feb.
Class C:																
Northeast	2	12/77	175.8	–	181.7	–	184.1	–	183.1	180.6	–	186.5	–	188.8	–	187.8
North Central	2	12/77	166.7	–	170.1	–	171.5	–	170.4	163.8	–	166.9	–	168.2	–	167.1
South	2	12/77	171.2	–	174.3	–	175.3	–	175.3	172.8	–	175.7	–	176.7	–	176.6
West	2	12/77	164.2	–	169.7	–	169.1	–	171.1	163.2	–	168.3	–	167.8	–	169.6
Class D:																
Northeast	2	12/77	170.3	–	175.6	–	176.1	–	178.9	170.6	–	175.3	–	177.7	–	178.6
North Central	2	12/77	168.2	–	171.6	–	172.6	–	170.7	170.5	–	173.1	–	174.2	–	172.4
South	2	12/77	170.1	–	174.8	–	174.5	–	174.7	172.0	–	176.2	–	176.1	–	176.0
West	2	12/77	170.0	–	174.5	–	176.2	–	174.8	171.5	–	176.0	–	177.7	–	176.3

[1] Area is generally the Standard Metropolitan Statistical Area (SMSA), exclusive of farms. L.A.-Long Beach, Anaheim, Calif. is a combination of two SMSA's, and N.Y., N.Y.-Northeastern N.J. and Chicago, Ill.-Northwestern Ind. are the more extensive Standard Consolidated Areas. Area definitions are those established by the Office of Management and Budget in 1973, except for Denver-Boulder, Colo. which does not include Douglas County. Definitions do not include revisions made since 1973.

[2] Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated:.

M - Every month.
1 - January, March, May, July, September, and November.
2 - February, April, June, August, October, and December.

[3] Regions are defined as the four Census regions.

The population size classes are aggregations of areas which have urban population as defined:

A-1 - More than 4,000,000.
A-2 - 1,250,000 to 4,000,000.
B - 385,000 to 1,250,000
C - 75,000 to 385,000.
D - Less than 75,000.

Population size class A is the aggregation of population size classes A-1 and A-2.

– Data not available.

NOTE: Local area CPI indexes are byproducts of the national CPI program. Because each local index is a small subset of the national index, it has a smaller sample size and is, therefore, subject to substantially more sampling and other measurement error than the national index. As a result, local area indexes show greater volatility than the national index, although their long-term trends are quite similar. Therefore, the Bureau of Labor Statistics strongly urges users to consider adopting the national average CPI for use in escalator clauses.

32. Annual data: Consumer Price Index all items and major groups

Series	1977	1978	1979	1980	1981	1982	1983	1984	1985
Consumer Price Index for All Urban Consumers:									
All items:									
Index	181.5	195.4	217.4	246.8	272.4	289.1	298.4	311.1	322.2
Percent change	6.5	7.7	11.3	13.5	10.4	6.1	3.2	4.3	3.6
Food and beverages:									
Index	188.0	206.3	228.5	248.0	267.3	278.2	284.4	295.1	302.0
Percent change	6.0	9.7	10.8	8.5	7.8	4.1	2.2	3.8	2.3
Housing									
Index	186.5	202.8	227.6	263.3	293.5	314.7	323.1	336.5	349.9
Percent change	6.8	8.7	12.2	15.7	11.5	7.2	2.7	4.1	4.0
Apparel and upkeep:									
Index	154.2	159.6	166.6	178.4	186.9	191.8	196.5	200.2	206.0
Percent change	4.5	3.5	4.4	7.1	4.8	2.6	2.5	1.9	2.9
Transportation:									
Index	177.2	185.5	212.0	249.7	280.0	291.5	298.4	311.7	319.9
Percent change	7.1	4.7	14.3	17.8	12.1	4.1	2.4	4.5	2.6
Medical care:									
Index	202.4	219.4	239.7	265.9	294.5	328.7	357.3	379.5	403.1
Percent change	9.6	8.4	9.3	10.9	10.8	11.6	8.7	6.2	6.2
Entertainment:									
Index	167.7	176.6	188.5	205.3	221.4	235.8	246.0	255.1	265.0
Percent change	4.9	5.3	6.7	8.9	7.8	6.5	4.3	3.7	3.9
Other goods and services:									
Index	172.2	183.3	196.7	214.5	235.7	259.9	288.3	307.7	326.6
Percent change	5.8	6.4	7.3	9.0	9.9	10.3	10.9	6.7	6.1
Consumer Price Index for Urban Wage Earners and Clerical Workers									
All items:									
Index	181.5	195.3	217.7	247.0	272.3	288.6	297.4	307.6	318.5
Percent change	6.5	7.6	11.5	13.5	10.2	6.0	3.0	3.4	3.5

33. Producer Price Indexes, by stage of processing

(1967 = 100)

Grouping	Annual average		1985										1986	
	1984	1985	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Finished goods	291.1	293.8	292.1	293.1	294.1	294.0	294.8	293.5	290.0	294.7	296.7	297.2	296.2	292.3
Finished consumer goods	290.3	291.9	290.1	291.2	292.4	292.2	293.1	291.4	288.2	292.3	294.7	295.4	294.1	288.9
Finished consumer foods	273.3	271.2	273.7	272.2	269.5	268.7	271.2	268.7	265.7	268.2	272.0	274.4	274.9	272.3
Finished consumer goods excluding foods	294.1	297.4	293.6	295.9	299.0	299.0	299.2	297.8	294.7	299.4	301.1	301.1	298.8	292.5
Nondurable goods less food	337.3	339.4	333.4	337.4	342.4	342.1	342.4	340.0	340.3	340.3	343.3	343.7	340.3	329.3
Durable goods	236.8	241.5	240.4	240.7	241.4	241.9	241.9	241.8	234.5	244.9	245.0	244.4	243.6	243.6
Capital equipment	294.0	300.5	299.3	299.9	300.3	300.5	300.8	301.0	298.3	303.5	303.8	303.5	304.0	304.2
Intermediate materials, supplies, and components	320.0	318.7	318.6	319.3	319.9	319.3	318.6	317.9	317.7	317.6	318.1	318.8	317.2	313.5
Materials and components for manufacturing	301.8	299.4	300.0	300.6	300.5	300.3	299.8	299.1	298.4	298.0	297.6	297.6	297.0	295.5
Materials for food manufacturing	271.1	258.7	263.9	263.9	261.9	262.0	260.3	253.0	249.9	252.3	253.6	253.0	252.4	248.9
Materials for nondurable manufacturing	290.5	285.8	287.3	287.1	286.7	286.4	285.8	285.8	285.1	283.3	282.6	282.5	283.2	283.0
Materials for durable manufacturing	325.1	320.2	319.8	322.1	323.0	322.3	320.9	320.3	319.2	318.6	317.4	317.6	313.9	313.0
Components for manufacturing	287.5	291.5	291.0	291.1	291.1	291.3	291.6	291.9	292.1	292.3	292.4	292.4	292.9	293.3
Materials and components for construction	310.3	315.2	313.5	314.0	315.9	317.3	316.9	316.5	315.6	315.5	315.1	315.4	316.3	318.6
Processed fuels and lubricants	566.2	549.4	547.9	552.3	558.0	549.1	544.0	539.8	542.4	542.6	550.7	557.3	539.8	500.7
Containers	302.3	311.2	313.1	312.4	311.7	312.0	311.4	310.3	309.9	310.4	309.8	310.7	310.7	310.6
Supplies	283.4	284.2	283.8	283.7	283.4	283.3	283.6	284.1	284.5	285.1	285.8	285.9	286.7	286.3
Crude materials for further processing	330.8	306.2	312.3	311.0	309.1	305.6	303.9	295.3	291.8	297.8	305.6	304.7	301.3	290.5
Foodstuffs and feedstuffs	259.5	235.0	242.9	239.9	236.3	233.7	231.6	221.0	215.4	224.6	236.7	236.8	231.4	228.9
Nonfood materials[1]	380.5	355.4	358.4	360.2	357.7	354.0	353.5	351.2	352.2	352.8	352.3	351.1	351.2	321.7
Special groupings														
Finished goods, excluding foods	294.6	299.1	296.0	297.8	300.1	300.2	300.5	299.5	295.9	301.3	302.7	302.5	301.1	296.7
Finished energy goods	750.3	721.4	693.2	714.9	746.1	741.4	733.8	719.9	718.2	716.5	732.9	736.1	704.8	636.8
Finished goods less energy	265.1	269.2	268.8	268.8	268.4	268.4	269.7	269.0	268.5	270.5	271.7	272.1	272.7	272.2
Finished consumer goods less energy	257.8	261.3	261.1	260.9	260.3	260.3	261.9	260.9	257.7	262.1	263.5	264.1	264.8	264.1
Finished goods less food and energy	262.3	266.7	267.2	267.7	268.2	268.6	269.4	269.4	265.7	271.6	271.8	271.4	272.1	272.4
Finished consumer goods less food and energy	245.9	252.1	250.5	251.1	251.5	252.0	252.9	252.9	249.6	254.9	255.1	254.7	255.5	255.9
Consumer nondurable goods less food and energy	239.0	248.2	244.4	245.0	245.2	245.6	247.4	247.3	247.9	248.3	248.6	248.5	250.6	251.1
Intermediate materials less foods and feeds	325.0	325.0	324.7	325.5	326.4	325.7	325.0	324.5	324.4	324.1	324.5	325.2	323.5	319.7
Intermediate foods and feeds	253.1	232.7	236.7	235.4	232.6	232.2	231.7	227.1	225.4	228.6	231.0	231.7	232.4	228.6
Intermediate energy goods	545.0	526.8	527.5	531.5	536.7	528.6	523.6	519.8	522.3	522.2	529.5	536.3	519.1	481.9
Intermediate goods less energy	303.8	303.9	304.0	304.3	304.5	304.6	304.3	303.9	303.4	303.4	303.2	303.3	303.4	303.0
Intermediate materials less foods and energy	303.6	305.2	305.2	305.6	305.9	306.0	305.6	305.5	305.0	304.8	304.2	304.2	304.2	304.2
Crude energy materials	785.2	749.1	746.4	749.1	760.7	754.5	752.6	742.9	743.2	743.1	742.9	739.5	739.9	679.0
Crude materials less energy	255.5	233.2	240.4	238.6	234.8	231.7	230.1	221.8	217.9	224.7	233.4	232.9	228.1	225.9
Crude nonfood materials less energy	266.1	249.7	256.4	257.3	252.3	247.4	247.2	245.8	246.7	246.5	244.9	242.6	243.7	244.6

[1] Crude nonfood materials except fuel.

34. Producer Price Indexes, by durability of product

(1967=100)

Grouping	Annual average		1985										1986	
	1984	1985	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Total durable goods	293.6	297.3	296.3	297.1	297.6	297.8	297.8	297.8	295.2	298.8	298.7	298.5	298.2	298.3
Total nondurable goods	323.3	317.3	317.7	318.4	318.9	317.5	317.3	314.1	313.0	314.3	317.9	318.7	316.9	309.0
Total manufactures	302.9	304.3	303.3	304.2	305.2	304.8	304.6	303.8	302.2	304.4	305.4	305.7	304.7	301.0
Durable	293.9	298.1	296.9	297.6	298.4	298.7	298.7	298.6	296.0	299.7	299.6	299.5	299.1	299.2
Nondurable	312.3	310.5	309.9	310.8	312.1	311.0	310.6	309.0	308.4	309.2	311.3	312.0	310.3	302.7
Total raw or slightly processed goods	346.6	328.2	332.2	332.1	329.8	327.3	327.5	320.2	317.6	320.6	327.7	326.8	326.9	319.0
Durable	266.7	252.2	261.2	262.1	255.4	247.3	247.6	249.7	249.7	248.1	245.9	243.8	247.6	250.6
Nondurable	351.4	332.8	336.4	336.2	334.3	332.1	332.3	324.4	321.6	324.9	332.7	334.0	331.7	323.1

35. Annual data: Producer Price Indexes, by stage of processing

(1967=100)

Index	1977	1978	1979	1980	1981	1982	1983	1984	1985
Finished goods:									
Total	181.7	195.9	217.7	247.0	269.8	280.7	285.2	291.1	293.8
Consumer goods	180.7	194.9	217.9	248.9	271.3	281.0	284.6	290.3	291.9
Capital equipment	184.6	199.2	216.5	239.8	264.3	279.4	287.2	294.0	300.5
Intermediate materials, supplies, and components:									
Total	201.5	215.6	243.2	280.3	306.0	310.4	312.3	320.0	318.7
Materials and components for manufacturing	195.4	208.7	234.4	265.7	286.1	289.8	293.4	301.8	299.4
Materials and components for construction	203.4	224.7	247.4	268.3	287.6	293.7	301.8	310.3	315.2
Processed fuels and lubricants	282.5	295.3	364.8	503.0	595.4	591.7	564.8	566.2	549.4
Containers	186.3	202.8	226.8	254.5	276.1	285.6	286.6	302.3	311.2
Supplies	186.7	198.5	218.2	244.5	263.8	272.1	277.1	283.4	284.2
Crude materials for further processing:									
Total	209.2	234.4	274.3	304.6	329.0	319.5	323.6	330.8	306.2
Foodstuffs and feedstuffs	192.1	216.2	247.9	259.2	257.4	247.8	252.2	259.5	235.0
Nonfood materials except fuel	212.2	233.1	264.5	346.1	413.7	376.8	372.2	380.5	355.4
Fuel	372.1	426.8	507.6	615.0	751.2	866.1	931.5	931.3	912.3

36. U.S. export price indexes by Standard International Trade Classification,

(June 1977 = 100, unless otherwise indicated)

Category	1974 SITC	1983			1984				1985			
		June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
ALL COMMODITIES (9/83 = 100)		-	100.0	99.5	100.2	101.5	99.3	98.1	97.5	97.5	96.5	96.8
Food (3/83 = 100)	0	105.1	113.1	108.8	106.2	109.6	103.5	96.5	95.8	94.0	90.2	93.6
Meat (3/83 = 100)	01	100.5	100.8	101.2	106.9	106.7	105.6	104.4	103.9	104.7	106.1	112.3
Fish (3/83 = 100)	03	96.5	97.7	100.4	99.8	96.7	98.0	96.7	101.0	103.5	102.6	101.8
Grain and grain preparations (3/80 = 100)	04	103.5	111.5	105.6	102.7	107.4	101.2	92.9	92.4	90.3	82.6	87.1
Vegetables and fruit (3/83 = 100)	05	105.8	114.8	116.1	116.2	126.8	125.5	114.6	119.4	120.1	126.8	118.8
Feedstuffs for animals (3/83 = 100)	08	100.6	121.4	117.4	106.9	98.8	83.5	82.4	72.8	68.6	75.7	83.4
Misc. food products (3/83 = 100)	09	101.1	102.8	101.7	104.9	110.6	109.5	106.4	110.6	109.2	106.1	107.7
Beverages and tobacco (6/83 = 100)	1	100.0	100.0	101.5	101.6	101.9	102.8	101.3	99.9	100.1	99.7	98.6
Beverages (9/83 = 100)	11	-	100.0	103.3	102.3	102.9	103.3	103.7	104.0	105.3	101.8	100.9
Tobacco and tobacco products (6/83 = 100)	12	100.0	100.0	101.4	101.6	101.8	102.7	101.1	99.5	99.6	99.5	98.4
Crude materials (6/83 = 100)	2	100.0	114.6	112.2	112.5	118.3	105.2	101.4	97.5	96.8	93.3	93.2
Raw hides and skins (6/80 = 100)	21	118.2	129.2	135.2	145.6	154.7	153.7	133.6	121.0	126.2	129.0	139.9
Oilseeds and oleaginous fruit (9/77 = 100)	22	75.0	105.6	96.8	93.9	104.3	79.9	74.8	71.0	71.2	64.2	63.9
Crude rubber (including synthetic and reclaimed) (9/83 = 100)	23	-	100.0	102.2	103.3	106.0	104.1	104.0	106.4	106.3	107.1	106.0
Wood	24	127.1	128.7	129.8	131.1	129.4	123.8	125.4	128.7	125.7	124.5	128.1
Pulp and waste paper (6/83 = 100)	25	100.0	103.5	106.0	112.5	122.1	120.8	114.2	100.5	96.1	93.8	92.7
Textile fibers	26	111.3	117.3	123.1	120.5	125.6	109.4	106.7	102.4	105.8	103.6	102.6
Crude fertilizers and minerals	27	145.0	144.8	144.8	146.6	147.7	163.0	163.2	165.6	167.9	169.4	165.5
Metalliferous ores and metal scrap	28	-	100.0	96.7	100.2	96.5	93.2	92.4	89.2	82.0	80.1	78.0
Mineral fuels	3	-	100.0	99.2	99.1	99.7	99.7	99.7	100.1	99.2	97.6	96.6
Animal and vegetables oils, fats, and waxes	4	100.0	125.6	122.0	129.8	164.5	145.7	147.9	142.0	144.5	114.5	101.4
Fixed vegetable oils and fats (6/83 = 100)	42	100.0	138.2	129.3	133.2	176.4	159.0	156.7	152.9	164.6	126.6	108.7
Chemicals (3/83 = 100)	5	96.4	97.0	98.6	101.4	99.7	98.3	97.7	97.0	96.8	97.1	96.6
Organic chemicals (12/83 = 100)	51	-	-	100.0	100.2	101.0	97.4	94.7	93.8	98.5	97.1	95.4
Fertilizers, manufactured (3/83 = 100)	56	88.9	89.6	96.8	108.3	96.9	97.4	94.8	92.5	87.9	89.8	90.0
Intermediate manufactured products (9/81 = 100)	-	100.4	100.8	100.0	101.0	101.3	102.0	100.4	99.4	99.2	99.2	99.2
Leather and furskins (9/79 = 100)	6	67.2	70.1	75.8	83.5	81.2	80.8	79.0	82.5	79.2	75.9	78.5
Rubber manufactures	61	144.8	145.0	145.0	146.7	147.5	148.9	148.5	150.2	149.0	148.3	148.7
Paper and paperboard products (6/78 = 100)	62	135.8	139.7	145.5	150.2	154.7	160.0	159.5	155.0	151.6	149.6	148.1
Iron and steel (3/82 = 100)	64	95.9	96.6	96.3	95.9	96.1	96.8	96.5	95.5	95.3	95.9	96.3
Nonferrous metals (9/81 = 100)	-	102.8	102.3	93.8	94.2	92.9	90.4	82.5	79.7	79.6	79.8	78.2
Metal manufactures, n.e.s. (3/82 = 100)	-	101.5	101.9	102.1	103.1	104.5	105.1	106.0	106.4	105.2	105.4	104.4
Machinery and transport equipment, excluding military and commercial aircraft (12/78 = 100)	67	135.3	135.9	137.0	138.5	139.4	140.1	141.5	142.3	143.0	143.1	143.3
Power generating machinery and equipment (12/78 = 100)	68	152.5	152.3	154.4	158.4	156.9	160.6	167.5	165.3	167.4	167.1	167.6
Machinery specialized for particular industries (9/78 = 100)	69	148.9	149.1	151.1	152.3	152.8	153.7	153.4	155.0	155.7	156.0	156.1
Metalworking machinery (6/78 = 100)	7	148.4	148.3	148.7	150.8	151.2	151.7	151.9	153.4	155.1	156.3	156.4
General industrial machines and parts n.e.s. 9/78 = 100)	71	145.0	145.4	145.9	148.6	149.0	149.3	150.2	152.4	152.0	152.4	152.2
Office machines and automatic data processing equipment	72	103.6	103.2	102.5	101.4	101.5	99.8	101.4	100.9	100.0	99.9	99.4
Telecommunications, sound recording and reproducing equipment	73	131.1	132.2	132.1	133.0	132.3	134.4	134.3	133.3	133.3	134.1	134.5
Electrical machinery and equipment	74	108.5	109.4	109.8	110.2	112.6	113.8	114.6	114.9	116.1	115.3	113.8
Road vehicles and parts (3/80 = 100)	75	125.6	127.5	128.8	130.2	131.2	131.0	131.8	133.1	133.9	133.8	135.0
Other transport equipment, excl. military and commercial aviation	76	175.8	176.4	179.3	183.1	187.7	189.6	191.7	195.5	196.9	199.6	201.0
Other manufactured articles	77	-	100.0	100.2	100.6	100.4	100.7	99.3	99.5	100.4	100.3	100.3
Apparel (9/83 = 100)	78	-	100.0	100.8	101.9	102.1	103.9	103.4	104.7	104.7	105.0	105.3
Professional, scientific, and controlling instruments and apparatus	79	169.8	169.0	171.5	171.8	172.0	175.8	171.7	175.5	178.3	176.7	178.8
Photographic apparatus and supplies, optical goods, watches and clocks (12/77 = 100)	8	129.8	130.0	132.0	132.0	131.3	132.7	130.3	128.0	129.1	127.5	128.5
Miscellaneous manufactured articles, n.e.s.	84	100.0	100.0	98.2	98.5	97.8	95.2	94.1	92.4	93.1	93.1	92.4
Gold, non-monetary (6/82 = 100)	971	-	-	-	-	-	-	-	-	-	-	-

- Data not available.

37. U.S. import price indexes by Standard International Trade Classification

(June 1977 = 100, unless otherwise indicated)

Category	1974 SITC	1983	1984				1985			
		Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
ALL COMMODITIES (9/82 = 100)		97.3	98.0	96.3	96.7	95.7	93.5	93.0	92.9	94.6
Food (9/77 = 100)	0	100.4	102.5	103.5	102.0	96.1	98.5	96.8	94.9	102.8
Meat	01	134.1	133.4	133.8	135.4	132.3	130.4	118.2	120.6	131.2
Dairy products and eggs (6/81 = 100)	02	99.6	100.8	99.8	98.9	98.4	98.3	97.9	99.1	100.5
Fish	03	136.0	132.7	134.2	134.2	133.9	132.9	129.4	129.7	132.7
Bakery goods, pasta products, grain and grain preparations (9/77 = 100)	04	132.7	136.5	134.8	132.9	132.8	131.8	132.3	136.3	141.9
Fruits and vegetables	05	125.0	136.1	135.8	135.4	117.2	127.1	129.4	120.2	131.2
Sugar, sugar preparations, and honey (3/82 = 100)	06	117.9	117.1	120.3	119.0	118.5	118.4	122.6	123.1	111.9
Coffee, tea, cocoa	07	59.6	61.4	62.4	60.3	58.4	57.0	56.0	54.4	64.6
Beverages and tobacco	1	155.4	155.3	156.3	157.1	156.5	156.2	157.1	158.0	161.6
Beverages	11	152.7	152.6	153.6	153.5	152.8	154.2	154.3	156.0	159.1
Crude materials	2	98.6	103.2	102.6	100.6	96.9	94.0	93.6	91.5	91.2
Crude rubber (inc. synthetic & reclaimed) (3/84 = 100)	23	–	100.0	93.7	90.7	83.8	77.6	76.4	68.9	73.2
Wood (9/81 = 100)	24	107.2	114.8	103.2	99.6	104.0	100.7	106.9	101.6	99.4
Pulp and waste paper (12/81 = 100)	25	80.9	87.6	96.1	96.3	93.2	84.0	80.4	76.8	75.8
Crude fertilizers and crude minerals (12/83 = 100)	27	100.0	100.0	96.2	98.0	98.6	100.3	101.7	102.7	102.1
Metalliferous ores and metal scrap (3/84 = 100)	28	–	100.0	102.8	100.1	95.6	90.4	87.6	89.5	90.1
Crude vegetable and animal materials, n.e.s.	29	–	100.0	100.8	101.1	106.4	104.3	104.9	102.5	102.5
Fuels and related products (6/82 = 100)	3	87.6	88.3	88.0	86.9	85.2	82.9	80.9	79.8	80.1
Petroleum and petroleum products (6/82 = 100)	33	87.6	88.2	88.1	87.0	85.2	83.8	81.6	80.3	81.1
Fats and oils (9/83 = 100)	4	100.4	117.4	141.6	124.4	114.9	89.9	76.7	57.6	50.6
Vegetable oils (9/83 = 100)	42	100.5	118.1	143.1	125.3	115.3	89.5	75.9	56.2	48.9
Chemicals (9/82 = 100)	5	99.5	101.1	100.6	98.8	97.1	95.7	94.9	94.5	94.2
Medicinal and pharmaceutical products (3/84 = 100)	54	–	100.0	98.5	96.4	94.6	91.6	95.1	95.3	96.7
Manufactured fertilizers (3/84 = 100)	56	–	100.0	101.7	98.5	92.9	94.2	82.0	80.8	78.5
Chemical materials and products, n.e.s. (9/84 = 100)	59	–	–	–	100.0	97.5	96.1	95.6	96.9	97.8
Intermediate manufactured products (12/77 = 100)	6	137.3	137.6	139.6	137.2	136.8	133.1	132.4	133.6	133.4
Leather and furskins	61	137.6	141.6	145.3	144.0	140.4	135.3	133.3	137.0	141.3
Rubber manufactures, n.e.s.	62	141.1	141.8	140.8	139.6	140.5	139.5	138.6	137.3	138.1
Cork and wood manufactures	63	134.7	130.1	131.0	126.4	126.1	121.3	121.2	123.4	124.0
Paper and paperboard products	64	147.0	148.0	150.4	156.1	157.5	157.6	157.2	157.8	156.5
Textiles	65	128.5	130.8	130.1	131.6	132.9	130.4	127.5	126.5	128.1
Nonmetallic mineral manufactures, n.e.s.	66	166.4	168.4	166.6	156.6	159.4	154.3	151.8	157.6	162.3
Iron and steel (9/78 = 100)	67	119.5	118.5	123.8	124.7	123.7	121.0	120.1	119.1	118.3
Nonferrous metals (12/81 = 100)	68	94.8	95.0	96.3	90.2	87.3	81.9	82.3	83.7	80.4
Metal manufactures, n.e.s.	69	118.9	119.7	120.5	119.3	119.3	117.4	117.8	119.5	121.6
Machinery and transport equipment (6/81 = 100)	7	104.1	104.0	104.1	102.6	102.9	101.6	102.6	103.5	107.2
Machinery specialized for particular industries (9/78 = 100)	72	100.8	100.4	100.0	98.8	98.0	96.2	97.0	101.4	104.7
Metalworking machinery (3/80 = 100)	73	95.7	94.3	93.8	92.1	89.9	86.3	90.5	94.2	98.1
General industrial machinery and parts, n.e.s. (6/81 = 100)	74	93.5	93.7	94.4	92.4	91.3	89.2	91.1	94.3	98.0
Office machines and automatic data processing equipment (3/80 = 100)	75	96.9	97.6	96.7	94.1	92.2	89.6	89.4	90.3	93.7
Telecommunications, sound recording and reproducing apparatus (3/80 = 100)	76	94.9	94.2	94.8	93.6	91.3	90.0	88.8	88.3	88.6
Electrical machinery and equipment (12/81 = 100)	77	95.9	94.2	91.2	87.0	86.4	82.1	83.9	81.4	83.3
Road vehicles and parts (6/81 = 100)	78	109.5	109.0	110.4	109.8	111.3	111.5	112.1	112.7	117.8
Misc. manufactured articles (3/80 = 100)	8	100.0	100.6	101.5	99.7	100.0	97.0	98.0	99.6	100.8
Plumbing, heating, and lighting fixtures (6/80 = 100)	81	108.2	109.5	112.0	110.7	111.6	113.9	114.1	117.8	115.0
Furniture and parts (6/80 = 100)	82	136.0	136.8	140.8	138.4	142.5	137.4	136.7	142.1	142.7
Clothing (9/77 = 100)	84	128.5	130.2	132.5	135.4	136.5	136.7	133.9	134.5	134.5
Footwear	85	136.0	136.8	140.8	136.4	142.5	137.4	136.7	142.1	142.7
Professional, scientific, and controlling instruments and apparatus (12/79 = 100)	87	97.6	96.7	97.8	95.6	92.9	89.2	92.3	98.8	102.4
Photographic apparatus and supplies, optical goods, watches, and clocks (3/80 = 100)	88	90.6	89.6	92.8	91.2	91.3	88.9	89.5	91.1	94.9
Misc. manufactured articles, n.e.s. (6/82 = 100)	89	104.9	105.2	104.0	98.3	96.3	91.2	95.2	96.4	97.9
Gold, non-monetary (6/82 = 100)	971	–	–	–	–	–	–	–	–	–

– Data not available.

38. U.S. export price indexes by end-use category

(September 1983 = 100 unless otherwise indicated)

Category	Percentage of 1980 Trade Value	1983	1984				1985			
		Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Foods, feeds, and beverages	16.294	95.0	92.6	98.5	88.8	83.0	81.5	80.9	78.2	77.5
Raw materials	30.696	100.7	102.2	102.5	100.5	99.1	97.6	97.2	96.5	96.2
Raw materials, nondurable	21.327	101.9	103.6	104.4	102.8	101.4	99.6	99.5	98.7	98.3
Raw materials, durable	9.368	97.7	98.8	97.7	95.0	93.3	92.6	91.6	91.1	91.0
Capital goods (12/82=100)	30.186	102.0	103.2	103.9	104.6	105.6	106.2	106.6	106.6	106.6
Automotive vehicles, parts and engines (12/82=100)	7.483	103.9	104.5	105.3	105.3	105.7	106.7	108.0	108.1	109.2
Consumer goods	7.467	99.6	100.9	100.9	101.3	100.8	100.9	101.1	101.9	101.7
Durables	3.965	98.9	100.1	99.6	99.4	99.3	99.1	99.2	100.4	100.0
Nondurables	3.501	100.3	101.8	102.1	103.0	102.3	102.7	103.0	103.3	103.3

39. U.S. import price indexes by end-use category

(December 1982=100)

Category	Percentage of 1980 Trade Value	1983	1984				1985			
		Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Foods, feeds, and beverages	7.477	104.0	106.0	107.2	105.6	101.8	102.1	100.4	99.0	106.0
Petroleum and petroleum products, excl. natural gas	31.108	88.1	88.6	86.5	87.5	85.7	84.4	82.1	80.9	81.5
Raw materials, excluding petroleum	19.205	101.8	103.5	104.3	102.5	101.1	96.3	95.8	95.4	93.9
Raw materials, nondurable	9.391	99.0	100.7	102.1	101.7	100.7	95.0	93.9	93.5	91.8
Raw materials, durable	9.814	104.7	106.5	106.7	103.3	101.6	97.7	97.8	97.4	96.2
Capital goods	13.164	101.3	100.6	99.8	98.0	97.8	94.8	96.3	97.6	100.0
Automotive vehicles, parts and engines	11.750	103.8	103.6	104.9	104.0	105.2	105.4	105.9	108.4	111.4
Consumer goods	14.250	100.4	101.0	101.9	100.6	101.1	99.5	99.4	101.0	102.5
Durable	5.507	101.1	101.1	101.4	98.8	98.5	97.0	97.0	98.0	100.8
Nondurable	8.743	99.5	100.9	102.5	103.0	104.6	103.0	102.5	103.9	104.7

40. U.S. export price indexes by Standard Industrial Classification [1]

Industry group	1983	1984				1985			
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Manufacturing:									
Food and kindred products (6/83=100)	106.3	109.0	112.7	105.6	103.3	99.5	99.5	96.7	98.1
Tobacco manufactures	–	–	–	–	–	–	–	–	–
Textile mill products	–	–	–	–	–	–	–	–	–
Apparel and related products	–	–	–	–	–	–	–	–	–
Lumber and wood products, except furniture (6/83=100)	101.0	101.5	100.1	97.0	97.9	99.9	99.5	98.3	101.2
Furniture and fixtures (9/83=100)	100.9	101.8	103.1	103.5	104.9	105.2	106.5	107.1	106.4
Paper and allied products (3/81=100)	94.7	96.6	104.3	106.2	103.6	97.1	94.7	93.2	92.1
Printing, publishing, and allied products	–	–	–	–	–	–	–	–	–
Chemicals and allied products (12/84=100)	101.4	103.3	102.3	101.3	100.7	100.3	99.6	99.7	99.2
Petroleum and coal products (12/83=100)	100.0	101.6	102.1	100.7	100.4	101.3	102.7	102.0	99.1
Rubber and miscellaneous plastic products	–	–	–	–	–	–	–	–	–
Leather and leather products	–	–	–	–	–	–	–	–	–
Stone, clay, glass, and concrete products	–	–	–	–	–	–	–	–	–
Primary metal products (3/82=100)	105.0	105.1	104.0	100.0	95.8	91.2	92.7	93.6	93.6
Fabricated metal products	–	–	–	–	–	–	–	–	–
Machinery, except electrical (9/78=100)	135.8	137.4	137.9	138.0	139.9	140.4	140.5	140.6	140.5
Electrical machinery (12/80=100)	107.6	108.0	109.5	110.7	111.1	111.3	112.4	111.9	111.2
Transportation equipment (12/78=100)	153.6	155.7	157.2	157.8	158.9	160.5	162.0	162.8	164.4
Scientific instruments; optical goods; clocks (6/77=100)	152.8	153.1	153.2	156.0	153.0	154.9	156.6	156.2	156.7
Miscellaneous manufactured commodities	–	–	–	–	–	–	–	–	–

[1] SIC - based classification.

– Data not available.

41. U.S. import price indexes by Standard Industrial Classification [1]

Industry group	1983	1984				1985			
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Manufacturing:									
Food and kindred products (6/77=100)	120.8	122.3	126.6	124.1	122.6	118.6	115.0	114.2	115.1
Tobacco manufactures	-	-	-	-	-	-	-	-	-
Textile mill products (9/82=100)	103.3	104.4	103.8	104.3	104.7	102.8	101.0	100.4	101.8
Apparel and related products (6/77=100)	126.5	128.1	129.6	133.9	138.2	135.6	133.0	133.9	134.4
Lumber and wood products, except furniture (6/77=100)	125.0	129.4	121.1	117.3	120.0	116.3	120.6	117.5	115.8
Furniture and fixtures (6/80=100)	95.5	95.7	96.9	96.2	95.6	93.9	96.1	97.7	98.2
Paper and allied products (6/77=100)	132.9	136.5	141.9	146.0	145.5	141.5	139.8	138.7	137.4
Printing, publishing, and allied products	-	-	-	-	-	-	-	-	-
Chemicals and allied products (9/82=100)	99.5	101.8	101.8	99.8	98.2	95.3	93.9	93.3	95.8
Petroleum and coal products	-	-	-	-	-	-	-	-	-
Rubber and miscellaneous plastic products (12/80=100)	97.4	98.1	98.5	97.8	98.0	96.9	96.7	96.6	97.5
Leather and leather products	139.1	140.3	143.7	141.6	144.2	139.1	138.9	142.3	144.0
Stone, clay, glass, concrete products	-	-	-	-	-	-	-	-	-
Primary metal products (6/81=100)	90.5	90.1	91.9	88.3	86.6	82.2	83.0	83.4	81.9
Fabricated metal products (12/84=100)	-	-	-	-	100.0	99.0	99.1	101.0	102.6
Machinery, except electrical (3/80=100)	98.0	97.8	97.1	95.5	94.1	91.8	93.4	96.6	100.0
Electrical machinery (9/84=100)	-	-	-	100.0	96.6	95.1	95.8	94.5	95.9
Transportation equipment (6/81=100)	110.3	110.6	111.6	110.7	112.9	113.1	114.2	114.8	119.6
Scientific instruments; optical goods; clocks (12/79=100)	94.3	94.0	95.5	94.4	93.2	90.7	91.7	94.6	99.0
Miscellaneous manufactured commodities (9/82=100)	99.7	99.8	99.1	95.6	96.4	95.1	95.1	96.6	98.7

[1] SIC - based classification.

- Data not available.

42. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

(1977=100)

Item	Annual average	Quarterly indexes										
	1984	1983			1984				1985			
		II	III	IV	I	II	III	IV	I	II	III	IV
Business:												
Output per hour of all persons	105.2	103.5	103.1	103.6	104.9	105.5	105.3	105.0	105.3	105.5	105.9	105.1
Compensation per hour	166.2	161.5	162.1	164.1	166.1	167.5	169.1	170.4	172.4	174.3	176.1	177.6
Real compensation per hour	98.2	98.7	98.1	98.3	98.3	98.2	98.2	98.1	98.5	98.5	98.9	98.7
Unit labor costs	159.9	156.0	157.2	158.4	158.4	158.7	160.6	162.3	163.6	165.2	166.3	169.0
Unit nonlabor payments	156.5	144.9	147.3	148.6	153.4	156.8	157.3	158.0	157.6	158.2	158.6	156.4
Implicit price deflator	158.7	152.0	153.7	154.9	156.6	158.0	159.4	160.8	161.6	162.7	163.5	164.5
Nonfarm business:												
Output per hour of all persons	104.1	102.8	102.9	103.0	104.0	104.5	104.2	103.8	104.1	104.2	104.3	103.4
Compensation per hour	168.0	161.6	162.3	164.0	165.9	167.4	168.8	170.1	172.1	173.7	175.0	176.4
Real compensation per hour	98.0	98.8	98.2	98.2	98.1	98.1	98.0	97.8	98.3	98.2	98.3	98.1
Unit labor costs	161.4	157.2	157.7	159.1	159.6	160.1	162.0	163.9	165.3	166.8	167.8	170.5
Unit nonlabor payments	156.3	146.9	149.5	150.7	152.5	156.3	157.6	158.4	158.8	160.2	161.4	158.0
Implicit price deflator	159.6	153.6	154.8	156.1	157.1	158.8	160.5	161.9	163.0	164.5	165.5	166.1
Nonfinancial corporations:												
Output per hour of all employees	106.2	103.7	104.6	105.0	106.2	106.7	106.1	105.6	105.8	105.8	106.5	-
Compensation per hour	166.1	160.1	160.8	162.4	164.2	165.6	166.8	167.9	169.4	170.8	172.0	-
Real compensation per hour	96.9	97.9	97.3	97.3	97.1	97.1	96.9	96.7	96.7	96.6	96.6	-
Total unit costs	161.2	160.1	159.6	159.5	159.1	159.9	162.2	163.6	164.4	165.6	165.5	-
Unit labor costs	156.4	154.4	153.8	154.8	154.7	155.1	157.2	158.7	160.0	161.5	161.5	-
Unit nonlabor costs	175.3	176.9	176.7	173.7	172.3	174.0	177.0	177.9	177.6	178.6	177.2	-
Unit profits	135.6	103.1	114.4	124.0	132.9	139.1	134.3	135.9	138.3	139.1	150.2	-
Unit nonlabor payments	161.4	151.0	154.9	156.3	158.5	161.8	162.1	163.2	163.8	164.8	167.7	-
Implicit price deflator	158.1	153.2	154.2	155.3	156.0	157.4	158.9	160.3	161.3	162.6	163.6	-
Manufacturing:												
Output per hour of all persons	118.5	111.9	114.5	114.7	116.7	117.8	119.8	119.5	119.9	121.7	122.7	122.4
Compensation per hour	169.1	162.6	163.3	164.4	166.7	168.1	169.9	171.6	174.3	176.1	177.3	178.8
Real compensation per hour	98.7	99.4	98.8	98.5	98.6	98.6	98.7	98.9	99.5	99.5	99.6	99.4
Unit labor costs	142.8	145.4	142.6	143.4	142.8	142.7	141.9	143.7	145.4	144.7	144.5	146.1

- Data not available.

43. Annual indexes of multifactor productivity and related measures, selected years

(1977=100)

Item	1960	1970	1973	1974	1976	1977	1979	1980	1981	1982	1983	1984
Private business												
Productivity:												
Output per hour of all persons	64.8	86.1	94.8	92.5	97.6	100.0	99.3	98.7	100.6	100.8	103.7	107.1
Output per unit of capital services	98.4	98.5	103.0	96.5	96.1	100.0	100.3	95.6	94.1	89.5	92.3	97.4
Multifactor productivity	75.4	90.2	97.5	93.8	97.1	100.0	99.7	97.6	98.3	96.8	99.6	103.7
Output	53.3	78.3	91.8	89.9	93.7	100.0	107.9	106.4	109.2	106.3	111.1	121.0
Inputs:												
Hours of all persons	82.2	90.8	96.8	97.2	95.9	100.0	108.6	107.8	108.5	105.4	107.2	113.0
Capital services	54.1	79.4	89.1	93.1	97.5	100.0	107.5	111.4	116.0	118.8	120.4	124.3
Combined units of labor and capital input	70.7	86.7	94.1	95.8	96.5	100.0	108.2	109.0	111.0	109.9	111.6	116.8
Capital per hour of all persons	65.9	87.4	92.0	95.9	101.6	100.0	98.9	103.3	106.9	112.7	112.3	109.9
Private nonfarm business												
Productivity:												
Output per hour of all persons	68.0	86.8	95.3	92.9	97.8	100.0	99.0	98.2	99.6	99.9	103.5	106.3
Output per unit of capital services	98.4	98.6	103.2	96.5	96.1	100.0	100.1	95.2	93.2	88.7	91.9	96.6
Multifactor productivity	77.6	90.7	97.9	94.1	97.2	100.0	99.4	97.2	97.4	95.9	99.4	102.9
Output	52.3	77.8	91.7	89.7	93.6	100.0	108.0	106.1	108.7	105.9	111.3	121.0
Inputs:												
Hours of all persons	77.0	89.7	96.2	96.5	95.7	100.0	109.1	108.4	109.1	106.0	107.6	113.8
Capital services	53.2	78.9	88.8	93.0	97.4	100.0	107.9	111.7	116.6	119.4	121.1	125.2
Combined units of labor and capital input	67.4	85.9	93.6	95.3	96.3	100.0	108.7	109.5	111.6	110.4	112.0	117.5
Capital per hour of all persons	69.1	88.0	92.4	96.3	101.8	100.0	98.9	103.1	106.8	112.6	112.6	110.1
Manufacturing												
Productivity:												
Output per hour of all persons	60.0	79.2	93.0	90.8	97.6	100.0	101.6	101.7	104.9	107.1	111.6	115.6
Output per unit of capital services	87.9	91.8	108.2	99.6	96.1	100.0	99.5	90.7	89.9	82.9	87.6	96.0
Multifactor productivity	67.0	82.3	96.8	93.1	97.1	100.0	101.0	98.8	100.8	100.3	104.9	110.4
Output	50.7	77.0	95.9	91.9	93.6	100.0	108.2	103.5	106.1	99.3	104.4	115.3
Inputs:												
Hours of all persons	84.4	97.3	103.1	101.2	95.9	100.0	106.5	101.7	101.1	92.7	93.5	99.8
Capital services	57.6	83.9	88.6	92.2	97.4	100.0	108.8	114.1	118.0	119.8	119.2	120.2
Combined units of labor and capital inputs	75.6	93.5	99.0	98.7	96.3	100.0	107.1	104.8	105.2	99.0	99.5	104.5
Capital per hour of all persons	68.3	86.2	85.9	91.1	101.6	100.0	102.1	112.2	116.7	129.2	127.5	120.4

44. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years

(1977=100)

Item	1960	1970	1973	1974	1976	1977	1979	1980	1981	1982	1983	1984	1985
Business:													
Output per hour of all persons	67.5	88.3	95.9	93.9	98.3	100.0	99.6	99.2	100.7	100.3	103.1	105.2	105.4
Compensation per hour	33.6	57.7	70.9	77.6	92.8	100.0	119.1	131.5	143.7	154.9	161.9	168.2	175.1
Real compensation per hour	68.8	90.1	96.7	95.4	98.7	100.0	99.4	96.7	95.7	97.3	98.5	98.2	98.6
Unit labor costs	49.8	65.4	73.9	82.7	94.3	100.0	119.6	132.6	142.7	154.5	157.1	159.9	166.1
Unit nonlabor payments	46.3	59.4	72.5	76.4	93.4	100.0	112.5	118.8	134.7	136.8	145.5	156.5	157.7
Implicit price deflator	48.5	63.2	73.4	80.5	94.0	100.0	117.0	127.6	139.8	148.1	153.0	158.7	163.1
Nonfarm business:													
Output per hour of all persons	70.9	89.1	96.4	94.3	98.5	100.0	99.2	98.8	99.8	99.2	102.5	104.1	104.0
Compensation per hour	35.3	58.1	71.2	78.0	92.8	100.0	118.9	131.3	143.6	154.8	162.1	168.0	174.3
Real compensation per hour	72.2	90.7	97.1	95.9	98.8	100.0	99.2	96.6	95.7	97.2	98.6	98.0	98.2
Unit labor costs	49.8	65.2	73.9	82.7	94.2	100.0	119.8	132.9	144.0	156.0	158.1	161.4	167.6
Unit nonlabor payments	46.2	60.0	69.4	74.0	93.1	100.0	110.5	118.5	133.5	136.6	147.2	156.3	159.6
Implicit price deflator	48.5	63.4	72.3	79.7	93.8	100.0	116.5	127.8	140.3	149.2	154.2	159.6	164.8
Nonfinancial corporations:													
Output per hour of all employees	73.4	91.1	97.5	94.6	98.4	100.0	99.8	99.1	99.6	100.4	104.0	106.2	106.0
Compensation per hour	36.9	59.2	71.6	78.2	92.9	100.0	118.7	131.1	143.3	154.3	160.6	166.1	171.3
Real compensation per hour	75.5	92.4	97.6	96.1	98.9	100.0	99.1	96.4	95.5	96.9	97.7	96.9	96.5
Unit labor costs	50.2	65.0	73.4	82.6	94.3	100.0	119.0	132.3	143.8	153.8	154.5	156.4	161.6
Unit nonlabor payments	51.5	60.1	68.9	73.1	93.8	100.0	108.4	118.6	137.8	142.1	152.2	161.4	165.7
Implicit price deflator	50.7	63.3	71.9	79.4	94.2	100.0	115.4	127.6	141.7	149.8	153.7	158.1	163.0
Manufacturing:													
Output per hour of all persons	62.2	80.8	93.4	90.6	97.1	100.0	101.4	101.4	103.6	105.9	112.9	116.5	121.7
Compensation per hour	36.5	57.3	68.8	76.2	92.1	100.0	118.6	132.4	145.2	157.5	163.2	169.1	176.6
Real compensation per hour	74.7	89.4	93.8	93.6	96.1	100.0	99.1	97.4	96.7	98.9	99.3	98.7	99.5
Unit labor costs	58.7	70.9	73.7	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.6	145.1
Unit nonlabor payments	60.2	64.3	70.7	67.7	93.5	100.0	98.9	97.8	111.8	114.0	132.4	140.5	-
Implicit price deflator	59.1	69.0	72.8	79.3	94.5	100.0	111.7	121.0	131.8	138.6	141.0	142.1	-

- Data not available.

45. Unemployment rates in nine countries, quarterly data seasonally adjusted

Country	Annual average		1984			1985			
	1984	1985	II	III	IV	I	II	III	IV
Total labor force basis									
United States	7.4	7.1	7.4	7.3	7.1	7.2	7.2	7.1	6.9
Canada	-	-	11.3	11.2	11.1	11.1	10.5	10.2	10.1
Australia	-	-	9.1	8.8	8.5	8.5	8.4	8.1	-
Japan	-	-	2.7	2.8	2.7	2.6	2.6	2.6	-
France	-	-	9.7	9.9	10.0	10.2	10.1	10.1	9.9
Germany	-	-	7.7	7.8	7.7	7.8	7.8	7.8	7.7
Great Britain	-	-	12.7	13.0	12.8	13.0	13.1	13.4	13.0
Italy [1], [2]	-	-	5.9	5.7	5.7	5.8	5.8	6.0	6.2
Sweden	-	-	-	-	-	-	-	-	-
Civilian labor force basis									
United States	7.5	7.2	7.5	7.4	7.2	7.3	7.3	7.2	7.0
Canada	-	-	11.4	11.2	11.1	11.1	10.8	10.3	10.2
Australia	-	-	9.2	8.8	8.6	8.5	8.5	8.2	-
Japan	-	-	2.7	2.8	2.7	2.6	2.6	2.7	-
France	-	-	9.9	10.1	10.3	10.4	10.3	10.4	10.1
Germany	-	-	7.9	8.0	7.8	7.9	8.0	7.9	7.9
Great Britain	-	-	12.9	13.2	13.0	13.1	13.3	13.5	13.1
Italy	-	-	6.0	5.8	5.8	5.9	5.9	6.2	6.3
Sweden	-	-	-	-	-	-	-	-	-

[1] Quarterly rates are for the first month of the quarter.

[2] Major changes in the Italian labor force survey, introduced in 1977, resulted in a large increase in persons enumerated as unemployed. However, many persons reported that they had not actively sought work in the past 30 days, and they have been provisionally excluded for comparability with U.S. concepts. Inclusion of such persons would more than double the Italian unemployment rate shown.

- Data not available.

NOTE: Quarterly figures for France, Germany, and Great Britain are calculated by applying annual adjustment factors to current published data and therefore should be viewed as less precise indicators of unemployment under U.S. concepts than the annual figures.

46. Annual data: Employment status of the civilian working-age population, ten countries

(Numbers in thousands)

Employment status and country	1976	1977	1978	1979	1980	1981	1982	1983	1984
Labor force									
United States	96,158	99,009	102,251	104,962	106,940	108,670	110,204	111,550	113,544
Canada	10,203	10,500	10,895	11,231	11,573	11,904	11,958	12,183	12,399
Australia	6,244	6,358	6,443	6,519	6,693	6,810	6,910	6,997	7,133
Japan	53,100	53,820	54,610	55,210	55,740	56,320	56,980	58,110	58,480
France	22,010	22,320	22,490	22,680	22,810	22,950	23,170	23,110	23,260
Germany	25,900	25,870	26,000	26,240	26,500	26,610	26,640	26,640	26,700
Great Britain	25,290	25,430	25,620	25,710	25,870	25,870	25,880	25,980	26,390
Italy	20,300	20,530	20,630	20,910	21,210	21,410	21,450	21,610	21,600
Netherlands	4,890	4,950	5,010	5,100	5,290	5,500	5,560	5,720	5,740
Sweden	4,149	4,168	4,203	4,262	4,312	4,326	4,350	4,369	4,385
Participation rate									
United States	61.6	62.3	63.2	63.7	63.8	63.9	64.0	64.0	64.4
Canada	61.1	61.6	62.7	63.4	64.1	64.8	64.1	64.4	64.8
Australia	62.7	62.7	62.0	61.7	62.2	62.0	61.8	61.5	61.5
Japan	62.4	62.5	62.8	62.7	62.6	62.6	62.7	63.1	62.7
France	57.4	57.6	57.6	57.5	57.2	57.1	57.1	56.5	56.6
Germany	53.8	53.4	53.3	53.3	53.2	52.9	52.5	52.8	53.1
Great Britain	63.2	63.2	63.3	63.2	63.2	62.2	61.9	62.2	62.7
Italy	47.8	48.0	47.7	47.[illegible]	48.0	48.0	47.4	47.2	47.5
Netherlands	49.1	49.0	48.8	49.0	50.0	51.3	51.2	52.4	52.3
Sweden	66.0	65.9	66.1	66.6	67.0	66.8	66.8	66.9	67.0
Employed									
United States	88,752	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005
Canada	9,477	9,651	9,987	10,395	10,708	11,006	10,644	10,734	11,000
Australia	5,946	6,000	6,038	6,111	6,284	6,416	6,415	6,300	6,490
Japan	52,020	52,720	53,370	54,040	54,600	55,060	55,620	56,550	56,870
France	21,020	21,200	21,280	21,310	21,340	21,220	21,250	21,150	20,940
Germany	25,010	24,970	25,130	25,460	25,730	25,520	25,060	24,650	24,610
Great Britain	23,810	23,840	24,040	24,360	24,100	23,190	22,820	22,650	22,960
Italy	19,600	19,800	19,870	20,100	20,380	20,480	20,430	20,470	20,400
Netherlands	4,630	4,700	4,750	4,830	4,960	4,990	4,930	4,890	4,880
Sweden	4,083	4,093	4,109	4,174	4,226	4,218	4,213	4,218	4,249
Employment-population ratio									
United States	56.8	57.9	59.3	59.9	59.2	59.0	57.8	57.9	59.5
Canada	56.7	56.6	57.5	58.7	59.3	59.9	57.0	56.7	57.4
Australia	59.7	59.2	58.1	57.9	58.4	58.4	57.3	55.4	56.0
Japan	61.1	61.2	61.3	61.4	61.3	61.2	61.2	61.4	61.0
France	54.8	54.7	54.5	54.0	53.5	52.8	52.4	51.7	50.9
Germany	52.0	51.6	51.5	51.7	51.6	50.7	49.4	48.8	48.9
Great Britain	59.5	59.3	59.4	59.8	58.9	55.8	54.6	54.2	54.6
Italy	46.1	46.3	45.9	45.9	46.1	45.9	45.2	44.7	44.8
Netherlands	46.5	46.5	46.3	46.4	46.9	46.5	45.4	44.8	44.5
Sweden	64.9	64.8	64.6	65.3	65.6	65.1	64.7	64.4	64.7
Unemployed									
United States	7,406	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539
Canada	726	849	908	836	865	898	1,314	1,448	1,399
Australia	298	358	405	408	409	394	495	697	642
Japan	1,080	1,100	1,240	1,170	1,140	1,260	1,360	1,560	1,610
France	990	1,120	1,210	1,370	1,470	1,730	1,920	1,960	2,320
Germany	890	900	870	780	770	1,090	1,580	1,990	2,090
Great Britain	1,480	1,590	1,580	1,350	1,770	2,680	3,060	3,330	3,430
Italy	70[illegible]	740	760	810	830	920	1,020	1,140	1,200
Netherlands	260	250	260	270	330	510	630	830	860
Sweden	66	75	94	88	86	108	137	151	136
Unemployment rate									
United States	7.7	7.1	6.1	5.8	7.1	7.6	9.7	9.6	7.5
Canada	7.1	8.1	8.3	7.4	7.5	7.5	11.0	11.9	11.3
Australia	4.8	5.6	6.3	6.3	6.1	5.8	7.2	10.0	9.0
Japan	2.0	2.0	2.3	2.1	2.0	2.2	2.4	2.7	2.8
France	4.5	5.0	5.4	6.0	6.4	7.5	8.3	8.5	10.0
Germany	3.4	3.5	3.4	3.0	2.9	4.1	5.9	7.5	7.8
Great Britain	5.9	6.3	6.2	5.3	6.8	10.4	11.8	12.8	13.0
Italy	3.4	3.6	3.7	3.9	3.9	4.3	4.8	5.3	5.9
Netherlands	5.3	5.0	5.2	5.3	6.2	9.3	11.3	14.5	15.0
Sweden	1.6	1.8	2.2	2.1	2.0	2.5	3.1	3.5	3.1

47. Annual indexes of productivity and related measures, twelve countries

(1977 = 100)

Item and country	1960	1970	1973	1974	1976	1977	1979	1980	1981	1982	1983	1984	1985
Output per hour													
United States	62.2	80.8	93.4	90.6	97.1	100.0	101.4	101.4	103.6	105.9	112.9	118.5	-
Canada	50.3	76.8	91.3	93.4	96.2	100.0	104.2	101.9	104.0	101.0	107.6	111.5	-
Japan	22.0	61.4	80.2	82.1	93.3	100.0	117.4	128.6	135.7	145.4	152.8	167.4	-
Belgium	32.8	59.9	78.3	82.7	95.0	100.0	112.0	119.7	126.5	128.6	137.0	-	-
Denmark	36.4	65.3	82.6	85.5	96.0	100.0	108.3	114.3	116.2	115.3	118.8	123.6	-
France	36.3	69.3	82.0	85.0	94.9	100.0	110.6	112.4	116.0	123.5	128.8	135.2	-
Germany	39.8	70.9	83.4	87.2	96.2	100.0	107.4	108.4	110.3	111.6	116.8	122.3	-
Italy	36.5	72.7	90.9	95.3	96.9	100.0	110.5	116.9	121.0	123.4	126.4	134.4	-
Netherlands	31.7	63.0	80.1	86.7	96.1	100.0	112.1	114.6	118.7	121.6	130.4	-	-
Norway	54.6	81.7	94.7	97.7	99.7	100.0	107.2	109.3	109.7	112.7	119.4	121.4	-
Sweden	42.3	80.7	94.8	98.8	101.7	100.0	110.9	112.7	113.2	116.5	126.4	134.9	-
United Kingdom	53.8	77.6	93.1	95.4	99.4	100.0	102.1	99.9	106.1	110.9	118.3	123.0	-
Output													
United States	52.5	78.6	96.3	91.7	93.1	100.0	108.1	103.2	104.8	96.4	105.6	117.9	-
Canada	41.5	75.1	94.6	98.0	98.1	100.0	110.9	107.7	108.8	96.4	101.7	110.1	-
Japan	17.9	65.3	87.4	85.7	93.2	100.0	118.0	130.7	139.0	148.8	160.1	180.3	-
Belgium	41.6	78.0	95.7	99.5	99.4	100.0	104.2	107.3	104.8	104.8	106.2	-	-
Denmark	48.2	81.7	95.4	96.8	99.4	100.0	107.2	112.1	108.5	108.2	115.0	123.6	-
France	35.4	73.3	88.6	91.8	96.1	100.0	106.1	106.6	104.9	105.1	106.4	108.0	-
Germany	49.2	86.0	95.2	95.0	97.6	100.0	106.1	106.6	104.6	101.4	102.5	106.5	-
Italy	37.4	78.0	90.5	96.3	97.9	100.0	108.6	115.4	114.3	111.6	109.0	113.1	-
Netherlands	44.1	82.7	94.2	98.4	99.1	100.0	105.5	107.3	107.3	105.2	106.3	-	-
Norway	55.1	87.0	99.5	104.0	101.4	100.0	100.3	101.3	100.1	99.9	98.7	101.2	-
Sweden	52.6	92.5	100.3	105.7	106.1	100.0	103.6	104.0	100.6	100.1	106.0	113.2	-
United Kingdom	71.0	94.6	104.6	103.4	98.1	100.0	100.6	91.8	86.2	86.8	89.0	92.0	-
Total hours													
United States	84.4	97.3	103.1	101.2	95.9	100.0	106.5	101.7	101.1	92.9	93.5	99.5	-
Canada	82.6	97.7	103.6	105.0	102.0	100.0	106.4	105.7	104.6	95.4	94.5	98.7	-
Japan	81.5	106.4	109.0	104.3	99.9	100.0	100.5	101.6	102.4	102.2	104.8	107.[illegible]	-
Belgium	127.1	130.2	122.3	120.4	104.6	100.0	93.0	89.7	82.8	81.6	77.5	-	-
Denmark	132.4	125.1	115.2	113.2	101.4	100.0	99.0	98.0	93.4	93.9	96.8	95.9	-
France	97.6	105.7	108.0	108.0	101.3	100.0	95.9	94.8	90.4	85.0	82.6	79.9	-
Germany	123.6	121.3	114.2	108.9	101.5	100.0	98.8	98.4	94.8	90.8	87.7	87.0	-
Italy	102.3	107.4	99.6	101.0	99.0	100.0	98.2	98.7	94.5	90.5	86.2	84.2	-
Netherlands	139.1	131.1	117.7	113.4	103.1	100.0	94.1	93.7	90.4	86.5	81.5	-	-
Norway	101.0	106.4	105.1	106.5	101.7	100.0	93.6	92.6	91.3	88.6	82.7	83.4	-
Sweden	124.4	114.6	105.7	107.0	104.3	100.0	93.4	92.3	88.9	85.9	83.9	83.9	-
United Kingdom	131.8	121.9	112.4	108.4	98.7	100.0	98.6	91.9	81.3	78.2	75.2	74.8	-
Compensation per hour													
United States	36.5	57.3	68.8	76.2	92.1	100.0	118.6	132.4	145.2	157.5	163.2	169.1	-
Canada	27.1	46.5	59.2	68.5	89.9	100.0	118.3	130.6	151.5	167.1	179.3	181.8	-
Japan	8.9	33.9	55.7	73.0	91.1	100.0	112.8	121.2	130.2	136.9	141.5	146.0	-
Belgium	13.9	34.7	53.6	65.4	89.4	100.0	117.5	130.2	144.7	152.0	164.9	-	-
Denmark	12.6	36.3	56.1	67.9	90.4	100.0	123.2	135.9	149.7	165.4	172.6	182.8	-
France	15.1	36.5	52.1	61.9	88.8	100.0	129.7	148.1	171.3	202.7	227.4	247.5	-
Germany	18.8	48.1	67.6	77.1	91.4	100.0	115.4	125.0	133.8	140.9	146.7	152.1	-
Italy	8.3	26.1	43.7	54.5	84.1	100.0	134.7	160.2	197.1	237.3	277.0	306.0	-
Netherlands	12.2	38.5	60.1	71.7	92.1	100.0	117.3	123.5	130.3	139.4	147.3	-	-
Norway	15.8	37.9	54.6	63.7	88.9	100.0	116.0	128.0	142.8	156.1	173.8	185.6	-
Sweden	14.7	38.5	54.2	63.8	91.5	100.0	120.1	133.6	148.1	158.9	173.2	192.0	-
United Kingdom	14.9	30.9	45.0	57.2	86.9	100.0	137.1	162.8	185.6	201.8	216.2	233.4	-
Unit labor costs: National currency basis:													
United States	58.7	70.9	73.7	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.8	-
Canada	53.9	60.6	64.8	73.3	93.5	100.0	113.5	128.1	145.7	165.4	166.7	163.0	-
Japan	40.5	55.2	69.4	88.9	97.7	100.0	96.1	94.2	95.9	94.1	92.6	87.2	-
Belgium	42.4	57.9	68.5	79.1	94.1	100.0	104.9	108.9	114.4	118.3	120.4	-	-
Denmark	34.5	55.6	67.8	79.4	92.3	100.0	113.7	118.9	128.8	143.5	145.3	147.8	-
France	41.6	52.6	63.6	72.8	93.6	100.0	117.3	131.7	147.7	164.1	176.5	183.1	-
Germany	47.3	67.9	81.0	88.4	95.0	100.0	107.5	115.3	121.3	126.2	125.6	124.3	-
Italy	22.8	36.0	48.1	57.2	85.1	100.0	121.9	137.0	162.9	192.4	219.2	227.7	-
Netherlands	38.3	61.1	75.1	82.6	95.9	100.0	104.7	107.8	109.8	114.6	113.0	-	-
Norway	29.0	46.4	57.6	65.2	89.1	100.0	108.2	117.0	130.2	138.5	145.6	152.9	-
Sweden	34.8	47.7	57.2	64.6	90.0	100.0	108.3	118.6	130.9	136.3	137.1	142.3	-
United Kingdom	27.6	39.8	48.3	59.9	89.5	100.0	134.3	163.0	174.9	181.9	182.8	189.8	-
Unit labor costs: U.S. dollar basis:													
United States	58.7	70.9	73.7	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.8	-
Canada	59.0	61.7	68.8	79.7	100.7	100.0	103.0	116.4	129.1	142.3	143.7	133.7	-
Japan	30.2	41.3	68.6	81.7	88.2	100.0	117.9	111.8	116.4	101.2	104.4	98.4	-
Belgium	30.4	41.8	63.2	72.8	87.4	100.0	128.1	133.6	110.7	92.6	84.4	-	-
Denmark	30.1	44.5	67.6	78.4	91.7	100.0	129.7	126.8	108.4	103.2	95.3	85.7	-
France	41.7	46.8	70.4	74.5	96.3	100.0	135.5	153.4	133.4	122.6	113.9	103.0	-
Germany	26.3	43.2	71.0	79.5	87.6	100.0	136.2	147.5	124.9	120.7	114.1	101.4	-
Italy	32.5	50.8	73.1	77.6	90.5	100.0	129.5	141.4	126.3	125.4	127.4	114.5	-
Netherlands	24.9	41.4	66.3	75.6	89.0	100.0	128.1	133.2	106.2	105.2	97.2	-	-
Norway	21.7	34.5	53.4	62.8	86.9	100.0	113.8	126.2	120.6	114.1	106.2	99.7	-
Sweden	30.1	41.1	58.7	65.1	92.3	100.0	112.9	125.3	115.4	96.9	79.8	76.9	-
United Kingdom	44.5	54.6	67.9	80.4	92.6	100.0	163.4	217.2	202.9	182.2	158.8	145.4	-

- Data not available.

48. Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]								
	1977	1978	1979	1980	1981	1982	1983	1984	1985
PRIVATE SECTOR[3]									
Total cases	-	-	-	8.7	8.3	7.7	7.6	8.0	-
Lost workday cases	-	-	-	4.0	3.8	3.5	3.4	3.7	-
Lost workdays	-	-	-	65.2	61.7	58.7	58.5	63.4	-
Agriculture, forestry, and fishing[3]									
Total cases	-	-	-	11.9	12.3	11.8	11.9	12.0	-
Lost workday cases	-	-	-	5.8	5.9	5.9	6.1	6.1	-
Lost workdays	-	-	-	82.7	82.8	86.0	90.8	90.7	-
Mining									
Total cases	-	-	-	11.2	11.6	10.5	8.4	9.7	-
Lost workday cases	-	-	-	6.5	6.2	5.4	4.5	5.3	-
Lost workdays	-	-	-	163.6	146.4	137.3	125.1	160.2	-
Construction									
Total cases	-	-	-	15.7	15.1	14.6	14.8	15.5	-
Lost workday cases	-	-	-	6.5	6.3	6.0	6.3	6.9	-
Lost workdays	-	-	-	117.0	113.1	115.7	118.2	128.1	-
General building contractors:									
Total cases	-	-	-	15.5	15.1	14.1	14.4	15.4	-
Lost workday cases	-	-	-	6.5	6.1	5.9	6.2	6.9	-
Lost workdays	-	-	-	113.0	107.1	112.0	113.0	121.3	-
Heavy construction contractors:									
Total cases	-	-	-	16.3	14.9	15.1	15.4	14.9	-
Lost workday cases	-	-	-	6.3	6.0	5.8	6.2	6.4	-
Lost workdays	-	-	-	117.6	106.0	113.1	122.4	131.7	-
Special trade contractors:									
Total cases	-	-	-	15.5	15.2	14.7	14.8	15.8	-
Lost workday cases	-	-	-	6.7	6.6	6.2	6.4	7.1	-
Lost workdays	-	-	-	118.9	119.3	118.6	119.0	130.1	-
Manufacturing									
Total cases	-	-	-	12.2	11.5	10.2	10.0	10.6	-
Lost workday cases	-	-	-	5.4	5.1	4.4	4.3	4.7	-
Lost workdays	-	-	-	86.7	82.0	75.0	73.5	77.9	-
Durable goods									
Lumber and wood products:									
Total cases	-	-	-	18.6	17.6	16.9	18.3	19.6	-
Lost workday cases	-	-	-	9.5	9.0	8.3	9.2	9.9	-
Lost workdays	-	-	-	171.8	158.4	153.3	163.5	172.0	-
Furniture and fixtures:									
Total cases	-	-	-	16.0	15.1	13.9	14.1	15.3	-
Lost workday cases	-	-	-	6.6	6.2	5.5	5.7	6.4	-
Lost workdays	-	-	-	97.6	91.9	85.6	83.0	101.5	-
Stone, clay, and glass products:									
Total cases	-	-	-	15.0	14.1	13.0	13.1	13.6	-
Lost workday cases	-	-	-	7.1	6.9	6.1	6.0	6.6	-
Lost workdays	-	-	-	128.1	122.2	112.2	112.0	120.8	-
Primary metal industries:									
Total cases	-	-	-	15.2	14.4	12.4	12.4	13.3	-
Lost workday cases	-	-	-	7.1	6.7	5.4	5.4	6.1	-
Lost workdays	-	-	-	128.3	121.3	101.6	103.4	115.3	-
Fabricated metal products:									
Total cases	-	-	-	18.5	17.5	15.3	15.1	16.1	-
Lost workday cases	-	-	-	8.0	7.5	6.4	6.1	6.7	-
Lost workdays	-	-	-	118.4	109.9	102.5	96.5	104.9	-
Machinery, except electrical:									
Total cases	-	-	-	13.7	12.9	10.7	9.8	10.7	-
Lost workday cases	-	-	-	5.5	5.1	4.2	3.6	4.1	-
Lost workdays	-	-	-	81.3	74.9	66.0	56.1	65.8	-
Electric and electronic equipment:									
Total cases	-	-	-	8.0	7.4	6.5	6.3	6.8	-
Lost workday cases	-	-	-	3.3	3.1	2.7	2.6	2.8	-
Lost workdays	-	-	-	51.8	48.4	42.2	41.4	45.0	-
Transportation equipment:									
Total cases	-	-	-	10.6	9.8	9.2	8.4	9.3	-
Lost workday cases	-	-	-	4.9	4.6	4.0	3.6	4.2	-
Lost workdays	-	-	-	82.4	78.1	72.2	64.5	68.8	-
Instruments and related products:									
Total cases	-	-	-	6.8	6.5	5.6	5.2	5.4	-
Lost workday cases	-	-	-	2.7	2.7	2.3	2.1	2.2	-
Lost workdays	-	-	-	41.8	39.2	37.0	35.6	37.5	-
Miscellaneous manufacturing industries:									
Total cases	-	-	-	10.9	10.7	9.9	9.9	10.5	-
Lost workday cases	-	-	-	4.4	4.4	4.1	4.0	4.3	-
Lost workdays	-	-	-	67.9	68.3	69.9	66.3	70.2	-

See footnotes at end of table.

48. —Continued Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]								
	1977	1978	1979	1980	1981	1982	1983	1984	1985
Nondurable goods									
Food and kindred products:									
Total cases	–	–	–	18.7	17.8	16.7	16.5	16.7	–
Lost workday cases	–	–	–	9.0	8.6	8.0	7.9	8.1	–
Lost workdays	–	–	–	136.8	130.7	129.3	131.2	131.6	–
Tobacco manufacturing:									
Total cases	–	–	–	8.1	8.2	7.2	6.5	7.7	–
Lost workday cases	–	–	–	3.8	3.9	3.2	3.0	3.2	–
Lost workdays	–	–	–	45.8	56.8	44.6	42.8	51.7	–
Textile mill products:									
Total cases	–	–	–	9.1	8.8	7.6	7.4	8.0	–
Lost workday cases	–	–	–	3.3	3.2	2.8	2.8	3.0	–
Lost workdays	–	–	–	62.8	59.2	53.8	51.4	54.0	–
Apparel and other textile products:									
Total cases	–	–	–	6.4	6.3	6.0	6.4	6.7	–
Lost workday cases	–	–	–	2.2	2.2	2.1	2.4	2.5	–
Lost workdays	–	–	–	34.9	35.0	36.4	40.6	40.9	–
Paper and allied products:									
Total cases	–	–	–	12.7	11.6	10.6	10.0	10.4	–
Lost workday cases	–	–	–	5.6	5.4	4.9	4.5	4.7	–
Lost workdays	–	–	–	112.3	103.6	99.1	90.3	93.8	–
Printing and publishing:									
Total cases	–	–	–	6.9	6.7	6.6	6.6	6.5	–
Lost workday cases	–	–	–	3.1	3.0	2.8	2.9	2.9	–
Lost workdays	–	–	–	46.5	47.4	45.7	44.6	46.0	–
Chemicals and allied products:									
Total cases	–	–	–	6.8	6.6	5.7	5.5	5.3	–
Lost workday cases	–	–	–	3.1	3.0	2.5	2.5	2.4	–
Lost workdays	–	–	–	50.3	48.1	39.4	42.3	40.8	–
Petroleum and coal products:									
Total cases	–	–	–	7.2	6.7	5.3	5.5	5.1	–
Lost workday cases	–	–	–	3.5	2.9	2.5	2.4	2.4	–
Lost workdays	–	–	–	59.1	51.2	46.4	46.6	53.5	–
Rubber and miscellaneous plastics products:									
Total cases	–	–	–	15.5	14.6	12.7	13.0	13.6	–
Lost workday cases	–	–	–	7.4	7.2	6.0	6.2	6.4	–
Lost workdays	–	–	–	118.6	117.4	100.9	101.4	104.3	–
Leather and leather products:									
Total cases	–	–	–	11.7	11.5	9.9	10.0	10.5	–
Lost workday cases	–	–	–	5.0	5.1	4.5	4.4	4.7	–
Lost workdays	–	–	–	82.7	82.6	86.5	87.3	94.4	–
Transportation and public utilities									
Total cases	–	–	–	9.4	9.0	8.5	8.2	8.8	–
Lost workday cases	–	–	–	5.5	5.3	4.9	4.7	5.2	–
Lost workdays	–	–	–	104.5	100.6	96.7	94.9	105.1	–
Wholesale and retail trade									
Total cases	–	–	–	7.4	7.3	7.2	7.2	7.4	–
Lost workday cases	–	–	–	3.2	3.1	3.1	3.1	3.3	–
Lost workdays	–	–	–	48.7	45.3	45.5	47.8	50.5	–
Wholesale trade:									
Total cases	–	–	–	8.2	7.7	7.1	7.0	7.2	–
Lost workday cases	–	–	–	3.9	3.8	3.4	3.2	3.5	–
Lost workdays	–	–	–	58.2	54.7	52.1	50.6	55.5	–
Retail trade:									
Total cases	–	–	–	7.1	7.1	7.2	7.3	7.5	–
Lost workday cases	–	–	–	2.9	2.9	2.9	3.0	3.2	–
Lost workdays	–	–	–	44.5	41.1	42.6	46.7	48.4	–
Finance, insurance, and real estate									
Total cases	–	–	–	2.0	1.9	2.0	2.0	1.9	–
Lost workday cases	–	–	–	.8	.8	.9	.9	.9	–
Lost workdays	–	–	–	12.2	11.6	13.2	12.8	13.6	–
Services									
Total cases	–	–	–	5.2	5.0	4.9	5.1	5.2	–
Lost workday cases	–	–	–	2.3	2.3	2.3	2.4	2.5	–
Lost workdays	–	–	–	35.8	35.9	35.8	37.0	41.1	–

---

[1] Total cases include fatalities.

[2] The incidence rates represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as:
(N/EH) X 200,000, where:
N = number of injuries and illnesses or lost workdays.
EH = total hours worked by all employees during calendar year.
200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year.)

[3] Excludes farms with fewer than 11 employees since 1976.

– Data not available.

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U.S. Department of Labor
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In this issue:

- International labor force participation
- Productivity in metal stamping
- Foreign housing vouchers

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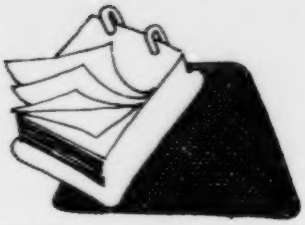

KLEIN AWARD. The Lawrence R. Klein Award trustees selected two authors of the best articles published in the *Monthly Labor Review* in 1985 as winners of the 17th annual Klein Award. The award was presented at the Bureau of Labor Statistics awards ceremony on April 28. Award for the best *Review* article by a BLS author went to Neal H. Rosenthal, chief of the Division of Occupational Outlook, for "The shrinking middle class: myth or reality?" in the March issue. Winner of the best article written by an author outside of the BLS was Helen Ginsburg, professor of economics at Brooklyn College, for "Flexible and partial retirement for Norwegian and Swedish workers," in the October issue.

The Rosenthal article presents an analysis of statistical data that might better inform the debate stirred by recent articles suggesting a decline in the middle class—defined as middle income earners—claiming that most of the new jobs are at the top and bottom of the earnings structure. Rosenthal focused primarily on how changes in occupational structure and wage levels affect the distribution of earnings of individuals in 1973 and 1982. He arrayed 416 occupations by earnings and arranged them into three earnings groups—bottom, middle, and top; summed the number of workers and occupations in each earnings group; and calculated a percent distribution of employment.

He explains, "If the proportion of middle income earners are declining, the proportion of total employment in the middle would show a decline between 1973 and 1982, and the bottom and top, an increase." The analysis shows an increase for the top group, a modest decrease for the middle and a decrease for the bottom. Rosenthal concludes, "Changes in occupational structure alone from 1973 to 1982 do not support the notion of bipolarization."

The combined effect of changes in relative wages and in occupational structure of workers over the 1973-82 period show total employment increasing for the top and middle income groups and decreasing for the bottom. This, states Rosenthal, "Indicates a shift of workers from the low to the middle and high earnings levels...."

According to Rosenthal, the middle class is not declining, although, he says, "Some trends in the industrial and occupational structure of employment could cause a degree of earnings bipolarization. However, a multitude of factors have an effect on the occupational structure of our economy an on the earnings of workers in specific occupations. Although not all factors can be quantified, an analysis of available data indicates that the combined effect of all factors apparently has not caused bipolarization over the 1973-82 period. Also, given BLS projections of employment by occupations, bipolarization is not likely to occur between 1982 and 1995."

The Ginsburg article focuses largely on the Swedish retirement plan because of its greater popularity, more widespread use, and because it offers an unusual degree of flexibility in both age and extent of retirement, compared with the Norwegian plan. Ginsburg discussed the plans of the two countries—noting that a major difference is that Sweden's plan encourages partial retirement *prior* to normal retirement age, while the Norwegian plan encourages it *after* the normal retirement age.

Under the Swedish partial pension plan, a person age 60 to 64 can reduce his or her work hours, receive full pay for the time worked, and also receive a pension to replace 50 percent of the lost earnings, up to a limit. Work time must be reduced by at least 5 hours a week, and after reduction, must average at least 17 hours weekly. Also, to be eligible, a person must have had pensionable earnings for at least 10 years after age 45 (unemployment and sickness benefits are pensionable income in Sweden), and must have been gainfully employed for at least 5 of the last 12 months.

Although not designed to be a weapon against unemployment, Ginsburg notes, partial pensions act as a form of worksharing, preventing employee dismissals in some cases and working against (but not eliminating) the tendency to take early retirement.

Ginsburg concludes, "Developments in Norway and Sweden, which have a more elderly population than the United States, could provide the starting point for a discussion of a comprehensive older-worker policy in the United States."

About the award. Trustees of the Klein Award Fund are Lawrence R. Klein; Charles D. Stewart, president; Ben Burdetsky, secretary-treasurer; Peter Henle; Harold Goldstein; Howard Rosen; and Henry Lowenstern. The award was established in 1968 in honor of Lawrence R. Klein, editor-in-chief of the *Monthly Labor Review* for 22 years until his retirement in 1968. Instead of accepting a retirement gift, Klein donated it and matched the amount collected to initiate the fund. Since then, he has contributed regularly to the fund as have others. The purpose of the award is to encourage *Review* articles that (1) exhibit originality of ideas or method of analysis, (2 adhere to the principles of scientific inquiry, and (3) are well written. Each winning article carries a cash prize of $200.

Tax-deductible contributions to the fund may be sent to Ben Burdetsky, Secretary Treasurer, Lawrence R. Klein Fund, c/o School of Government and Business Administration, The George Washington University, Washington, DC 20052. □

An international comparison of labor force participation, 1977–84

International comparisons of labor force participation in six countries, including the United States, show vastly different patterns, both overall and for demographic groups

Patrick J. McMahon

Over the past decade there have been substantial changes in the structure and performance of labor markets in most countries. These changes stem from changes in various economic factors such as the oil price crises in 1974 and 1978 and the subsequent slowdown in economic growth and emergence of international recession. However, labor force responses since 1975 to these changes have varied considerably between countries and the outcomes may usefully be compared and contrasted. In this article, six countries with similar approaches to labor force measurement are compared.[1] The largest is the United States, followed by Japan and West Germany. The smallest markets considered are, in order of size, Canada, Australia, and Sweden.

The aggregate participation rates in each country are shown in table 1. The range is large. Sweden had the highest labor force participation rate, followed by Canada, the United States, Japan, Australia, and West Germany.[2]

The overall changes in labor force participation since 1975 are also shown in table 1. In Australia the labor force participation rate fell 1.7 percentage points from 61.6 percent in 1975. West Germany and Japan experienced little change in the aggregate participation rate. By contrast, labor markets in the other countries were characterized by large growth in participation rates, particularly in Canada and the United States. In Sweden, which had the highest proportion of the working age population in the labor force of any country considered, the participation rate rose by slightly less.

The magnitude and nature of these different changes in the aggregate labor force participation rate can be seen more clearly by examining the change in the labor force participation rate (shown in column 3) decomposed into the change in the employment-population ratio (shown in column 4) and, completing the identity, the change in the unemployment-population ratio.[3]

In all countries but the United States, the employment-population ratio either increased by less than the participation rate or fell between 1975 and 1984. Australia and West Germany also stand apart from the remaining countries, having experienced both a large decline in employment growth relative to population growth and hefty increases in unemployment. The fall in participation in Australia decomposes into a large fall in the employment-population ratio accompanied by a smaller offsetting increase in unemployment. In West Germany, contrary to the Australian experience, the effect of a fall in the employment-population ratio was completely offset by an increase in unemployment. In Japan, almost all of the small increase in the participation rate was attributable to a small increase in the employment-population ratio, while, in Canada, most of the increase in participation rate decomposes into a dominant increase in unemployment. In Sweden, both employment and unemployment grew roughly by the same magnitude, at least according to the official "unadjusted data" for the popula-

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Patrick J. McMahon is an economist, Australian Bureau of Labour Market Research. He wrote this article while visiting the Bureau of Labor Statistics, U.S. Department of Labor.

tion aged 16 to 74. BLS estimates, shown as the "unadjusted data" for the population aged 16 and over, suggest that in Sweden the participation rate altered predominantly from an increase in unemployment with very little change in the employment-population ratio.

Of all the countries examined, the Australian and U.S. experiences appear to be unique at either end of the spectrum. Only Australia experienced a large decline in the participation rate together with a very large increase in the unemployment-population ratio, and only the United States experienced a large increase in the participation rate together with a decline in the unemployment-population ratio.

Changes in composition

Observed changes in the labor force may reflect shifts in the age and sex structure of the population, changes in labor force behavior within demographic groups, or both. The role of composition effects vis-á-vis behavioral influences is examined in this section.

The effect of demographic changes can be measured by computing the aggregate participation rate for 1984, maintaining the 1975 participation rates for each individual demographic group. The difference between the 1975 and the 1984 rate calculated by assuming no participation change in the demographic components indicates that change in the participation rate was due solely to demographic shifts. Between 1975 and 1984, demographic shifts would have marginally altered the aggregate participation rates of the United States, Canada, and Sweden. (See table 2.) More substantial shifts occurred in Australia (down 1.1 percentage points), Japan (down 1.1 percentage points), and West Germany (up 0.8 percentage points).

After adjusting for demographic factors, West Germany appears to have had similar experiences to Australia. Thus Australia and West Germany were the only countries to have experienced behaviorally induced declines in aggregate labor force participation *and* large increases in unemployment.

Participation rates by sex

The participation rates of men and women are shown for each country in table 3. Male participation rates varied little between most countries but the rate for West Germany was particularly low. In 1984, Japan had the highest rate (78.9 percent), followed by Canada, the United States, Sweden, Australia, and West Germany which had the lowest (71.9 percent).

Between 1975 and 1984, male labor force participation fell in all countries. Australia experienced the largest change, from 80.5 to 75.7 percent, and the United States the smallest, from 77.9 to 76.4 percent. Most of these changes were because of shifts in behavior rather than demographic factors as the following tabulations of the percentage point change due to the effect of demographic change show:

Australia	−0.3	Sweden	−0.2 (unadjusted) or 0.1 (BLS adjusted)
Canada	0.6	United States	0.5
Japan	−0.6	West Germany	0.7

Female participation rates varied considerably between countries and the Australian and West German rates were low, compared with Sweden, the United States, Canada, and Japan.

Female participation rates rose in all countries but the magnitude of the increases varied widely. The rates rose markedly in Canada, Sweden, and the United States. Small increases were recorded in Japan, West Germany, and Australia.

Estimates of the change in participation, net of the effects of demographic shifts, result in large gains in Canada, Sweden, and the United States, moderate gains in Japan and Australia, and a very small increase in West Germany.

The conclusion is that changes in labor force participation rates for both men and women in all countries mainly reflect changes in behavior. It would appear, however, that demographic influences are important in contrasting changing patterns of female labor force participation in Australia with

Table 1. Labor force participation rates and the relative shares of changes in employment and unemployment to changes in labor force participation, six countries, 1975 and 1984[1]

Country	Labor force participation rate		Employment-population ratio		Percentage point change in the:		
	1975	1984	1975	1984	Labor force participation rate	Employment-population ratio	Unemployment-population ratio
Australia	61.6	59.9	58.8	54.8	−1.7	−4.0	2.3
Canada	61.1	64.8	56.9	57.4	3.7	0.5	3.2
Japan	63.0	63.5	61.9	61.8	0.5	−0.1	0.6
Sweden:							
Unadjusted	69.6	71.9	68.5	69.6	2.3	1.1	1.2
BLS adjusted[2]	65.9	67.0	64.8	64.9	1.1	0.1	1.0
United States	61.2	64.4	56.1	59.5	3.2	3.4	−0.2
West Germany[3]	55.5	55.6	53.6	51.6	0.1	−2.0	2.1

[1] Refers to annual average data in Canada, Sweden, the United States, and Japan (except for 1984, where an 11-month average was used). The data for Australia refer to the August survey and were chosen because it is the only month for which a historically consistent time series exists. The data used for West Germany are from the microcensus and are collected each April/May. The microcensus data were chosen because they are the only labor force data collected in West Germany which conform to International Labor Organization concepts and definitions.

[2] The published Swedish data are shown as "unadjusted" and refer to the population aged 16 to 74. BLS calculations of the labor force participation rate and employment-population ratios for the population aged 16 and over are shown as "BLS adjusted."

[3] The latest data available are for 1983 and the data refer to that year.

those that occurred in West Germany.

Further insights can be gained by considering separately the change in the male and female participation rates relative to the change in employment. Between 1975 and 1984, most of the decline in male labor force participation occurred on the employment side with offsetting increases in unemployment. Large declines in employment were significant in Australia and West Germany, and to a lesser extent, Canada. Modest rises in employment occurred in Japan and Sweden. The United States contrasts with all other countries, but particularly Australia and West Germany. The United States had the smallest decline in the male employment-population ratio and was the only country to achieve an improvement in the male unemployment-population ratio.

Similarly, much of the increase in female participation occurred on the employment side with relatively small increases in unemployment. This holds for all countries except Australia and West Germany. In these countries, unemployment increases accounted for much of the rise in participation rates. Again the United States contrasts starkly. The United States recorded the largest increase in the female employment-population ratio and at the same time was the only country able to achieve an improvement in the unemployment-population ratio.

Demographic groups

Comparisons of labor force participation of various demographic groups in the six countries highlight the reasons why Australia and West Germany have performed so poorly relative to the other countries, and the United States in particular. The groups compared are teenagers and young adults, prime working age persons (aged 25 to 54), and older persons (aged 55 and over).[4]

Teenagers and young adults. The youth labor market is conventionally split into teenage (that is, aged 15 to 19 or 16 to 19) and young adult (aged 20 to 24) groups for analysis, because each component typically exhibits different labor force behavior. These differences are usually reflected in differentiated policy interest in the two groups.

The participation rates of teenagers in each country are shown in table 4. The variation is remarkable. In 1984, for example, the participation rate for female teenagers ranged from 55.7 percent in Australia to only 18.4 percent in Japan.

Between 1975 and 1984, large differences between countries are evident in both the direction and magnitude of change in teenage labor force participation rates. Large declines were recorded in teenage participation rates of Sweden and West Germany. The participation rates of Swedish teenagers fell from 59.0 to 43.8 percent for males and from 56.2 to 47.0 percent for females.[5] West German teenage male participation rates fell from 57.2 to 46.1 percent for males and from 50.7 to 38.6 percent for females. In contrast, small declines in teenage participation rates were recorded in Australia and Japan for both males and females.[6] In the United States and in Canada, male teenagers recorded small declines while small increases were recorded for female teenagers.

Table 2. Estimates of contributions of demographic and behavioral changes to labor force participation rate changes, 1975 and 1984[1]

Country	Participation rate			Change in participation rate due to:	
	1975	1984	1984 using 1975 weight	Demographic shift	Behavioral shift
Australia	61.6	59.9	60.5	−1.1	−0.6
Canada	61.1	64.8	61.0	−0.1	3.7
Japan	63.0	63.5	61.9	−1.1	1.6
Sweden:					
Unadjusted	69.6	71.9	69.4	−0.2	2.5
BLS adjusted	65.9	67.0	66.0	0.1	1.0
United States	61.2	64.4	61.3	0.1	3.1
West Germany[2]	55.5	55.6	56.3	0.8	−0.7

[1] Refers to annual average data in Canada, Sweden, the United States, and Japan (except for 1984, where an 11-month average was used). The data for Australia refer to the August survey and were chosen because it is the only month for which a historically consistent time series exists. The data used for West Germany are from the microcensus and are collected each April/May. The microcensus data were chosen because they are the only labor force data collected in West Germany which conform to International Labor Organization concepts and definitions.

[2] The latest data available are for 1983 and the data refer to that year.

As seen above, changes in age composition could explain the changes observed. In Sweden, roughly half of the fall in the male teen participation rate (7.6 of 16.3 percentage points) was because of shifts in the age composition. Among female teenagers, demographic effects should have raised the participation rate 0.2 percentage points but actually it fell 6.9 percentage points. In Canada, demographic effects should have increased the male teen participation rate 1.3 percentage points but it fell 0.6 percentage points. Demographic changes should have increased the female teen participation rate 1.4 percentage points, but the actual increase was 3.3 percentage points. Similarly, in the United States demographic effects should have raised participation rates of male teens by 0.6 percentage points and female teens by 0.4 percentage points but, the actual changes were −3.1 and +2.7 percentage points. In other words, the evidence suggests that demographic influences are swamped by behavioral changes, at least in Sweden, Canada, and the United States, the only countries for which the data is available at a low level of aggregation.

The usual explanation of declining teenage participation rates is that increasing proportions of young people are staying in school. This argument is consistent with teenage participation rate trends in Sweden, West Germany, and Japan. In Australia, Canada, and the United States, however, substantial increases in teenage labor force participation have occurred among teenagers still in school.

The nature of the change in teenage participation rates can be better appreciated by considering the relative contribution of employment and unemployment changes. In Australia and West Germany, many were unable to find work because the growth in employment substantially lagged the

Table 3. Labor force participation rates and the relative shares of employment and unemployment to changes in the labor force participation of men and women six countries, 1975 and 1984

Country and Sex	Labor force participation rate			Employment-population ratio		Percentage point change in the:		
	1975	1984	1984 using 1975 weights	1975	1984	Labor force participation rate	Employment-population ratio	Unemployment-population ratio
Men:								
Australia	80.5	75.7	80.2	77.7	69.1	- 4.8	8.6	3.8
Canada	78.4	76.6	79.1	73.5	68.0	- 1.8	- 5.5	3.7
Japan	81.4	78.9	80.8	79.8	76.8	- 2.5	- 3.0	0.5
Sweden:								
Unadjusted	80.0	76.3	79.8	78.9	74.0	- 3.7	- 4.9	1.2
BLS adjusted[3]	77.0	73.0	76.4	(2)	(2)	- 4.0	(2)	(2)
United States	77.9	76.4	78.4	71.7	70.7	- 1.5	- 1.0	- 0.5
West Germany[4]	74.5	71.9	75.2	72.1	67.4	- 2.6	- 4.7	2.1
Women:								
Australia	43.0	44.6	41.3	40.3	40.9	1.6	0.6	1.0
Canada	44.4	53.5	43.7	40.8	47.3	9.1	6.5	2.6
Japan	45.7	49.0	44.1	45.0	47.6	3.3	2.6	0.7
Sweden:								
Unadjusted	59.2	67.5	59.4	58.0	65.3	8.3	7.3	1.0
BLS adjusted[3]	55.2	61.5	54.5	(2)	(2)	6.3	(2)	(2)
United States	46.3	53.6	46.0	42.0	49.5	7.3	7.5	- 0.2
West Germany[4]	38.8	41.0	39.3	37.4	37.5	2.2	0.1	2.1

[1] Refers to annual average data in Canada, Sweden, the United States, and Japan (except for 1984, where an 11-month average was used). The data for Australia refer to the August survey and were chosen because it is the only month for which a historically consistent time series exists. The data used for West Germany are from the microcensus and are collected each April/May. The microcensus data were chosen because they are the only labor force data collected in West Germany which conform to International Labor Organization concepts and definitions.

[2] Unfortunately, separate estimates of employment of the sexes aged 75 and over were not available to calculate the relevant employment-population ratios.

[3] The published Swedish data are shown as "unadjusted" and refer to the population aged 16 to 74. BLS calculations of the labor force participation rate and employment population ratios for the population aged 16 and over are shown as "BLS adjusted."

[4] The latest data available are for 1983 and the data refer to that year.

growth in the population. In the United States, the situation would appear to be entirely different, unemployment changed little and even improved slightly for female teenagers.[7] In Canada, employment and unemployment changes substantially offset each other for men, but for women most of the increased participation was reflected in increased unemployment. In all other countries, substantial declines in the teenage employment-population ratio occurred with little or no increase in unemployment.

There has been less of a difference between the countries in the participation rate trends of young adults than for teenagers. Australia, along with Canada and the United States, had the highest male young adult participation rates in 1984. (See table 4.) Sweden and West Germany had rates that lay midway on the range, and Japan had a relatively low rate, 70.9 percent.

Male young adult participation rates have changed very little over time in all countries except Japan.[8] Participation rates fell there from 76.5 to 70.9 percent, which may reflect the strong move towards further education.

Some differences were apparent in the relative importance of changes in the employment component vis á vis the unemployment component to changes in young adult male participation rates. Almost all of the large decline in Japan reflected declines in employment with little or no unemployment effect. In all other countries, except the United States, declines in employment were largely offset by increases in unemployment. These were substantial in Australia and Canada, and to a lesser extent in West Germany. Only in the United States was there an increase in the employment-population ratio of young adult men and a reduction in the unemployment-population ratio.

The participation rates of young women were lower than those for men. In 1984, the rate for women ranged from 80.4 to 68.9 percent, and was highest in Sweden, followed by Canada, Australia, West Germany, the United States, and Japan.

In recent years, the labor force participation rates of young women have increased markedly in all countries except West Germany, where the rise was much smaller. The reasons for this upsurge were mainly the expansion of the service sector (which employs large numbers of women), increased opportunities in part-time labor markets, and declining fertility.[9] The very high labor force participation rate of young women in Sweden has also reflected changes in taxation arrangements for married women, the introduction of parenthood insurance in the 1970's, and government-financed child care centers.[10]

The relative contributions of employment and unemployment changes to these increases varied considerably between the countries. Only in the United States, which achieved the largest increase in the female young adult employment-population ratio of any country, was there a reduction in the unemployment-population ratio. Japan also achieved strong employment growth with a small increase in unemployment. West Germany was the only country to experience an actual decline in the employment-population ratio, with a substantial increase in unemployment. Canada had the lowest increase in the employment-population ratio, but the largest increase in unemployment, while Australia and Sweden experienced more moderate increases in both.

Prime working age persons. Prime working age men (aged 25 to 54) have the highest participation rates of any population subgroup. (See table 4.) Unlike other age groups, there has been little change in the labor force participation of prime working age men in any of the countries considered. In 1984, Japan had the highest rate followed by Sweden, West Germany, the United States, Australia, and Canada. The close similarity across all countries is not surprising, however, given the high degree of labor market attachment of men in the prime working age range.

While Australia had the second highest prime working age male participation rate in 1975 (96 percent), it had the second lowest rate in 1984 (93.6 percent). This decline has been larger than in any other country and, although small in magnitude, is highly significant given the degree of labor force commitment by prime working age men. Moderate declines were experienced in Canada and West Germany, and slight declines occurred in Sweden, the United States, and Japan.

The participation of prime working age men are hardly affected by shifts in the age composition of this group. These shifts would have marginally increased participation rates in Australia (0.4 percentage points), Canada (0.1 percentage points), Sweden (0.2 percentage points), and the United States (0.3 percentage points), and marginally decreased participation in West Germany (0.1 percentage points) and Japan (0.1 percentage points). Behavioral, rather than demographic, influences were important.

These declines in prime working age participation rates are generally attributed to the variety of governmental programs and subsidies (for example, sickness and disabilities payments and retraining programs) available to persons not in the labor force or wishing to leave it. It has also been argued that the increasing participation of married women has relieved prime working age men of the burden of being the sole family breadwinner. In theory, these changes give these men opportunities to reduce their participation, although in practice there are no studies to suggest that these factors have any significant effect.

While the changes in all countries were small, some quite different patterns have emerged in the relative contributions of changes in employment and unemployment. Participation has declined since 1975 in Australia, Canada, and West Germany because their historically large declines in employment were not wholly offset by increases in unemployment. However, the declines were double those of most countries. Japan, the United States, and Sweden have recorded slight declines in participation among prime working age men since 1975, but these changes were predominantly the result of a small decline in employment, relative to the population, with a smaller increase in unemployment.

Unlike the male participation patterns, enormous changes have occurred since 1975 in the labor force participation of prime working age women. Again major differences are apparent between Australia and West Germany and the other countries. In 1984, female labor force participation was still lowest in Australia (55 percent) and West Germany (57.1 percent) and highest in Sweden (88.1 percent). The American, Canadian, and Japanese rates were much higher than Australia and West Germany, but still were well below those for Sweden.

Between 1975 and 1984, the participation rate of prime working age women rose 12 to 16 percentage points in Canada, Sweden, the United States, and Japan. Much less spectacular rises were recorded in Australia (6.7 percent) and West Germany (5.9 percent).

Changes in the age composition of prime working age women again had very little influence on their participation rate. Changes in age composition would have raised the participation rate in Australia by 1.6 percentage points, Japan by 1.0 percentage points, Sweden by 0.4 percentage points, Canada by 0.3 percentage points, and West Germany by 0.2 percentage points and would have lowered the rate in the United States by 0.1 percentage points. Once again, we believe that behavioral, not demographic, changes were important.

Several reasons appear important in explaining these patterns of change in behavior. The expansion of employment in the service sector and the expansion of part-time employment opportunities. Both of these areas of employment tend to be dominated by women in most countries (particularly Australia, Canada, Sweden, and the United States). However, in Japan, female employment in the service sector has been much lower than in other countries, and there are comparatively few women in part-time employment in West Germany.[11]

These developments suggest that an increase in employment opportunities is a major reason for the upsurge in the labor force participation of prime working age women and this is borne out by an examination of the sources of labor force participation changes. In Canada, Japan, Sweden, and the United States (all of which have had the largest increases since 1975), the increases resulted from large increases in employment and small changes in unemployment. Even in Australia, the employment increases were still dominant. Only in West Germany were increases in unemployment larger than employment growth.

Declining fertility rates are also frequently cited as important in the marked upsurge in prime working age female labor force participation. In the last two decades, fertility rates have fallen in most Western countries except Sweden (which already had a very low rate in the 1960's) and Japan (where fertility has actually risen slightly over the last two decades). Other reasons often cited are the radical improvements in "household technology" and the development of commercial substitutes for household products—dryclean-

Table 4. Labor force participation rates and the relative shares of employment and unemployment to changes in the labor force participation of selected age groups, six countries, 1975–1984[1]

Age, sex, and country	Labor force participation rate		Employment-population rate		Percentage point change in the:		
	1975	1984	1975	1984	Labor force participation rate	Employment-population ratio	Unemployment-population ratio
Teenagers[2]							
Male:							
Australia	60.0	59.1	53.5	46.0	−0.9	−7.5	6.6
Canada	54.6	54.0	46.2	42.5	−0.6	−3.7	3.1
Japan	20.5	18.4	19.5	16.7	−2.1	−2.8	0.7
Sweden	59.0	43.8	56.5	41.5	−15.2	−15.0	0.2
United States	59.1	56.0	47.2	44.9	−3.1	−2.3	0.7
West Germany[3]	57.2	46.1	53.5	40.6	−11.1	−12.9	1.8
Female:							
Australia	57.3	55.7	48.7	44.7	−1.6	−4.0	2.4
Canada	47.4	50.3	40.6	41.0	2.9	0.4	2.5
Japan	21.7	18.4	21.2	17.5	−3.3	−3.7	0.4
Sweden	56.2	47.0	52.2	44.8	−9.2	−7.4	1.8
United States	49.1	51.8	39.4	42.5	2.7	3.1	−0.4
West Germany[3]	50.7	38.6	47.3	32.1	−12.1	−15.2	3.1
Ages 20 to 24							
Male:							
Australia	90.1	89.4	85.4	76.6	−0.7	−8.8	8.1
Canada	85.0	83.7	76.1	68.3	−1.3	−7.8	6.5
Japan	76.5	70.9	74.1	68.1	−5.6	−6.0	0.4
Sweden	82.7	82.8	80.9	77.7	0.1	−3.2	3.3
United States	84.5	85.0	72.4	74.9	0.5	2.5	−2.0
West Germany[3]	79.8	80.1	75.8	72.2	0.3	−3.6	3.9
Female:							
Australia	65.3	71.7	60.8	64.3	6.4	3.5	2.9
Canada	67.0	74.6	60.9	63.5	7.6	2.6	5.0
Japan	72.5	68.9	64.4	68.9	6.3	4.5	1.8
Sweden	73.7	80.4	71.1	74.8	6.7	3.7	3.0
United States	64.1	70.4	58.0	62.7	6.3	6.7	−0.4
West Germany[3]	68.4	70.5	65.5	62.7	2.1	−2.8	4.9
Ages 25 to 54							
Male:							
Australia	96.0	93.6	93.7	87.8	−2.4	−5.9	3.5
Canada	94.8	93.5	90.8	84.8	−1.3	−6.0	4.7
Japan	97.4	97.0	95.9	95.1	−0.4	−0.8	0.4
Sweden	95.2	94.9	94.4	92.9	−0.3	−1.5	1.2
United States	94.4	93.9	89.0	88.4	−0.5	−0.6	0.1
West Germany[3]	95.9	94.7	93.2	89.5	−1.2	−3.7	2.5
Female:							
Australia	48.3	55.0	47.2	51.7	6.7	3.5	3.2
Canada	50.5	66.7	47.1	59.9	16.2	12.8	0.7
Japan	52.2	65.5	51.4	63.8	13.3	12.8	0.7
Sweden	74.2	88.1	73.2	86.1	13.9	12.9	1.0
United States	55.1	68.2	51.0	63.9	13.1	12.9	0.2
West Germany[3]	51.2	57.1	49.6	52.7	5.9	3.1	9.0
Ages 55 to 64							
Male:							
Australia	79.1	61.2	76.5	57.4	−17.9	−19.1	1.2
Canada	79.3	71.1	76.2	65.2	−8.2	−11.0	2.8
Japan	86.0	83.9	83.3	79.6	−2.1	−3.7	1.6
Sweden	82.8	76.2	80.7	73.0	−6.6	−7.7	1.1
United States	75.6	68.5	72.4	65.1	−7.1	−7.3	−0.2
West Germany[3]	69.2	62.9	67.3	55.9	−6.3	−11.4	5.1
Female:							
Australia	23.7	19.8	23.2	19.2	−3.9	−4.0	0.1
Canada	30.8	33.4	29.3	30.9	2.6	1.6	1.0
Japan	43.7	45.3	43.1	44.4	1.6	1.3	0.3
Sweden	49.6	59.6	48.9	56.6	10.0	7.7	2.3
United States	41.0	42.1	38.9	39.9	1.1	1.0	0.1
West Germany[3]	25.3	26.8	24.7	25.4	1.5	0.7	0.8

[1] Refers to annual average data in Canada, Sweden, the United States, and Japan (except for 1984, where an 11-month average was used). The data for Australia refer to the August survey and were chosen because it is the only month for which a historically consistent time series exists. The data used for West Germany are from the microcensus and are collected each April/May. The microcensus data were chosen because they are the only labor force data collected in West Germany which conform to International Labor Organization concepts and definitions.

[2] Teenagers refer to 15- to 19-year-olds in Australia, Canada, Japan, and West Germany, and to 16- to 19-year-olds in Sweden and the United States.

[3] The latest data available were for 1983 and the data refer to that year.

ing, fast-foods, restaurants—which have released female labor for the market place. Finally, improved education among women may have shifted their preferences in favor of work outside the home.

The comparatively small increase in prime working age female participation in West Germany probably reflects the historical importance of foreign workers at times of employment expansion and this may have restricted the opportunities for women to successfully enter the labor force. The guest worker has not been significant since the early 1970's but neither has there been a significant employment expansion. While female participation rates have generally been lower in Europe, the higher rates in North America and Scandinavia are now beginning to be replicated in other European countries and the differences currently observed are probably differences in timing and in the overall pace of job growth.

Older persons. People aged 55 and over are defined here as "older persons." The group is split into those aged 55 to 64 and those aged 65 and over, because the participation rates of the latter group are substantially lower than those of the former.

The participation rate of men aged 55 to 64 in 1984 was lower in Australia and West Germany than in most other countries. The rate was relatively high in Japan, Sweden, Canada, and the United States. (See table 4.)

The changes in the participation rate of these men since 1975 have been quite different between Australia and other countries. A particularly large drop was observed in Australia. A large decline was also recorded in Canada. Modest decreases were observed in Sweden and the United States, and only a marginal decline was observed in Japan. While a modest decline was also observed in West Germany, it occurred from an already low base.

Shifts in the age composition of this group should have raised participation rates in West Germany (6.3 percentage points) and lowered participation rates in the United States (0.2 percentage points), Australia (0.3 percentage points), and Sweden (0.5 percentage points). Similar computations could not be made for Canada or Japan. This suggests that age composition effects were insignificant explanations of the overall declines. The age composition effect calculation also shows that the behavioral shifts in West Germany are much greater than indicated by a comparison of participation rates over time.

Declines in the participation rates of older men in Australia and in most countries reflect large declines in employment. In Australia and Canada, the participation drop was because of a decrease in the employment-population ratio with little change in unemployment. The declining participation of older men reflects trends towards earlier retirement ages and the expansion of pension schemes. The reasons for a high participation rate and very small declines in participation in Japan are also related to cultural factors and the pension system, which is not generous.[12]

The trends in the labor force participation rates of older women aged 55 to 64 have been rather different than those of older men. The participation rate of women aged 55 to 64 in 1984 ranged from a low 19.8 percent in Australia to 59.6 percent in Sweden.

Since 1975, there have been small declines in the participation rates of older women in Australia. In the same period, very small increases were recorded in the United States, Canada, Japan, and West Germany. A large increase was recorded in Sweden.

Shifts in the age composition of this group would have raised participation rates by an insignificant amount in the United States (0.3 percentage points) and lowered it by an insignificant amount in Australia (1.5 percentage points). However, the increase in the participation rate of German women aged 55 to 64 is illusory because demographic shifts should have increased the participation rate by 2.5 percentage points.

Much more variation in participation rates and their employment and unemployment components was evident for older women aged 55 to 64 than for men. For women of this age group, participation declined only in Australia, reflecting a large drop in employment which was not offset by a small rise in unemployment. In West Germany, a slight increase in participation reflected small increases in employment and unemployment. In Sweden, the United States, and Japan, increased participation was almost entirely brought about by rises in employment.

The main feature of these comparisons is that substantial declines in the labor force participation rates of older men have occurred in all countries, yet those trends have not been replicated for older women. In Australia the declines that occurred for women were much smaller than those for men, and in West Germany, Canada, Sweden, Japan, and the United States, an increase in participation was actually observed.

In 1984, the between-country ranking of labor force participation rates for men aged 65 and over was similar. The rate was markedly higher in Japan than in the United States, Canada, Sweden, Australia, and West Germany.

The labor force participation rates of women aged 65 and over in 1984 ranged widely between countries, from 16.3 percent in Japan to 2.5 percent in Australia. The Australian rate was also considerably lower than that of the United States. Only in West Germany did the rate approach that in Australia. The Australian rates have, however, always been low relative to other countries. In the last decade the participation rate in Australia has gradually declined from around 4 percent to 2.5 percent. Declines in the labor force participation rates of women aged 65 and over in other countries have been marginal in the last 10 years.

Conclusions

A comparison of the change in labor force participation rates, decomposed into changes in the employment and unemployment-population ratios, shows a large disparity in job creation capability between the United States and many other advanced nations. The contrasts between the two extremes—the United States, on one hand, and Australia and Germany, on the other, are illustrative. Australian and West German participation rates, adjusted for change in the demographic composition of the labor force, fell between 1975 and 1984. Underlying these behaviorally induced declines in labor force participation were large declines in employment relative to population growth and hefty increases in the unemployment-population ratio. By contrast, the United States experienced a large behaviorally induced increase in the participation rate, accompanied by strong growth in the employment ratio and a small decline in the unemployment-population ratio.

Comparisons of labor force participation rates for demographic groups also confirm Australia's and Germany's poor performance relative to the rest, and to the United States in particular. In both, large withdrawals from the labor force, especially among older men, and small increases in female participation rates occurred. Modest falls in male participation rates and enormous increases in female rates occurred in the United States and to a lesser extent in the other countries. These changes suggest substantial increases in unemployment, both recorded and hidden, in Australia and Germany, and estimates suggest a jobless rate of almost double the official rate in Australia and one and a half times it in Germany.[13] □

FOOTNOTES

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[1] Details about labor force concepts definitions and data collection methods in each country are given in the appendix and in: Australian Bureau of Statistics, *The Labour Force, August 1984*, Catalogue No. 6203, Canberra, 1984 (and previous issues) for Australia, Statistics Canada, *The Labour Force, December 1984*, Catalogue No. 71-001, Ottawa, 1984 (and previous issues) for Canada; Statistics Bureau, *Annual Report of the Labour Force Survey 1984*, Prime Ministers Office, Tokyo, 1984 (and previous issues) for Japan; Statistiska Centralbyran, *Arbetskraftsundersokningen*, Series AKU-Arsmedeltal, Stockholm, 1984 (and previous issues) for Sweden; Bureau of Labor Statistics, *Employment and Earnings, January 1985*, U.S. Department of Labor, Washington, DC, 1985 and *Labor Force Statistics Derived From the Current Population Survey*, A *Data Book Vols. I & II* for the United States; and Statistches Bundesmamt, *Stund und Entwicklung der Ewerbstatigkeit*, Reiche 4.1.1 Fascherie 1 - Bevolkerung und Ewerbstatigkeit Wiesbaden, 1983 (and previous issues) for West Germany.

[2] The published Swedish participation rate is even higher (71.9 percent in 1984). Part of the explanation of why the published Swedish rate is so high is that the labor force is expressed as a proportion of the population aged 16 to 74. In other countries no maximum age is used to restrict the numbers in the working age population. The BLS has estimated that the inclusion of the population aged 75 and over would reduce the participation in 1984 by around 5 percentage points. The BLS estimates are used here.

[3] These components of the labor force participation rate are conventionally referred to as ratios. Strictly speaking, however, they are rates as the ratios are expressed in percentage terms. For instance, the employment-population ratio is calculated as the ratio of the number employed to the number in the working age population multiplied by 100. The unemployment-population ratio is similarly calculated. It is also important to stress than an examination of labor force participation rate changes in terms of the relative contributions of the employment-population and unemployment-population ratios does not imply anything about the underlying casual factors which have led to participation changes. For instance, if participation rate changes were largely because of changes in the employment-population ratio, it does not necessarily mean that the change was demand-determined. Similarly, participation rate changes that were mainly caused by changes in the unemployment-population ratio are not necessarily supply-determined. Finally some comments on the use of the unemployment-population rather than a conventional unemployment rate are needed. The unemployment-population ratio is used for convenience because it completes the identity. If the reader feels more comfortable with an unemployment rate this can easily be calculated by dividing the unemployment-population ratio by the participation rate.

[4] In the United States and Sweden, the young age groups refer to men and women aged 16 to 24, and in Sweden, the older age groups refer to men and women aged 55 to 74.

[5] Measurement differences may complicate the interpretation of these figures. For instance, in Sweden, unlike in other countries, all full-time teenage students who are looking for work are automatically not counted as unemployed. However, this should make a minor contribution to the difference observed. The differences in the age definitions of teenagers also affects the figures. Teenagers are defined as persons aged 15 to 19 in Australia, Canada, Japan, and West Germany, and as 16 to 19 years of age in Sweden and the United States. Comparisons of specific cohorts within the teenage group are possible between Australia and Canada and Australia and the United States but when this is done it becomes apparent that the bulk of the difference in teenage labor force participation between countries is primarily due to differences in participation behavior rather than to differences in the age distribution or measurement of the teenage population.

[6] Between 1975 and 1981 male teenage partipation rates in Australia increased to 62.0 percent and female rates declined marginally to 57.0 percent.

[7] It should be noted, however, that a large teenage unemployment problem already existed in 1975 which was not evident in most of the other countries.

[8] It was not possible to analyze the effects of changing age composition among young adults because none of the countries published data for subcomponents.

[9] By the same argument, differences in the rate of change will also reflect differences in fertility and education, as well as labor force factors identified here.

[10] For a discussion of these influences, see Constance Sorrentino, "International comparisons of labor force participation, 1960–81," *Monthly Labor Review*, February 1983, pp. 23–36. Also see G. Eliasson, B. Holmlund and F. Stafford (eds.), *Studies in Labor Market Behavior: Sweden and the United States* (Industrial Institute of Economic and Social Research, Stockholm, 1981).

[11] Constance Sorrentino, "International comparisons," and see also Japan Institute of Labour, *The Japanese Employment System*, Japanese Industrial Relations Series No. 6, Tokyo 1980; and Japan Institute of Labour, *The Problems of Working Women*, Japanese Industrial Relations Series No. 8, Tokyo 1981.

[12] For further explanation see Constance Sorrentino, "International comparisons."

[13] See *Who's in the Labour Force: A Study of Labour Force Participation*, Research Report No. 7 (Bureau of Labour Market Research, 1985).

APPENDIX: International differences in measuring the labor force

Scope, coverage, and method of labor force surveys

The approach to regular monthly labor force measurement in Australia, Canada, Japan, Sweden, and the United States is the "labor force" or "activity" approach in accordance with the standard International Labor Organization (ILO) guidelines for the definition and measurement of labor market concepts. In West Germany, an annual microcensus of the population is also taken, from which measures of the labor force are made according to the activity approach and this is used in the article.

Similar multistage sampling methods are used in Australia, Canada, Japan, and the United States. Households are selected according to geographical location, and persons within these households are interviewed. In contrast, samples of *persons* which represent the population are selected in Sweden and West Germany. There is no reason to expect that differences in sample selection methods will lead to any significant bias in the result obtained for each country.

Some bias could result from differences in sample rotation and from differences in data collection methods. Households remain in the Australian survey for 8 months and in the Canadian survey for 6 months. In Japan, households are surveyed for 2 consecutive months in 1 year, leave the survey, and rejoin it again for the same 2 consecutive months in the following year. The U.S. system is identical except that households are surveyed for the same 4 consecutive months in each of the 2 years. In the Swedish survey, persons are interviewed once every 3 months over a 2-year period, whereas, in West Germany, a new sample is selected for each annual microcensus. However, the nature and direction of any rotation group bias that may exist in surveys has not been determined.

Differences in definitions and major concepts

The working age population is defined as those persons aged 15 and over in Australia, Canada, Japan, and West Germany. It is defined as those aged 16 and over in the United States and as those aged 16 to 74 in Sweden. In addition, the working age population refers to the civilian noninstitutionalized population in Canada and the United States; to the civilian population in Australia and West Germany; and to the total resident population in Japan and Sweden.

The importance of differences between countries in defining the working age populations to include or exclude noncivilians and institutionalized persons is difficult to determine in the absence of relevant data for all countries. Differences in the minimum age of the working age population are likely to be more important, particularly with respect to comparisons of teenage labor markets. Similarly, the maximum age of 74 in Sweden will have some effect on both older worker and aggregate labor force participation rate comparisons between Sweden and the other countries, but adjustments are made in the tables to include persons 75 years of age and older.

The major concept underlying the employment definition is that of work for payment during the survey week. In Australia, Japan, Sweden, and West Germany, employment refers to at least 1 hour for payment. In Canada and the United States, it is any work at all for payment. The classification of persons who worked without pay in a family business as employed persons, also differs between countries. Unpaid family workers are counted as being employed if they work at least 15 hours in the survey week in Australia, Sweden, and the United States. This same group are counted as being employed if they only worked at least 1 hour in the survey week in Japan or in West Germany, and if they did any work at all during the survey week in Canada. The other dimension of the employment definition is that of persons who had a job but were not at work during the survey week. Here the differences between countries are minor. It is unlikely that any of these differences in the definitions of employment will have any more than a marginal effect on labor force comparisons between countries.

Differences in the various definitions of unemployment appear to be greater than those for either the working age population or employment. Persons who did not have a job in the survey week but had actively looked for work and were available for work are classified as unemployed. However, the available for work criterion is not used in West Germany. The main difference in unemployment definitions between countries is the time period specified as that in which active job search was carried out in order to be classified as unemployed. In Australia, Canada, and the United States this period is the *4 weeks* up to the end of the survey week. In Sweden it is *60 days* up to the end of the survey week. This will lead to higher estimates of unemployment in Sweden, than is the case for other countries. In contrast, in Japan and West Germany *no period is actually specified.* Constance Sorrentino has shown that, in Japan at least, this may well result in a tendency of job search activities to be counted only if they occurred in the survey week, thereby leading to consistently lower estimates of unemployment. On the other hand, Sorrentino has also shown that a large number of those counted as unemployed in Japan did not seek work during the month. This would be those people who have applied for employment over a month ago but who have not received a reply from their employer. This would lead to an overestimate of the unemployed. On balance, the Japanese unemployment rate is slightly understated. The position for West Germany, however, is unknown.

Two other dimensions of the unemployment definition are important. First, temporary unemployment which did not involve active job search, such as waiting to return to a job from a temporary absence (not including illness or vacation) or waiting to start a new job in the near future, is counted as unemployment in all countries except Japan, where such persons are classified as not in the labor force. Second, in all countries except Sweden, full-time students are classified as being employed if they had a job or as being unemployed if they were actively looking for work. In Sweden, full-time students are counted as being outside the labor force during school terms even if they are actively looking for work. These factors mean that estimates of unemployment in Japan and Sweden will be lower than in other countries.

In each country the labor force is defined as all those who were counted as employed or unemployed during the survey week. The residual of the working age populations are classified as inactive or not in the labor force.

Published and adjusted labor force data

Only those countries for which data were available and measured according to the standard ILO guidelines (that is, via the activity approach) were considered for selection in the international comparisons made in this article. Other countries were not considered because their regularly published labor force statistics are measured in a very different way and are not directly comparable with those derived from the activity approach. Hence, the approach adopted here has been to use the published labor force data from those countries for which comparable *activity* data were available.

An alternative approach to making international labor force comparisons would be to use data from various countries that have been *adjusted* to U.S. labor force concepts and definitions. Adjusted data exists for the broad aggregates and are published by the BLS. The ways in which the data are adjusted are outlined in Constance Sorrentino, *International Comparisons of Unemployment*, BLS Bulletin 1979, Washington, DC, 1978; and Constance Sorrentino, "International comparisons of labor force participation, 1960–81," *Monthly Labor Review*, February 1983, pp. 23–36. Adjustment of data to U.S. concepts and definitions has not been made for the detailed age groups examined here.

A note on communications

The *Monthly Labor Review* welcomes communications that supplement, challenge, or expand on research published in its pages. To be considered for publication, communications should be factual and analytical, not polemical in tone. Communications should be addressed to the Editor-in-Chief, *Monthly Labor Review*, Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C. 20212.

Trends of labor productivity in metal stamping industries

Overall growth in the annual rate of output per employee hour was sluggish from 1963 to 1983, but performance was stronger during 1972–83 for producers of automotive stampings, while it weakened in the nonautomotive stampings industry

HORST BRAND AND CLYDE HUFFSTUTLER

Labor productivity, or output per employee hour, in the metal stamping industry rose at an average annual rate of 1 percent over the two decades, 1963–83.[1] Output rose at about the same rate, while employee hours remained on balance unchanged over the period. Between 1963 and 1973, productivity advanced more rapidly (1.2 percent a year) than over the following decade (0.7 percent). The earlier annual improvement was associated with fairly strong output and employment gains, while the subsequent advance resulted from a declining trend in output being exceeded by a declining trend in employment. The longer term productivity performance in terms of average annual rates of change was much lower than for all manufacturing.

	Metal stampings	*All manufacturing*
1963–83	1.0	2.4
1963–73	1.2	2.6
1973–83	0.7	1.9

The productivity trend for the 20-year period examined here was marked by much volatility. In almost half of the 20 years, productivity declined, although by small magnitudes. These declines were almost invariably associated with larger drops in output than in employee hours—a pattern frequently encountered in durables manufacturing industries during business slumps. In only 7 years of the period did productivity rise because output gains topped employee hour increases. All these years occurred during an expansionary phase of the business cycle (table 1).

Year-to-year fluctuations in productivity ranged from a fall of 4.0 percent (in 1964) to a rise of 8.6 percent (in 1971), with the more typical movements running between plus or minus 3 percent. However, underlying these movements were often large swings in output and employee hours. For example, the productivity increase of 4 percent in 1976 was linked with output and employee hour rises of 22 and 17 percent. Both of these variables had plummeted by 19 and 16 percent the preceding year—with productivity receding by only 3 percent.

Component industries

Data for metal stampings industry establishments were treated as one industry until 1972. The industry was then reclassified into three separate industries, for two of which

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Horst Brand and Clyde Huffstutler are economists in the Division of Industry Productivity and Technology Studies, Bureau of Labor Statistics. Norman D. Bennett aided in research for this report.

separate measures for productivity and related variables are published and discussed here—automotive and nonautomotive metal stampings.[2] The productivity trends for these two industries diverged considerably over the 1972-83 span, rising at an average annual rate of 1.8 percent for the former, and declining 0.7 percent a year for the latter. These movements reflect much stronger average annual growth for automotive metal stampings after 1977, and a much sharper decline for nonautomotive stampings.

	Automotive	*Nonautomotive*
1972–83	1.8	−0.7
1972–77	0.7	−0.4
1977–83	2.5	−2.2

The productivity improvement in the automotive metal stamping industry reflected a long-term decline in output of 1.5 percent annually, accompanied by a 3.2-percent-a-year drop in employee hours. The downward trend in nonautomotive metal stampings, on the other hand, resulted from moderately rising output (0.7 percent a year), and a somewhat higher employee hour rate (1.3 percent). The high productivity growth after 1977 for automotive metal stampings was associated with sharply declining output and even more pronounced decreases in employee hours. The productivity drop in nonautomotive metal stampings was also associated with falling output, but employee hours fell less.

Output and demand

The automotive metal stampings industry manufactures fenders, roofs, exhaust systems, brake shoes, trim, and other motor vehicle stamping components. These larger stampings are usually made in establishments operated by automobile companies. The industry also manufactures such products as brackets, valves, and other smaller items. These products are usually made by smaller, independent suppliers. Nonautomotive stampings consist of a vast array of job stampings often made in comparatively small batches; kitchen, household, and other utensils; pressed metal for such uses as storefronts, curtain walls, and refrigerators; and enclosures for electronic or electrical apparatus. Nonautomotive metal stampings are made mostly by smaller firms. (See below.)

Output of the combined metal stamping industries rose at an average annual rate of 0.9 percent over the 1963–83 span, but its rise during the first decade, 2.3 percent a year, was replaced by a drop during the second (−0.7 percent annually). This slowdown in the industries' output typified the output pattern of all durable manufactures over the period: for these, the annual rate of growth averaged 5 percent for 1963–73, but only 0.7 percent for 1973–83.

Demand for metal stampings stems mostly from other hard goods industries.[3] Thus, while the number of domestically made motor vehicles rose 1.8 percent a year during the 1963–73 period, it dropped 3.4 percent annually thereafter—these trends being closely matched, first, by a 4.1-percent-a-year rise, then by a 1.4-percent-a-year fall in the output of automotive metal stampings. (The larger output rates of automotive metal stampings stem from the demand for replacement stampings in addition to original equipment stampings.)

Output of automotive metal stampings was probably also slowed by imports of motor vehicles during the 1970's and early 1980's. As a proportion of new supplies of motor vehicles, imports rose from 13.6 percent in 1972 to 23.8 percent in 1981. Import penetration of parts of motor vehicles, which often embody metal stampings, rose from 7.7 to 9.1 percent. The import penetration of automotive metal stampings as such rose but slightly, barely exceeding 1 percent in 1981. However, imports classified as metal stampings are likely to have been dwarfed by imports of automotive products, of which metal stampings are an integral component.

Hard goods industries other than motor vehicles, and for which the Bureau of Labor Statistics has computed measures, likewise experienced slower growth (or declines) during the 1973–83 decade, as compared with 1963–73—a development that accounts for the parallel output trend pattern of nonautomotive metal stampings (a 2.3-percent-a-year rise followed by a 2.1-percent-a-year drop). Included in such hard goods industries are construction machinery, agricultural equipment, pumps and compressors, internal combustion engines, and refrigeration and heating equipment.[4] All these industries purchase job stampings, which accounted for nearly one-half of the total value of nonauto-

Table 1. Indexes of output per employee hour, output, and employee hours in metal stamping industries, 1963–83

[1977=100]

Year	Output per employee hour: All employees	Output per employee hour: Production workers	Output per employee hour: Nonproduction workers	Output	Employee hours: All employees	Employee hours: Production workers	Employee hours: Nonproduction workers
1963	87.5	87.5	87.8	67.5	77.1	77.1	76.9
1964	84.0	83.1	89.1	68.6	81.7	82.6	77.0
1965	88.8	88.2	92.4	79.1	89.1	89.7	85.6
1966	87.1	85.6	96.3	82.6	94.8	96.5	85.8
1967	87.7	87.8	87.0	81.0	92.4	92.3	93.1
1968	91.0	90.0	96.6	89.1	97.9	99.0	92.2
1969	89.4	89.2	90.5	88.9	99.4	99.7	98.2
1970	86.4	88.4	77.6	76.9	89.0	87.0	99.1
1971	93.8	95.2	86.9	79.7	85.0	83.7	91.7
1972	97.6	97.6	97.5	89.7	91.9	91.9	92.0
1973	97.1	96.5	100.6	98.7	101.6	102.3	98.1
1974	96.3	97.7	90.0	89.1	92.5	91.2	99.0
1975	93.2	96.3	79.6	72.3	77.6	75.1	90.8
1976	97.2	98.0	93.2	88.0	90.5	89.8	94.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.3	100.8	103.5	102.5	101.2	101.7	99.0
1979	102.3	102.4	101.4	99.6	97.4	97.3	98.2
1980	99.9	102.3	88.6	85.4	85.5	83.5	96.4
1981	101.4	103.5	91.4	85.5	84.3	82.6	93.5
1982	98.1	103.5	76.7	76.2	77.7	73.6	99.4
1983	104.0	106.9	91.1	88.3	84.9	82.6	96.9
	Average annual rates of change (percent)						
1963–83	1.0	1.1	0.0	0.9	0.0	−0.2	0.9
1979–83	0.1	1.0	−3.5	−3.5	−3.6	−4.4	0.0

Table 2. Indexes of output per employee hour, output, and employee hours in the automotive stamping industry, 1972–83

[1977 = 100]

Year	Output per employee hour			Output	Employee hours		
	All employees	Production workers	Nonproduction workers		All employees	Production workers	Nonproduction workers
1972	95.9	97.3	88.6	89.3	93.1	91.8	100.8
1973	94.8	95.5	90.5	97.9	103.3	102.5	108.2
1974	94.9	97.3	81.9	83.0	87.5	85.3	101.4
1975	94.1	96.9	79.5	70.8	75.2	73.1	89.1
1976	96.4	97.3	90.5	87.8	91.1	90.2	97.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.9	102.0	101.3	102.1	100.2	100.1	100.8
1979	102.9	104.1	96.1	91.4	88.8	87.8	95.1
1980	101.6	105.9	90.7	69.7	68.6	65.8	86.4
1981	105.0	108.5	86.5	69.3	66.0	63.9	80.1
1982	106.7	111.3	84.5	68.2	63.9	61.3	80.7
1983	121.5	122.7	114.5	89.2	73.4	72.7	77.9
	Average annual rates of change (percent)						
1972–83	1.8	1.9	1.0	−1.5	−3.2	−3.4	−2.5
1979–83	3.9	3.9	4.0	−0.7	−4.4	−4.4	−4.6

motive metal stampings shipped in 1982, according to the Census of Manufactures.

The output slowdown in metal stampings noted for the 1972–83 period occurred largely between 1977 and 1983 (average annual rates in percent):

	1972–83	*1972–77*	*1977–83*
All hard goods	1.7	1.7	−0.5
Automotive metal stampings	−1.5	0.2	−5.0
Number of domestic motor vehicles	−3.4	0.5	−8.8
Nonautomotive metal stampings	0.7	−0.4	−2.8

Employment and hours

In 1983, the metal stamping industries employed close to 194,000 persons. Levels of employment ran 13 percent higher than in 1963, but they had receded 18 percent from their peak in 1978. Much of the rise in total 1963–83 employment, and little of the drop that occurred in recent years, took place among nonproduction workers. Production worker employment ran 10 percent higher in 1983 than in 1963, but in 1983 it still stood 20 percent below 1978.

On balance, however, the long-term trend in employment and hours in the metal stamping industries was flat. Employee hours rose at an average annual rate of 1.3 percent over the first decade of the review period, then dropped by a like magnitude over the second. Employment increased slightly faster in 1963–73 (1.9 percent a year) than employee hours, and declined a bit slower in 1973–83 (1.1 percent annually). Employment and hours in hard goods manufacturing generally paralleled these trends.[5]

The long-term trend in production jobs did not increase significantly over the 20-year span, while nonproduction employment rose at a 1-percent-a-year rate. Whereas a gain in production jobs during the 1963–73 decade was reversed thereafter, the increase in nonproduction workers merely leveled off.

The following illustrates the evolution of employee hours during the 1970's in both metal stampings industries (average annual rates of change, in percent):

	Automotive	*Nonautomotive*
1972–83	−3.0	3.3
1972–77	−0.5	0.0
1977–83	−7.3	−0.6

Production worker hours declined somewhat more than nonproduction worker hours in automotive metal stampings. But in nonautomotive metal stampings their decline contrasted with a considerable and sustained increase in nonproduction worker hours. By the end of the period, the proportion of nonproduction workers in nonautomotive metal stampings had expanded to 29 percent of total employment from 20 percent in 1972—a pattern similar to all durable manufacturing, in which the proportion of nonproduction workers had grown to 34 percent from 27 percent in 1972. In automotive metal stampings, nonproduction workers accounted for 15 percent of all employment, not much different from 11 years earlier. The employment of women progressed in relative terms—from 10 to 15 percent of the total in automotive metal stampings, and from 26 to 29 percent in nonautomotive stampings. (In all of durable manufacturing, women's employment grew from 21 to 26 percent over the 1972–83 period.)

Attesting the highly cyclical nature of the demand for automotive metal stampings, and evidently also management policies that linked output (or demand) fluctuations with employment practice, labor turnover rates in the industry ran well above the manufacturing average from 1972 to 1981[6]—as well as above the average for nonautomotive stampings. High labor turnover tends to dilute the levels of skill and experience of the work force. Such dilution (or loss) was made up to an extent by high overtime schedules in automotive metal stampings that averaged 35 percent above manufacturing for the 11 years examined here. In nonautomotive stampings, overtime ran 7 percent below.[7]

	Automotive	*Nonautomotive*
	(Manufacturing = 100)	
Accessions	119	108
Separations	124	111
Layoffs	264	118

The occupational composition of the two metal stamping industries is more heavily weighted toward production workers than manufacturing as a whole. In 1982, professional, technical, and managerial personnel accounted for 4 percent of total employment in industry group SIC 346

Table 3. Indexes of output per employee hour, output, and employee hours in the nonautomotive metal stamping industry, 1972–83

[1977 = 100]

Year	Output per employee hour			Output	Employee hours		
	All employees	Production workers	Nonproduction workers		All employees	Production workers	Nonproduction workers
1972	100.0	98.2	107.7	89.3	89.3	90.9	82.9
1973	99.8	97.1	113.0	99.7	99.9	102.7	88.2
1974	98.4	98.0	100.2	96.6	98.2	98.6	96.4
1975	91.7	95.2	79.5	72.6	79.2	76.3	91.3
1976	98.0	98.8	94.9	87.1	88.9	88.2	91.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.2	98.8	106.7	103.4	103.2	104.7	96.9
1979	101.5	99.6	109.9	111.3	109.7	111.8	101.3
1980	98.1	97.6	100.7	106.1	108.1	108.7	105.4
1981	98.0	97.4	100.5	106.4	108.6	109.2	105.9
1982	89.3	94.4	73.0	85.7	96.0	90.6	117.4
1983	88.6	91.8	77.3	88.6	100.0	96.5	114.6
	Average annual rates of change (percent)						
1972–83.	−0.7	−0.3	−2.0	0.7	1.3	1.0	2.8
1979–83.	−3.6	−1.9	−9.7	−6.5	−3.0	−4.6	3.6

(metal forgings and stampings).[8] The corresponding percentage for manufacturing as a whole was 10 percent. Craft and related workers represented 27 percent of the group's employment, compared with 19 percent for all manufacturing. The differences stemmed in part from the two industries' high proportion of tool and die makers (6 percent versus 1 percent). Forty-four percent of the industry group's workers were operatives (versus 41 percent in manufacturing)—with machine tool and punch press operators making up the bulk of the employees in this category (35 percent versus 6 percent for manufacturing).

The level of, as well as the trend in, relative hourly wages was not quite so favorable in nonautomotive stampings as in automotive stampings. In 1983, these amounted to 87 percent of the durables manufacturing average, down from 94 percent in 1972. In automotive stampings, by contrast, the wage relative stood at 130 in 1983, not much different from its 1972 level.

Technological change

Both metal stamping industries discussed here convert steel mill products of varying thicknesses into a vast range of components used in capital goods and consumer durables.[9] Examples have been noted. The basic apparatus used in both industries consists of production presses. Such presses are considered to be metalforming machine tools, although unlike metalcutting machine tools they cannot reproduce themselves. Production presses have been defined as being essentially power-operated clamps that close one or more dies at a proper speed and pressure.[10] The die or dies with which a press is equipped shear, bend, or otherwise "distort" the sheet or strip fed to it, forming the desired shape. The metal is generally worked cold.

Presses vary widely in size and in the amount of power—usually expressed in terms of tonnage of pressure— they bring to bear. The die may be single purpose, as when a workpiece is simply cut out or shaped, or it may be a "progressive" or a transfer die, imparting complex shapes to the workpiece. Progressive dies, which may consist of as many as nine work stations, subject the workpiece to several sequential strokes or punches. In such operations, the steel is usually fed automatically from coils through the several work stations as a continuous ribbon of material up to the last station of the die, where the part is sheared off. Manual feeding of strip steel remains widely prevalent.[11]

According to the most recent *American Machinist* inventory of metalworking machinery, 30 percent of the metalcutting and 20 percent of the metalforming machine tools installed in the industry sector to which the two metal stamping industries belong were less than 10 years old in 1983—a somewhat lower proportion of such relatively up-to-date equipment than had been reported in the *American Machinist*'s 1973 inventory.[12] About one-third of the two industries' stock of machine tools was between 10 and 20 years old in 1983, also a lower proportion than a decade earlier. Close to two-fifths of metalcutting and nearly one-half of metalforming machine tools were 20 or more years old in 1983, considerably higher than in 1973.[13] There has thus occurred a degree of aging in the two industries' basic equipment. However, industry sources believe that such aging may have been partially offset by rebuilding and retrofitting of the older machine tools with updated components. The importance of rebuilding and retrofitting may be inferred from the rise in machine tool manufacturers' shipments of parts of metalforming machine tools, from 19 to 24 percent of total shipments between 1967 and 1972, and to around 29 percent in recent years.[14] Also confirming the importance of retrofitting is the fact that about one-third of all metalcutting machine tools and one-fourth of all metalforming machine tools in the two metal stamping industries feature numerical controls. The production capabilities of machine tools so equipped are generally higher than those without numerical controls. (See below.)

The advent of numerical controls, first applied in metalforming in the punching of flat metal in the 1950's, stimulated new press designs. It probably also contributed to a shift of some metalworking from metalcutting to metalforming machine tools, inasmuch as it helped in improving the precision of the latter. Thus, metal stampings made for automotive castings and forgings, which formerly were finished by metalcutting, came to be completed in one operation by means of metalforming. Filter system components, brake and wheel components, gasoline engine mufflers, oil filter caps, engine mounts and brackets, some kinds of gear, as well as metal cabinets for computers and other electronic devices have come to be made by stamping presses.[15] The shift evidently improved productivity significantly, for per-unit costs were reportedly reduced by as much as one-half.[16]

Numerical controls, in addition to enhancing the precision of production presses, have also made higher production speeds possible. For turret punch machines (a type of power press), setup time has been virtually eliminated, as numerical controls can automatically change punch configurations. Unit costs of short production runs have been drastically reduced as manual setups have been replaced by taped programs fed to the mechanism that controls the punch magazine.[17] Numerical controls have also facilitated rapid alternation of punching movements between the x and y or other coordinates of a workpiece. The introduction of computer numerical controls in the early 1970's, where installed, has done away with the coordinate calculation required by numerical controls.[18]

There exist tens of thousands of smaller punch presses operated manually or by foot, and equipped with an auxiliary electrical motor. Technological advances have evidently been minor here, particularly where little power is needed and production runs are short, as, for example, in crimping or embossing. Mechanical feeding devices, however, do raise the speeds of hand- or foot-operated punch presses somewhat (such presses average 15 to 20 stampings per minute).[19]

Where the use of coil stock is feasible, automated feeding of the press has been widely introduced. With continued improvement in the physical stability and accuracy of presses, as many as 1,800 strokes per minute are attained in some jobs. Automatic ejection of parts, as well as automatic chopping and removal of scrap, becomes necessary at such speeds.[20]

Partly because of the shift of some metal fabrication from metalcutting to metalforming machine tools, partly because of the needs of such industries as computers, robotics, and instrumentation, and also because of international competition, the quality control requirements of the metal stamping industries became increasingly stringent during the review period. Hence, presses had to be designed to accommodate closer tolerances. For example, some 50-ton punch presses have had to operate within 5/1000 of an inch of accuracy, without sacrificing speed, hence, productivity.[21] Quality control devices, such as coordinate measuring instruments, have come to be linked directly to computers, which correct developing inaccuracies by way of feedback systems. Such installations have tended not only to economize on the labor inputs of quality control personnel, they have also tended to reduce rejects, and have made product improvements possible—for example, the removal of burrs on small metal parts.[22]

Notwithstanding the advances sketched here, and the competitive pressures to which both metal stamping industries are subject, both retain an expensive investment in older, at times outdated equipment (as the *American Machinist* inventory data cited also indicate). Thus, the generally lower capabilities of automotive metal stamping presses in the United States than in Japan are linked largely to the enormous inventories here of older dies which must be bolted into the press, and which are transported by cranes or forklift trucks. The Japanese, who built much of their metal stamping plant in the 1970's, clamp dies hydraulically, and move them to the press by means of tracked cars. Dies are removed from the press by being pushed from their trolleys into one of these cars, while a new die is loaded from the opposite side. American press dies cannot be retrofitted to accommodate this labor-saving setup. This is but one reason for the difficulty of adopting—or adapting—updated metal stamping technologies here in the near term.[23]

Capital investment

In terms of constant dollars,[24] automotive metal stamping establishments raised their capital expeditures at an average annual rate of about 9 percent, more than triple the rate for nonautomotive stamping establishments. Trends in the real value of capital investment in machinery and equipment also differed considerably between the two industries:

	Total	*Machinery and equipment*	*Structures and buildings*
Automotive metal stamping	9.2	11.8	−4.0
Nonautomotive metal stamping	2.6	4.7	−3.3
All manufacturing ...	4.5	–	–

A breakdown of capital expenditure data for all manufacturing is available only for 1972–81. Constant-dollar expenditures for machinery and equipment over that period rose by 7 percent a year, and a comparison with the rates for the two metal stamping industries suggests that the captial intensity of automotive metal stamping establishments increased at an above-average rate, while the reverse was true of nonautomotive metal stamping firms. As regards structures and buildings, while the rates for the two metal stamping industries declined, the rate for all manufacturing, at least for the 1972–81 period, rose 0.7 percent a year. The relative increase indicated in the capital intensity of automotive metal stamping shops is documented by the rise in their fixed assets per employee, from 134 to 153 of the manufacturing average (=100) over the 1972–82 span. In nonautomotive metal stamping firms, assets per worker declined slightly, from 68 to 66.

The long-term rates shown obscure the exceedingly large year-to-year fluctuations in the constant-dollar capital spending of both metal stamping industries. For example, capital spending by automotive metal stamping firms ranged from a rise of 69 percent (in 1977) to a drop of 48 percent in 1982. Gyrations in outlays for structures and buildings were even more pronounced. Comparable movements for all of manufacturing were much more moderate. It should be noted that nearly all of the decline in the two industries' spending rates for structures and buildings stems from cutbacks after 1978.

Structure of the metal stamping industries

The number of establishments in the two metal stamping industries together rose 25 percent between 1972 and 1982. All of the increase occurred among smaller firms with up to 49 employees, while a decline took place among firms with 100 workers or more. In automotive metal stampings, establishments with up to 49 employees accounted for 65 percent of the total in 1982, as against 46 percent in 1972; for nonautomotive shops, the comparable proportions read 82 percent versus 80 percent. However, the percentage of total employment in the smaller firms, while also higher in 1982 than a decade earlier, remained modest. It rose from 5 to 9 percent in automotive metal stampings, and from 27 to 34 percent in nonautomotive stampings.

Larger metal stamping establishments continued to account for a predominant share of employment in automotive stamping shops, and for close to one-half of it in the nonautomotive stamping industry. In the former, establishments with 100 workers or more represented 82 percent of the work force in 1982, in the latter 47 percent. Automotive stamping firms have, for the most part, been large employers, but nonautomotive stamping firms have been typically of modest size, with firms employing 500 workers or more accounting for but 12 percent of this industry's workers.

Automotive metal stamping averaged 135 employees per establishment in 1982, nonautomotive stamping shops, 37. The great differences in both employment size distribution as well as in average number of workers per establishment reflect in part the difference between fixed assets per worker, hence, the extent of business opportunities for persons knowledgeable in the trade. The figure was $23,773 for nonautomotive metal stampings, and $55,265 for automotive metal stampings in 1982 (for all manufacturing the figure read $36,146). Investment per worker in structures also was much lower in the former industry (around $5,400) than in the latter (about $10,800). (Here, the manufacturing average was $8,700.)

Outlook

Industry analysts generally foresee advances in stamping press technology which would raise operating time owing to such factors as improved ease of maintenance, and greater precision without loss of press speed. Robotic transfer and assembly too is likely to be introduced more widely. In turn, output per unit of labor input would be expected to rise. Among anticipated improvements, as well as improvements already on stream but not as yet broadly diffused are devices (such as die cushions) that slow the downward speed of the press. Downward speed accelerates after the punch has penetrated the upper portion of a given workpiece and resistance to the punch's force weakens. Unless the speed is inhibited, the press destabilizes, and this can lead to severe maintenance problems. Also, overload protection, which is designed into the clutch or hydraulic system controlling the press stroke, will likely be adopted by more metal stamping shops.[25]

Wider diffusion of solid state press controls is also expected. Such controls, which have no moving parts, usually eliminate the maintenance chores and problems associated with electromechanical controls. Diagnostic and self-check circuits are more easily incorporated in such controls, and at lower cost than in their electromechanical counterparts.[26]

Continuous-operating presses, equipped with progressive (or transfer) dies, and fed by automatic coil feed systems, are also seen to be more widely adopted. Such presses, with their high production capabilities, require but a single operator who monitors them. They completely fabricate a part with each stroke; that is, they permit the elimination of all secondary operations and multiple handling.[27] The reduction of die changing time from hours to a few minutes is also likely to become more widely prevalent. As noted, however, this requires the scrapping of existing presses, and large investments in technically more advanced ones, featuring quick die changing mechanisms. In addition, new die transportation systems would have to be installed.[28] The obsolescence of older presses and their dies, together with the force of international cost competition, may in time compel these investments.[29]

Precision requirements for metal stampings (as for other types of metalworking products) are expected to become more exacting in the years ahead, and small-batch production more frequent.[30] These developments spell increasing reliance of metal stamping establishments upon automated and computerized metalforming systems, as well as on die technologies that minimize setup changes. Electronic controls and digital readouts in the shearing, bending, and punching of blanks are also likely to be adopted by more shops. The pace of diffusion depends in some measure upon prospects of production cost savings, which, to be sure, in the two metal stamping industries tend to be clouded by demand cyclicality.

Marrying metal stamping to assembly processes for the thousands of fabrications the two industries produce (or will produce) remains a test of the innovativeness of the designers and builders of presses and their accessories.[31] The trend toward eliminating manual assembly, and of integrating the metalforming with the assembly process seems likely to become more pronounced.[32] This tends to do away with transfer operations. Thus, when two or more parts of a given workpiece are to be joined to make up a given fabrication, this can often already be done without loss of press stroke speed.[33]

Nevertheless, robotics as transfer devices are bound to continue to replace human labor in metal stamping—both automotive and nonautomotive. Where the size and complexity of some workpieces necessitate multistation press production lines, that is, where progressive dies are not feasible, transfer of the workpiece from one press to the next is increasingly likely to be done by robots.[34] Of course, short-run stamping operations will remain routine in many metal stamping operations, and these, so industry observers hold, will not soon become susceptible to robotics. Currently, 4,000 to 5,000 stampings of the same configuration are required to yield a reasonable payoff on any investment in robotizing feeding or tailing the press.[35] Where longer runs justify the introduction of robots, they are believed likely also to make a broader program of punch press automation economical.[36]

For the 1984–95 period, BLS has projected a rise of between 5 and 15 percent in the wage and salary employment of the industry group to which the two metal stamping industries belong. The occupational mix of the industry group is expected to shift somewhat toward more highly skilled workers. The proportion of operatives, such as punch press and assembly workers, has been projected to decline from 44 to 42 percent of the industry group's total employment, while that of craft and related workers rises from 27 to 29 percent. The projections presuppose that the technological advances anticipated in metalforming will not be significantly labor-displacing, or obviate the need for skilled personnel in the years ahead. ☐

FOOTNOTES

[1] The metal stamping industries discussed in this article include automotive metal stampings, designated by the Office of Management and Budget as SIC 3465 in the *Standard Industrial Classification Manual, 1972*; and metal stampings, not elsewhere classified (nonautomotive metal stampings), as SIC 3469. In addition to SIC 3465 and SIC 3469, the measures presented with this article also include crowns and closures (SIC 3466). Automotive stampings consist of such products as hubs, trim, and other parts of motor vehicles. Nonautomotive stampings include job stampings, household appliance housings and parts, and other porcelain enameled products; and cooking and other kitchen utensils. Crowns and closures include bottle caps made of stamped metal, and jar crowns, similarly made.

Average annual rates shown in the text and tables are based on the linear least square trend of the logarithms of the index numbers. The indexes for productivity and related variables will be updated annually, and published in the annual BLS bulletin, *Productivity Measures for Selected Industries*.

[2] Prior to 1972, establishments manufacturing all categories of metal stampings were designated as SIC 3461 by the Office of Management and Budget. Beginning in 1972, metal stamping products were regrouped in accordance with the classifications described in footnote 1. Crowns and closures, for which no separate measure has been published here, account for about 3 percent of the employment of the three industries together.

[3] See *The Detailed Input-Output Structure of the U.S. Economy, 1977* (U.S. Department of Commerce, Bureau of Economic Analysis, 1984). See also the tables pertaining to SIC 346. The pertinent industry chapter of the *1982 Census of Manufactures*, table 6a-1, also yields relevant information.

[4] Major industrial consumers of metal stampings where average annual rates in output declined between 1963–73 and 1973–83 include:

	1963–73	*1973–83*
Internal-combustion engines	6.2*	−0.7
Farm and garden machinery	3.2	−3.6
Construction machinery	4.1	−4.6
Machine tools	−1.6	−4.2
Pumps and compressors	3.7	1.1
Refrigeration and heating equipment	12.3*	−0.2
Transformers	7.5	−0.7
Motors and generators	1.7	−0.9
Major household appliances	4.0	0.7
Radio and TV receiving sets	3.3	1.8
Motor vehicles and equipment	4.6	−5.1

*1967–73.

[5] Trends in employment and hours in durable goods manufacturing (average annual rates in percent):

	Employment	*Employee hours*
1963–83	0.6	0.5
1963–73	2.1	2.2
1973–83	−0.9	−1.2

[6] Data for years after 1981 are not available. See John Duke and Horst Brand, "Cyclical behavior of productivity in the machine tool industry," *Monthly Labor Review*, November 1981, p. 30.

[7] Overtime in automotive and nonautomotive metal stamping (all manufacturing = 100):

	Automotive	*Nonautomotive*
1972	128	103
1973	136	100
1974	126	97
1975	104	81
1976	163	100
1977	162	84
1978	145	92
1979	114	100
1980	107	100
1981	136	86
1982	123	82
1983	183	93
1984	169	97

[8] BLS employment by industry and occupation matrix, 1982 and 1995 alternatives. Automotive and nonautomotive metal stampings account for 80 to 82 percent of the employment of the industry group (SIC 346) to which they belong.

[9] According to the Bureau of the Census, nonferrous metals and plastics represent a very small proportion of the materials consumed by the two metal stamping industries.

[10] *Modern Machine Tools*, p. 197.

[11] Industry information.

[12] "13th *American Machinist* Inventory of Metalworking Equipment," *American Machinist*, November 1983, various pagings.

[13] "11th *American Machinist* Inventory of Metalworking Equipment," *American Machinist*, November 1977.

[14] National Machine Tool Builders Association. Data on parts shipments from the Bureau of the Census, Census of Manufactures.

[15] *Metal Stamping*, August 1969, pp. 18–19; and industry information.

[16] *Ibid.*

[17] Industry information.

[18] *American Machinist*, April 1977, p. SR-6.

[19] *Ibid.*, p. SR-7. Also, information from J. Winship, Wordsmith Enterprises, Allendale, NJ.

[20] *Metal Stamping*, May 1970, p. 14. Also, *American Machinist*, January 1983, p. 117.

[21] *American Machinist*, April 1977, p. SR-13 ff. The Minster Machine Co. recently advertised a press capable of meeting tolerances of as low as

±.005" with impacts of 20 and 30 tons. The press is required to run up to 537,000 strokes per shift. See *Metal Stamping*, January 1985, back flap.

[22] Industry information.

[23] *Japanese Automotive Stamping: Observations, Conclusions, and Recommendations of the American Metal Stamping Association Study Team and a Report to Members* (Cleveland, OH, American Metal Stamping Association, 1981).

[24] Capital expenditures were deflated by the implicit price deflators published in *The Annual Report of the Council of Economic Advisers*, February 1985, table B-3, p. 236. See *Economic Report of the President*, transmitted to the Congress, February 1985.

[25] Leo R. Rakowski, "Press advances spur stamping productivity gains," *Machine Tool Blue Book*, November 1979, pp. 177–83. See also Donald J. Hennelgarn and Charles Gregorovich, "Stamping Systems Automation," a paper presented at the Biennial International Machine Tool Technical Conference, Chicago, Sept. 5–13, 1984. See Donald F. Wilhelm, "New Developments in Press Force Monitoring," a paper presented at the Biennial International Machine Tool Technical Conference, Chicago, Sept. 5–13, 1984.

[26] Rakowski, "Press advances spur productivity gains."

[27] *Ibid*.

[28] *Ibid*. See also *Japanese Automotive Stamping*.

[29] *Japanese Automative Stamping* and industry information.

[30] *Metal Stamping*, September 1985, p. 3.

[31] See, for example, Robert Rice, "Manufacturing with the use of
fer systems," *The Fabricator*, November-December 1984; and Jo
Winship, "Form compression heads in one pass," *American Mach*
May 1980, reprint. See also the advertising brochure of Willett Tr
Systems, published by M. S. Willett, Cockeysville, MD.

[32] *Metal Stamping*, July 1985, p. 13.

[33] *Ibid*.

[34] *Metal Stamping*, November 1984, pp. 8–11.

[35] Hennelgarn and Gregorovich, *Stamping Systems Automation*, pp
106.

[36] James R. Hunter, "New Punch Press Technologies," a paper pres
at the Biennial International Machine Tool Technical Confer
Chicago, Sept. 5–13, 1984.

APPENDIX: Measurement techniques and limitations

Indexes of output per employee hour measure changes in the relation between the output of an industry and employee hours expended on that output. An index of output per employee hour is derived by dividing an index of output by an index of industry employee hours.

The preferred output index for manufacturing industries would be obtained from data on quantities of the various goods produced by the industry, each weighted (multiplied) by the employee hours required to produce one unit of each good in some specified base period. Thus, those goods that require more labor time to produce are given more importance in the index.

In the absence of adequate physical quantity data, the output indexes for the industries discussed here were developed using a deflated value technique. The value of shipments of the various product classes was adjusted for price
changes by appropriate Producer Price Indexes and Indu
Sector Price Indexes to derive real output measures. Th
in turn, were combined with employee hour weight
derive overall output measures. The result is a final ou
index conceptually close to the preferred output measu

Employment and employee hours indexes were deri
from data published by the Bureau of the Census.
ployees and employee hours are each considered homo
neous and additive, and thus do not reflect changes in
qualitative aspects of labor, such as skill and experienc

The indexes of output per employee hour do not meas
any specific contributions, such as that of labor or capi
Rather, they reflect the joint effect of such factors
changes in technology, capital investment, capacity utili
tion, plant design and layout, skill and effort of the w
force, managerial ability, and labor-management relatio

Foreign housing voucher systems: evolution and strategies

European governments have historically used housing allowance concepts with various strategies depending on the given definition of "most needy;" models include those with priority given to large families, the elderly, and the handicapped, and a model based on labor mobility

E. JAY HOWENSTINE

The "housing voucher" or "housing allowance" concept is emerging as the principal tool in U.S. housing subsidy policy. In Europe, governments have effectively operated national housing allowance systems for several decades with a wide variety of strategies. This report examines foreign experience.[1]

Two fundamental judgments underlie all housing allowance[2] systems: (1) there are large numbers of families that cannot obtain minimum standard housing by paying a reasonable portion of their income, and (2) the most needy households should be given first priority in the payment of housing subsidies. However, there have been notable differences among housing allowance systems in their approach to the most needy households. There have been different definitions of "most needy," and the principle of priority for the most needy has often been blended with other important economic and social purposes.

The strategic role of the housing allowance concept as it has developed in other countries can be best understood by delineating eight models of the concept: large family hardship model; elderly hardship model; rent harmonization model; excessive shelter-to-income model; tandem-new construction model; social stability model; labor mobility model; and family crisis model. (See exhibit 1.)

E. Jay Howenstine, an independent consultant, formerly was International Research Coordinator, Office of Policy Development and Research, U.S. Department of Housing and Urban Development. The views expressed are those of the author and do not necessarily reflect those of the Department.

Large family hardship model

The pre-World War II European perception was that wages of the working classes were more or less fixed over time. Other things being equal, therefore, an additional child in the family—and families tended to be big—led to a worsening of life in two major ways: a smaller portion of family income was available for the consumption of each individual; and each person had less physical space within the household.

In other industrialized nations, social concern for the welfare of children in large working class families found political expression in two ways rather different from the American experience, that is, in the establishment of family allowance systems (sometimes called children's allowances) and in social housing programs. Family allowance systems, spearheaded by the International Labour Office created under the League of Nations in 1919, were adopted in most of the highly industrialized countries providing financial assistance for each additional child in the family to avoid a lowering of standards of living.[3] And social housing (more or less the European equivalent of U.S. public housing) programs were promoted to help eliminate slums.

Because slums could only be avoided or eliminated by constructing more housing, it was logical that financial assistance should be in the form of producer subsidies to the builder, that is, mainly public and nonprofit agencies acting on behalf of the poor. The new social housing was then normally allotted on the basis of a point system to the most

Exhibit 1. Multiple uses of housing allowance strategies by foreign governments

Model	Countries and approximate date of adoption
1. Large family hardship	Sweden, 1930's France, 1948 Finland, 1962 Switzerland, Basle Canton, 1963 City of Zurich, 1963 Denmark, 1964
2. Elderly hardship	France, 1948 Sweden, 1950's Denmark, 1959 Switzerland, Basle Canton, 1963 Belgium, 1950's Australia, 1969 Finland, 1970 Canadian provincial systems, 1970's
3. Rent harmonization	France, 1948 Federal Republic of Germany, 1955 Denmark, 1967 Netherlands, 1967 Ireland, 1967 Austria, 1970's Norway, 1973
4. Excessive shelter-to-income ratio	Austria Federal Republic of Germar Finland Netherlands
5. Tandem-new construction	Norway, 1967 Sweden, 1960's France Netherlands
6. Social stability	Applied generally
7. Labor mobility	Sweden, 1957 France, 1960's Federal Republic of German 1960's Austria, 1960's Denmark, 1966 Netherlands, 1970's Norway, 1972
8. Family crisis	Australia, Victoria, 1981

needy, which tended to be the largest families.

As children grow up and leave, large families become small families. But under the housing regulations of most countries, families were not required to vacate subsidized housing as their level of need changed, for example, as the size of family shrank or as the level of income rose; rather they continued to occupy old units, even passing them on to the next generation. In this milieu, after World War II, the International Union of Family Organizations became one of the leading protagonists for a housing allowance system based primarily on the large family rationale. It had an important influence in many countries, especially Belgium, France, Luxembourg, the Netherlands, and Scandinavia.[4]

In the view of the International Union of Family Organizations, the key to providing adequate succor to the most needy was the development of "individual compensation for housing expenses . . . as closely adapted as possible to the circumstances of the household with children."[5] Such a system would ensure a much more effective use of the existing housing stock on the basis of need. As large families shrank and thereby received a smaller housing allowance, they would have an incentive to move to smaller space and to liberate large dwelling units for growing families.[6]

An important corollary was that housing allowances should operate in a national rental housing market organized on the basis of economic rents rather than in a rent controlled market with many different rent levels for equivalent accommodation based on differences in past construction costs and producer subsidy systems. This was essential two reasons. First, it avoided the misuse and waste of h ing subsidies on space for families that had low pric needs or had ceased to be in a needy position, and it enc aged households to move within the market as their hou needs increased or decreased. Second, it stimulated an crease in the supply of rental housing. With the assuranc economic rents, private rental housing investors would have to compete with low, subsidized rents, and thus wo be encouraged to construct new housing.[7]

The original large family hardship model contained other concepts, which, although more or less lost in passage of time, are worth noting. One concerned the mula for calculating the housing allowance. Because family allowance had become a well-established fixture national social policy in many countries, it was maintai that the ratio of the family allowance to nonhousing item the worker's budget provided a ready-made measure need, which could be applied equally well to housing c in the family budget. Thus, if the family allowance equa 20 percent of the nonhousing items in the family budget, housing allowance should equal 20 percent of the hous cost item in the budget.[8] In countries without such legi tion, the International Union of Family Organizations p posed that housing allowances should cover the amount the rent in excess of a reasonable percentage of the fam income, that is, between 6 and 12 percent of income pending on the size of the family and its income.[9]

The other interesting concept was that housing space should be measured in terms of its capacity to accommodate people rather than in square meters of floor space or number of rooms. Accordingly, at its 1954 session, the International Union of Family Organizations adopted the concept of a "housing capacity index" based on two criteria, the number of bedrooms and the total number of occupants of these bedrooms. Thus, a dwelling unit with an index of A 4/6 was an apartment of four bedrooms for six persons.[10] This index was believed to be in the best possible measure of the housing stock's capacity to meet social need.

Concern for the housing needs of large poor families was prominent in the early evolution of housing allowances. Sweden introduced a housing subsidy for families with many children in the 1930's and has continued to expand the coverage until approximately one-half of all families with children now receive a housing allowance. Finland adopted its first housing allowance system for large families in 1941, the system expanding by 1961 to include about 2,000 families.[11] France adopted a housing allowance in 1948 that was payable only to large families which received a family allowance. The Canton of Basle and the city of Zurich in Switzerland launched large family housing allowances in 1963, while Denmark introduced its system for large families and single persons with children in 1964.[12]

Elderly hardship model

A second major category of "most needy" households competing for housing subsidies has been the elderly and the physically handicapped. The old age pension has long been a part of European social security systems; in fact, Chancellor Otto Von Bismark made it a part of the German social insurance system in the 1870's. But while fairly comprehensive in coverage, after World War II European systems were generally deficient in two respects. Pensions were relatively small, and there was little provision for automatically increasing (that is, indexing) pensions to compensate for increases in the cost of living. The systems had been established in an era of price stability, when there was no problem of creeping inflation. As a consequence, a large proportion of the elderly increasingly found themselves in a financial squeeze. Although continued rent controls imposed a brake on the rate of increase in shelter costs, periodic relaxation of rent ceilings clearly intensified rent burdens.

The housing allowance concept offered a cogent solution to this problem. It was a simple subsidy for a well-defined, very needy group. Moreover, because the elderly poor were a rather easily identifiable part of the total poverty problem, governments could provide them with financial relief without opening the floodgate for massive consumer housing subsidies for all the poor.

In the early development of housing allowance systems, the elderly poor often played a central role. In 1948, France established a rent subsidy system for the aged and the disabled living in old apartments. This subsidy was necessary for persons living on fixed incomes, such as pensioners, to offset rent increases which the government began to introduce gradually in the rent ceilings on the old housing stock. After several amendments, this program was completely overhauled in 1971. Since then, it has remained a separate system for the elderly, the physically handicapped, and certain young workers.

In Sweden, where there are three separate housing allowance systems, municipalities provide a special housing allowance supplementing the national retirement pension when the pension is insufficient to provide an adequate dwelling. In 1958, the principles governing the subsidy and its financing became the responsibility of municipalities. As a result, differences in levels of payment prevailed. However, means test rules for determining eligibility now have been established by the National Government. Beginning in 1982, the Government agreed to cover 25 percent of the costs and to coordinate housing allowances for the elderly more closely with the other two more general systems. Among other things, this has involved the imposition of rent ceilings. In 1980, slightly more than one-half of all retired persons received housing allowances under this system.

In 1959, Denmark adopted a rent subsidy plan specifically for those elderly and disabled persons receiving national pensions that were too small to enable them to obtain adequate unsubsidized accommodation. Eligible persons were required to rent subsidized housing owned by the municipality or a nonprofit or charitable housing association. The housing allowance was paid to the owner, not the renter. Two-thirds of total costs were financed by the municipality and one-third by the National Government. The Canton of Basle (Switzerland) launched a similar program for the elderly in 1963. The Belgian housing allowance system is mainly for the elderly. In Australia, the Supplementary Assistance Plan for rental housing for the aged, sole parents, and invalid pensioners was introduced in 1969. Weekly assistance in 1982 was equal to one-half the amount by which rent exceeded $10, with maximum assistance of $10 a week. In December 1982, 86 percent of total pensioners received assistance from this plan.[13]

Finland introduced a housing allowance system for the elderly in 1970 to cover housing costs that were above average. The allowance is paid as a part of the national pension system. The number of recipients rose from 50,000 in 1970 to 179,000 in 1983, accounting for about 50 percent of all housing allowance participants in the latter year.

The elderly hardship model was adopted by five Canadian provinces—British Columbia, Manitoba, New Brunswick, Nova Scotia, and Quebec—in the 1970's and 1980's. The aim was to assist the elderly in keeping their existing housing rather than to rehouse them in new projects. The policy reflected the belief that housing occupied by the elderly generally met acceptable standards and that the problem was one of excessive rent burden.

Elderly recipients appear to predominate in most national housing allowance plans. In France, the Federal Republic of Germany, Sweden, and the United Kingdom, they historically have constituted from two-thirds to three-quarters of all participants. In other words, it may be said that housing allowance systems have tended to become a major auxiliary support to old-age pension systems.

European experience demonstrates that initially restricting eligibility to senior citizens (and perhaps handicapped persons) offers an effective political strategy for introducing a housing allowance system. It clearly targets the system to a widely recognized high priority category. From a social point of view, the elderly are probably the most highly disciplined sector of the population; thus the risks of abuses and problems of administration are minimized. Because elderly demographics are generally well known, it is possible to set the lower eligibility age limit at a level that corresponds to financial resources that the government is ready to make available for such a program. In other words, this approach offers a method for a fine tuning of demand to the current limits of fiscal capacity. Then, if experience demonstrates the practicability of the system, if fiscal capacity grows, and it is believed appropriate, the age limit can be progressively lowered to embrace a steadily larger part of the population.

Rent harmonization model

World War II seriously disrupted the European housing market in many ways, including the rental housing sector. In the face of wartime inflationary pressures, strict rent controls were applied. After the war, governments were slow to decontrol rents, mainly because of the political risks involved. Consequently, major inequities and distortions arose.[14]

First, rent controls created inequities among renters. On the one side, were the longstanding tenants who paid low rents and, on the other side, young couples and war veterans, who paid high rents as recent entrants into the housing market. Second, controls led to inequalities between renters and landlords. Often rents neither covered operating costs, nor yielded a fair return on capital invested. Third, rent controls led to widespread physical deterioration in existing housing. Finally, they were a negative influence on the supply of housing. They were not only an incentive to convert rental housing to owner-occupancy or commercial use and in certain circumstances to demolish the building and sell the land, but also a disincentive for new investment in private rental housing.[15]

Although the aim of European governments generally was the eventual abolition of rent controls, it had become apparent by the 1960's that piecemeal liberalization would not succeed alone. Consequently, a new concept of "rent harmonization" or "rent equalization" emerged, in which housing allowances had a strategic role to play. The objective was to move systematically toward a single unified rental housing market operating as nearly as possible on an economic cost basis. It was believed that, as a result of rising individual incomes associated with postwar national economic growth and inflation, a majority of tenants could afford to pay higher rents. To avoid hardship for those who lived on more or less fixed incomes, a housing allowance or rent rebate would be granted.

This melding of policies was felicitous. It offered a politically acceptable package by eliminating threatened hardship. It introduced an incentive for families to seek housing space in terms of household requirements rather than because of artificially low rents, promoting a more economic use of the existing housing stock. And it offered promise of a fair return on capital to landlords, and thus the capacity and incentive to keep the rental housing stock in a good state of repair.

France appears to have been the first country to link consumer housing subsidies with relaxation of rent controls as an instrument of national policy. In 1948, a modest housing allowance system was introduced to ease the hardship created for persons on fixed incomes who were not able to cope with rent increases.

In 1955, the Federal Republic of Germany adopted its first housing allowance for similar reasons. The allowance was based on the principle that housing expenditures should be kept below 10 percent of the budget for families with very low incomes, rising to 20 percent for those with incomes just under the eligibility limits.

Denmark in 1967 and the Netherlands in 1970 adopted a much more systematic approach. Denmark envisaged the progressive phasing out of rent control over an 8-year period; the Netherlands, over a 10-year period. The assumption was that, during the previous decade, the incomes of most persons had increased sufficiently that they could afford to pay higher rents without exceeding a fair shelter-to-income ratio—in the case of Denmark, 20 percent, the Netherlands, between 13 and 17 percent for families. The housing allowance was an integral part of rent decontrol policy aimed at aiding households with fixed incomes.

Ireland also followed the principle in 1967 with a differential rent policy that adjusted actual rents to the tenant's income and family circumstances, as rents generally were allowed to rise toward a level more in line with the free market.

In the early 1970's, both France and Austria introduced housing allowances to relieve the hardship imposed by increased rents. The French legislation covered only the elderly and the handicapped. The Austrian 1974 law, applying to low-income families generally, also provided that rent increases should be used to cover proper maintenance and, in certain cases, improvement costs. In 1973, the Norwegian Government increased its housing allowance substantially to mitigate individual burdens that might accompany the relaxation of rent controls and the raising of interest rates on existing mortages.

Excessive shelter-to-income model

The European working class has historically not been able to afford decent housing. Workers' pre-World War I expectations regarding a home and a living environment were therefore generally low, except through the help of the government. After World II, however, several factors combined to alter expectations. European economies spurted ahead with rapid technological change, high economic growth rates, and rising individual incomes. During the late 1940's, the 1950's, and 1960's, great strides were made in rebuilding destroyed cities, and in slum clearance. By the mid-1970's, most countries were succeeding in overcoming the global housing shortage and the age of affluence was bringing hope to the common man. As a result, two issues began to receive increasingly greater attention in housing, that is, improving the quality of the housing stock, and relieving the excessive shelter-to-income burden on low-income families.

The housing allowance is an ideal tool for eliminating excessive rent burdens on poor households. Public policy need but do two things: (1) determine shelter-to-income-ratios that various size families can afford, and (2) provide an allowance to cover the difference (or a suitable part of the difference) between actual rents and the maximum percentage of income that families can afford to pay.

This rationale has pervaded several European housing allowance systems, most notably those of Austria, Finland, the Federal Republic of Germany, and the Netherlands. The central principle in the Dutch system is that the tenant should not have to pay more than a reasonable part of his income for rent. In 1978, the standard shelter-to-income ratio for the minimum wage earner, that is, the percentage of income which the tenant was deemed capable of paying for rent, was fixed at 11.2 percent. The Finnish system is similar to the Dutch. In 1983, a three-member household at the minimum wage level was expected to pay 14.5 percent of gross income in rent. The German housing allowance system, covering 1.7 million households or 1 in 16 families in 1978, had as a major objective the reduction of the burden of housing costs on lower-income households. Similarly, in Austria, the Housing Promotion Act of 1968 set up a housing allowance system which focused on the financial burdens which lower income households could reasonably be expected to bear.

Tandem-new construction model

During the 1960's and early 1970's, the increasingly high cost of new construction[16] led inevitably to a growing gap between rents for newly built housing and rents of the older housing stock for roughly equivalent accommodations. One of the dire consequences of this gap was that, in spite of persistent housing need, by 1974 and 1975, a large number of dwellings, especially in Denmark, the Federal Republic of Germany, the Netherlands, Sweden, and Switzerland, were remaining vacant for well over a year because rents were too high.[17]

In this situation, another housing allowance rationale emerged, which will be called the tandem-new construction model, that is, a housing assistance policy which works as a complementary arm with the national policy on new housing construction. In essence, the housing allowance became a tool to facilitate the renting of new, modern, high-cost apartments to a clientele who could not otherwise afford them.

Norway was a pioneer. In 1967, a National Commission was appointed to design a more comprehensive subsidy system. One of its central recommendations was that subsidies should be paid only to households living in recently built dwellings; these were the most expensive because of high building costs, interest rates, and land costs. But the Commission also recommended that subsidies be paid only for the first 10 years after completion (compared to the then existing 15-year period) and that during that period subsidies should be gradually reduced. The Commission's rationale relating to new construction was generally accepted in the 1972 housing reform.

An interesting variation of this model has been developed in Sweden. In 1966, 43 percent of families with children were living in overcrowded conditions, as legislatively defined, that is, more than two occupants per room excluding kitchen and living room. Sweden undertook a huge effort to upgrade the quality of housing, using the housing allowance as a means of helping large, low-income families to obtain "modern and sufficiently large dwellings." The new system provided an incentive to occupy new, expensive, large dwelling units by offering a higher percent of rent subsidy for the more expensive units, that is, 40 percent, than for the less expensive units, which received a housing allowance of only 30 percent of the rent.

The tandem-new construction rationale also became an important element in the housing allowance systems of France and the Netherlands.

Social stability model

European societies have traditionally put emphasis on social stability. In part, this derives from the class structure inherited from the past, which tended to be threatened by the instabilities associated with social change. In part, the stability has its roots in the strong family, neighborhood, and religious orientation of European urban systems. It may also be partly attributable to the old perception that the size of the national economic pie was more or less fixed and that, consequently, there were fairly well-defined constraints on one's economic well-being. (Such beliefs were common until the unprecedented economic growth following World War II began to belie them.)

In this setting, the eviction of a household because of inability to pay rent is regarded as a serious threat to social stability. It is disruptive to family life and a loss to the neighborhood. To diminish this threat, most European countries have built into the law considerable tenure rights for renters.

To reduce still further the risk of eviction, a logical next step was to bolster the ability to pay of economically weak households by providing a housing allowance. The elderly have perhaps been among the most vulnerable to circumstances beyond their control. The rent-paying capacity of persons on fixed incomes is rapidly eroded by inflation. Most of the animus of early housing allowance plans for the elderly, noted previously, appears to have been rooted in the concern for social stability. The financial crunch was forcing elderly persons to give up their homes and this was regarded as highly inimical not only to the welfare of those displaced but also to the very core of society itself. There is in this respect, therefore, an overlap between the social stability model and the elderly hardship model.

Similarly, low-income families, already suffering hardship from their economic status, are highly vulnerable to forces beyond their control, such as unemployment and depression. To a considerable degree, therefore, housing allowances in a number of countries have been designed not to improve housing conditions *in situ,* nor to enable households to shop around for alternative accommodation, but merely to strengthen the ability of financially weak households to keep the housing they have.

Labor mobility model

The motif of the labor mobility model is in contrast with that of the social stability model. It is the response of a housing market long under the heavy hand of rent controls.

As noted earlier, there is a strong incentive for households to continue occupying large, low-rent, centrally located apartments long after their housing requirements—as determined by the size of family—have changed, because most alternative smaller units are recently built and, therefore, have much higher rents. Socially, this condition is a gross misallocation of housing space. Economically, it constitutes a serious brake on the rate of national economic growth by preventing the labor force from moving easily as economic growth and job markets beckon. The housing allowance has helped remedy this situation to some extent.

The simplest way to use housing allowances as an instrument for promoting labor mobility is to restrict participation to households living in the most recently built apartments, which by definition were more costly to build and are thus let at the highest rents. All countries have encountered increasingly difficult problems in finding tenants, particularly among low- and moderate-income households, to contract for these high-rent dwelling units. Going back to its early experience, Sweden limited its housing allowance system established in 1947 to dwellings that were erected or converted after December 1947. Norway restricted its 1972 housing allowance plan to housing built after 1962. The Dutch housing allowance system before 1975 was available only to households living in rental accommodation built after 1960. Two Austrian provinces (Tryol and Vorarlberg) and the country of Denmark have likewise provided that households would be eligible only if their accommodation was built after a specified date.

In 1966, the housing problem became a central issue in Denmark. In a celebrated Housing Pact worked out by the major Danish political parties, one of the major objectives agreed upon was to encourage greater mobility within the housing stock by means of rent harmonization and the introduction of housing allowances for tenants. Similar considerations have also been prominent in French and German housing allowance policy.

Another, perhaps more indirect, way that governments have applied the labor mobility model is by establishing high standards of physical construction and housing amenities as a condition for coverage by the housing allowance system. In many countries, only postwar or even more recent construction—and thus the most expensive rental dwelling units—can meet such requirements.

Again the rationale is similar. Rent controls and the basing of rents on postwar construction costs have created large rent differentials that may not be representative of real differences in housing habitability. Much of this new postwar construction has been in reponse to economic growth needs, but rent differentials have had the unfortunate result of discouraging mobility in the labor market. Encountering difficulties in letting such high quality, high-rent housing units, governments have developed housing allowance systems as a means of reducing the rent burden and providing an incentive for greater labor mobility.

A number of governments, including those of Denmark, France, the Federal Republic of Germany, the Netherlands, and Sweden, have gone further and used other types of housing assistance to promote labor mobility. For example, in 1975, the Netherlands adopted a rent readjustment grant to assist households that were capable and desirous of living in better accommodations, but who were intimidated by the sudden increase in rent and the burden of moving costs. Three types of tenants were eligible: those leaving an older, cheaper unit for a newly built, higher rent unit (the "moving-up process"); those leaving a slum dwelling for a higher rent unit ("slum clearance"); and those whose rents had been increased because their current accommodations had been modernized ("housing improvement").

Providing the difference in monthly rent was at least $11.86, the Dutch rent readjustment grant covered 75 percent of the difference the first year, 50 percent the second year, and 25 percent the third year. In 1982, the grant was lowered to 60 percent the first year and to 40 percent the second year. However, certain ceilings were set. The tenant's annual 1975 taxable income could not exceed $11,860 and the monthly rent of the vacated dwelling could not be more than $98. In addition, a special grant of up to $1,383 was made available to help cover removal and refurnishing costs for households experiencing major housing improvements or slum clearance and for elderly people moving from low-rent dwellings to smaller, more expensive units or to nonself-contained accommodation.

Family crisis model

Frequently low- and moderate-income families are confronted with temporary household crises, such as loss of job or ill health of the breadwinner(s), or desertion of the family by the husband or wife. If the family must move because of nonpayment of rent, this imposes a heavy burden on the household and the community, for example, in the loss of local friends and support services and disruption in children's schooling, in addition to the costs of moving. In contrast, if temporary assistance can be provided, the family is generally able to cope.

Probably in most countries this kind of crisis tends to be dealt with through some form of public assistance. But in 1981, Victoria Province in Australia embarked on an interesting pilot rental subsidy program.[18] The objective is to provide emergency financial support to enable families to remain in their existing situation. The subsidy is temporary and is paid out for a maximum period of 12 months. This rationale could be considered as a subset of the social stability model, but because it is sufficiently imaginative in its social and psychological design it is included as a separate model.

A related program, the Mortgage and Rent Relief Scheme, was adopted by the Australian Federal Government in 1982 to provide assistance to "crisis" cases of people in rental difficulties. The Commonwealth provided the States with $20 million (Australian) per annum on a matching basis for 3 years with the intent of providing short-term assistance (about 12 months) until either the crisis was resolved or a longer-term solution was found. Relief was provided in advance as quickly as possible, the first payment being made within 2 weeks after registration.[19]

IN FOREIGN EXPERIENCE, the housing allowance has proved to be a highly flexible and versatile tool of national policy. Not only has it been an effective means for directly reducing excessive rent burdens on low-income families, especially the elderly, the physically handicapped, and large families, but it has also provided powerful support in implementing other important national social and economic objectives. It has been an instrument for harmonizing rents and in developing unified rental housing markets. It has complemented producer housing subsidy programs in helping to maintain markets for new housing, and has strengthened social stability by assisting financially weak households to keep their housing. Finally, it has been a useful means of stimulating labor mobility needed for national economic growth and the development of new job markets. ☐

FOOTNOTES

[1] This is an excerpt from a forthcoming report, *Housing Vouchers: An International Analysis*, to be published by Rutgers University Press.

[2] The term "housing voucher" is rarely used in foreign countries.

[3] *Introduction to Social Security*, 3d. ed. (Geneva, International Labour Office, 1984), Chapter 11; *International Survey of Social Security: Comparative Analysis and Summary of National Laws* (Geneva, International Labour Office, 1950), Studies and Reports, New Series No. 23, pp. 21–23, 30–32, 107–09; see also Convention 102 adopted by the International Labour Organisation in 1952, Minimum Standards of Social Security, Part 7, "Family Benefits," International Labour Organisation, *International Labour Conventions and Recommendations, 1919–1981* (Geneva, International Labour Office, 1982), pp. 533–53.

[4] *Etudes sur le Financement du Logement Familial* (Brussels, Union Internationale des Organismes Familiaux, 1953), pp. 6–26.

[5] D. Ceccaldi, "Compensation of Family Housing Expenses," in *Etudes sur le Logement Familial* (Brussels, Union Internationale des Organismes Familiaux, 1955), p. 25.

[6] The International Union of Family Organizations placed great stress on the development of systems to promote interchange of dwelling units within the housing stock. See also *La Mutation des Occupants de Logements dans les Quartiers d'Habitations Sociales* (Brussels, Union Internationale des Organismes Familiaux, 1962).

[7] Lucien Wynen, *Le Financement du Logement Social* (Brussels, Union Internationale des Organismes Familiaux, 1962), pp. 2–5.

[8] *Cout du Logement et Integration du Loyer dans le Budget* (Brussels, Union Internationale des Organismes Familiaux, 1962), 8th sess. p. 2; *Compte-Rendu, 8th Session Pleniere* (Brussels, Union Internationale des Organismes Familiaux, 1962).

[9] *Cout du Logement et Integration*, pp. 7–8.

[10] *Etudes sur le Logement Familial*, pp. 94–95; *Minimum Habitable Surfaces: Increase in Size and Cost of Dwelling in Relation to the Size of Family* (Brussels, Union Internationale des Organismes Familiaux, 1957).

[11] Ossi Paukku, *The Subsidies of the Housing Sector in Finland in 1956–75* (Helsinki, National Housing Board, 1978), published only in Finnish. Information provided by Keijo Tanner, National Housing Board, Helsinki, Jan. 17, 1985.

[12] Gunter Schwertz, *Systems and Significance of Individual Subsidization of Accommodation Costs in European Countries* (Bonn, Domus-Verlag, 1966), pp. 9, 19, 43, 51, and 59.

[13] Tim Field, "Pensioners Who Rent: Problems and Alternatives," *Social Security Journal* (Canberra, Australian Government Publishing Service, June 1983), pp. 25–26; *Annual Report, 1981–82* (Canberra, Australia, Department of Social Security, 1982), p. 62.

[14] The distortions were so evident that socialists and trade unionists recognized them. See for example, D. L. Munby, *The Rent Problem* (London, Fabian Publications, 1952), pp. 4–5; Heinz Umrath, "Rent Policy in Western Europe," *International Labour Review*, September 1953, pp. 213–15.

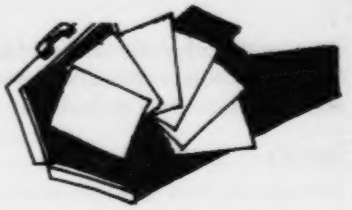
[15] E. Jay Howenstine, "European experience with rent controls," *Monthly Labor Review*, June 1977, pp. 21–28.

[16] E. Jay Howenstine, *Housing Costs in the United States and Other Industrialized Countries, 1970–1977* (Washington, Department of Housing and Urban Development, 1980).

[17] A. Andrzejewski and M. Lujanen, *Major Trends in Housing Policy in ECE Countries* (New York, United Nations, 1980), p. 22.

[18] *Rental Subsidy Scheme for Families in Crisis* (Melbourne, Australia, Victoria, Ministry of Housing, 1981), p. 8.

[19] *The Rent Relief Scheme in South Australia: The First Twelve Months* (South Australian Housing Trust, 1984), pp. 2–3.



Conference Papers

The following excerpts, closely related to the work of BLS, are adapted from papers presented at the Thirty-Eighth Annual Meeting of the Industrial Relations Research Association, December 1985, in New York.

The full text of the papers appears in the copyrighted IRRA publication, *Proceedings of the Thirty-Eighth Annual Meetings*, available from IRRA, University of Wisconsin, Social Science Building, Madison, WI 53706.

Short-time compensation: assessing the issues

FRANK W. SCHIFF

Since 1978, 10 States have adopted legislation to permit the voluntary use of short-time compensation—that is, work sharing as an alternative to layoffs, combined with the payment of partial unemployment insurance benefits to help compensate employees for their lost work time. The available surveys all indicate that where these programs have actually been used, they have generally been well received by both employers and employees. At the same time, overall usage of short-time compensation has thus far been quite limited, particularly among larger firms.

How short-time compensation will fare in the future will no doubt depend importantly on how actual experience with short-time compensation is evaluated. This paper examines some of the key questions that need to be addressed in assessing the impact of short-time compensation; reviews to what extent they have been answered by recent evaluation studies; and discusses the relevance of this information for the future. I shall draw particularly on two studies that have just become available: the large scale *Evaluation of Short-Time Compensation Programs* prepared by Mathematica Policy Research, Inc. for the U.S. Labor Department[1] and the case study prepared by Bennett Burgoon and Robert D. St. Louis for Motorola[2]—the firm which has been the largest single user of short-time compensation so far—that assesses the use of short-time compensation in Motorola's Arizona operation during 1982–83.

Work sharing versus layoffs

My first issue is whether short-time compensation use in cyclical situations implies higher costs for the unemployment insurance system than outright layoffs. This was the central focus of the Mathematica study.

One aspect of this question relates to administrative costs. Mathematica found that these costs were greater under short-time compensation than under regular layoffs. But this finding reflected early experience with the program in only one State. The Mathematica study notes that with more experience, administrative costs under short-time compensation may well be significantly reduced, including having employers file claims for short-time compensation users *en masse*. If one also considers that there will be savings for the Employment Service because it does not have to provide job search assistance and other services associated with regular layoffs, then there is a possibility that net administrative costs with short-time compensation might prove less than with regular layoffs.

A far more important issue is whether the total number of unemployment insurance-compensated hours of unemployment—and the associated unemployment insurance benefit costs—are likely to be greater with short-time compensation programs than with outright layoffs. Surveys of both employers and employees conducted in 1982 by the California Employment Development Department suggested that total work time losses under short-time compensation were significantly less than under layoffs. On the other hand, various simulation studies prepared by the Department produced exactly opposite results.[3] However, both types of assessment suffered from important methodological shortcomings. The Mathematica study, which covered work sharing experience in California, Arizona, and Oregon from mid-1982 to mid-1983 and used sophisticated econometric techniques, sought to avoid such shortcomings primarily by relating the experience of firms using short-time compensation (often side-by-side with direct layoffs) to that of a comparison group of firms that presumably faced similar economic circumstances.

Mathematica's principal finding was that for firms using short-time compensation, total hours of compensated unemployment (including *both* regular unemployment insurance and short-time compensation benefits) were larger than for

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Frank W. Schiff is vice president and chief economist, Committee for Economic Development. The views expressed are his own and do not necessarily reflect those of his organization. The title of his full IRRA paper is "Issues in Assessing Worksharing."

firms relying solely on direct layoffs—on average approximately 11 percent. However, in Oregon, total hours of compensated unemployment were almost identical for the two groups. In California, total compensated unemployment for firms using short-time compensation was said to exceed those of the comparison group by 29 percent, while the differential in Arizona came to 12 percent. Another way to describe the Mathematica results is in terms of *marginal* effects. Thus, the study showed that in Oregon, each hour of compensated unemployment under short-time compensation substituted for an hour of regular layoffs. For California, on the other hand, the study produced the extraordinary result that there had been virtually no substitution. The substitution rate for Arizona was about 50 percent.

On the basis of simulations that used these various results as inputs, the study also concluded that unemployment insurance benefit charges for firms using short-time compensation can be expected to be higher than those for similar employers who do not and that this is likely to impose a net drain on the Unemployment Insurance Trust Fund in the short run. However, these negative impacts were expected to be significantly reduced over time by more complete experience-rating of short-time compensation benefits and by revenues gained from special short-time compensation surtaxes.

There is a major question in these studies as to whether users of short-time compensation and non-user comparison employers actually faced similar economic circumstances. Only three primary characteristics were used in selecting comparison group firms: industry classification (according to three-digit Standard Industrial Classification codes); employment size; and the unemployment insurance tax rate. The unemployment insurance tax rate has little relevance to current economic conditions. The relatively broad industry classifications used did not automatically assure that firms in the comparison groups were subject to the same degree of economic stress as those which used short-time compensation.

One specific indication of such stress would have been evidence that these firms were laying off people. In fact, however, a significant number of comparison group firms showed no layoffs. If there were conclusive evidence from other sources that the two sets of firms faced similar economic conditions, the exclusion of firms with no layoffs from the comparison group might be justified, but this was clearly not the case in this instance. When one *excludes* firms that made no layoffs from the comparison group, the excess in total hours of compensated unemployment for firms using short-time compensation over those in the comparison group falls from 11 percent to 7 percent. Moreover, when the figures are adjusted to take account of delayed impacts of work sharing in the first two quarters after the year covered by the study, the differential almost disappears.

Even with these adjustments, the Mathematica study still suggests that total hours of compensated unemployment were larger for short-time compensation firms than for the comparison group firms. But this qualitative result, too, is open to question when other aspects of the Mathematica study are considered. Thus, there are other indications that short-time compensation participants may in fact have faced more severe economic conditions than comparison group employers. The report indicates, for example, that short-time compensation firms were significantly more likely to have had financial losses in fiscal year 1982 than comparison group firms. Also, in California, short-time compensation employers were more heavily concentrated in durable manufacturing than comparison group employers.

Moreover, the basic finding for California—that use of short-time compensation essentially did not substitute for layoffs *at all*—strikes me as totally implausible. Since short-time compensation firms had to submit affidavits indicating that short-time compensation represented an alternative to layoffs, one would have to believe that all of these affidavits were 100 percent inaccurate. Even less credible is the implication that the unions involved would go along with a program that involved wage losses for *all* their members without any compensating gain in terms of reduced layoffs.

An additional problem is posed by the fact that the Arizona part of the study excluded Motorola's operations, which accounted for approximately 40 percent of the employees covered by short-time compensation in that State. This was done on the ground that a comparison group employer of equivalent size could not be found. It raises a major question, however, whether the overall finding for Arizona—namely, that short-time compensation firms used more hours of compensated unemployment than comparison firms—would have held if Motorola had been included in the study. This is a particularly pertinent question because Motorola's study of its experience with short-time compensation indicated that when the units surveyed went on a 4-day week, a significant number of employees did not draw unemployment insurance for the fifth day. Hence, overall unemployment insurance costs, at least under this firm's work sharing program, may well have been *less* than if regular layoffs had been utilized.

What does all this add up to? My overall assessment is that while the Mathematica study has provided useful insights into the measurement problems in this area, its findings with respect to the likely impact of short-time compensation programs on the Unemployment Insurance Trust Fund are beset by so many uncertainties that they can by no means be regarded as conclusive. In my view, this applies even to Mathematica's *qualitative* conclusion that short-time compensation programs are likely to entail greater use of compensated hours of unemployment than outright layoffs.

Structural adjustments and net costs

A second issue relates to the need to distinguish between short-time compensation in cyclical situations and as part of structural adjustments—that is, as a device to ease the transition toward permanent layoffs. Mathematica found that the firms it studied used the program only to deal with temporary declines in demands for labor. These findings, however, relate to a period of unusually severe cyclical downturn. More recently, problems of structural unemployment and permanent dislocation of workers have gained in relative importance, particularly as a result of sharply rising competition from imports. Hence, the possible use of short-time compensation in such structural situations will bear close watching.

A third area for further investigation involves the impact of short-time compensation on the net costs of employers. The Mathematica study provides some useful perspectives on this issue through the use of employer surveys and some simulations. Another way to approach this subject is through case studies. In this connection, I find the case study just issued by Motorola (the firm which has been the strongest advocate of short-time compensation) of special interest. Motorola utilized work sharing in its Arizona nondefense semiconductor products operations during 1982 and early 1983. The total number of employees participating in these short-time compensation plans came to more than 9,000. On the basis of a detailed examination of costs and benefits of work sharing in six representative departments, the study concluded that short-time compensation had resulted in a sizable net saving for the firm, compared with layoffs. Motorola also concluded that future use of short-time compensation is likely to result in significant net savings for the company over periods of up to 6 months and would, in most cases, probably produce net savings for at least 1 year.

The savings cited in the report were based on costs and benefits that could be directly quantified. The company indicates that the savings from work sharing would be larger if one considered factors that are harder to quantify, such as higher morale in the absence of layoffs, the avoidance of "bumping" and other disruptions of established production processes, and the competitive advantage the firm gained by being able to respond quickly to pickups in demand during the recovery phase with an established, fully trained work force.

These results, of course, are unique to Motorola's specific situation and may not necessarily hold in other cases. The study is nevertheless very valuable and a useful model for similar efforts because of the precise way in which it pinpoints specific elements of costs and benefits from the use of short-time compensation.

Affirmative action results

A fourth issue is whether short-time compensation has had favorable "affirmative action" results. A major argument for using work sharing as an alternative to layoffs has been that it would preserve the jobs of minority group members, women, and younger workers who are typically viewed as among the "last-hired" and the "first-fired." With short-time compensation, employees in these categories do not have to be laid off and potential conflicts between seniority rules and affirmative action requirements are avoided.

Surprisingly, the Mathematica study did not find that these groups cited fared better under short-time compensation than with direct layoffs. This, incidentally, was also the finding of the California study. As Mathematica has suggested, a more detailed look at the available data seems desirable to help determine how this counter-intuitive result can best be explained. One possibility is that firms using short-time compensation have been particularly progressive in their labor relations and that the groups cited were not disproportionately represented among the "last hired" by these firms. A contrasting explanation would be that members of such groups had been selectively dismissed prior to the adoption of short-time compensation by the firms. Mathematica did not find evidence for this in its study, but future studies should be alert to this possibility.

If it should turn out that short-time compensation programs do have positive affirmative action results, questions might be raised about the desirable length of such programs. At present, the time period for which particular employees can stay on the program usually does not exceed 26 weeks. If there is a severe recession that lasts longer than this, should the period of eligibility be extended to include the full period of the recession? If the program ends in the middle of a recession, the "last-hired" would still be the "first-fired." One way to deal with this problem would be to permit longer-than-normal periods of short-time compensation use if national or local area unemployment rates, or both, remain unusually high for prolonged periods.

AS MORE INFORMATION about the issues raised here becomes available, the case for adopting additional administrative requirements under the short-time compensation program may also become stronger—for example, to increase the likelihood that short-time compensation will, in fact, be used as an alternative to layoffs; to allow clearer distinctions between cyclical and structural adjustments; or to permit more extended use of work sharing in prolonged recessions. ☐

FOOTNOTES

[1] Mathematica Policy Research, Inc. *An Evaluation of Short-Time Compensation Programs: Summary Report*; December 1985.

[2] Bennett Burgoon and Robert D. St. Louis, *The Impact of Work Sharing On Selected Motorola Units*, Technical Report #84–12 (Arizona State University, October 1984).

[3] *Shared Work Unemployment Insurance Evaluation Report* (Employment Development Department, Sacramento, California, May 1982). For further analysis of the Californian experience, see Fred Best, *Reducing Work Weeks to Prevent Layoffs: The Economic and Social Impacts of Unemployment Insurance Supported Work Sharing* (forthcoming).

Work sharing programs: an evaluation of their use

Stuart Kerachsky, Walter Nicholson,
Edward Cavin, and Alan Hershey

Among the most innovative changes to basic unemployment insurance since its inception is short-time compensation. The programs allow workers to receive partial unemployment benefits in the event that they suffer even moderate reductions in their work hours, as long as those reductions are expected to be temporary. Employees who have their work time reduced by, say, 1 day per week might be eligible for one-fifth of their weekly unemployment insurance benefit amount. This policy differs from previous unemployment insurance regulations, under which such workers would typically be ineligible for any benefits. It is generally believed that broadening the conditions under which unemployment insurance benefits may be paid will help reduce the "pro-layoff" bias of unemployment insurance and, instead, encourage employers to adopt reduced-hours strategies during periods that necessitate reducing employment levels.

This report is based on research on short-time compensation programs undertaken in response to Section 194 of the Tax Equity and Fiscal Responsibility Act of 1982. Through the Act, Congress recognized the growing number of States that have adopted short-time compensation programs as part of their overall unemployment insurance systems, and raised many important questions in response to those State efforts.[1]

The short-time compensation experience we will refer to occurred from mid-1982 to mid-1984 in the three States that have operated programs for the longest period of time: California, Arizona, and Oregon. The study focused primarily on the behavior of employers, although some issues that pertain more directly to employees were addressed with employee data aggregated on a per-employer basis.[2]

Before results of the study are discussed, three important limitations of its overall design should be stressed. The first is that the study involved only three States, each of which exhibited very low levels of short-time compensation use. The implication is that it is extremely difficult to generalize from the experiences of these States to other States that are using short-time compensation or that might use it in the future. The second is that the study did not collect data directly from employees. Thus, many issues that pertain to the attitudes and overall well-being of workers could not be addressed directly. However, evidence on some of these issues was available from information provided by employers and through unemployment insurance records. The third is that the use of a comparison-group methodology may be problematic. Both the operational status and the limited use of the work sharing programs in the study's States precluded an experimental design that would have assigned firms *randomly* to short-time compensation and control groups. Hence, it is possible that uncontrolled-for differences in characteristics among firms that used short-term compensation, and those that did not, may have contributed to some of the observed differences in outcomes.

Work sharing versus layoff

As noted, the primary purpose of short-time compensation is to provide firms with an alternative to layoffs during temporary downturns in their demand for labor. Many of the potential social benefits from work sharing (such as reduced labor turnover costs or increased work force productivity) derive from the ability of the program to encourage firms to substitute hours reductions for layoffs. To examine this substitution, we chose to focus on the hours spent on regular unemployment insurance and on short-time compensation by workers in our sample firms. These data were normalized by total hours employed in the fiscal 1982 base period, so as to create measures of the percentage of work time spent in these two forms of compensated unemployment. Although measuring layoffs and hours reductions with data on compensated unemployment poses some conceptual disadvantages, we believe that they are largely outweighed by the enhanced accuracy of data on compensated unemployment (because the data come from administrative records) and by the relevance of compensated unemployment to various issues of unemployment insurance financing. These data were used to examine differences in the percentage of work hours spent on compensated unemployment between firms that were short-time compensation users and those that did not participate in the program.

Although the findings exhibited fairly large State-by-State differences, three major patterns were apparent. First, participation rate in short-time compensation was very low: generally less than 1 percent of all employers in the sample States participated at any point in time, and less than 1 percent of unemployment insurance benefit claims were for short-time compensation. Second, the average firm in the short-time compensation sample appears to have continued using layoffs as the primary method of work force reduction. In no State did work sharing represent more than 25 percent of total hours on compensated unemployment among firms that used the program. Third, although evidence clearly suggests that short-time compensation did reduce layoffs (as measured by the reduced receipt of regular unemployment insurance), this substitution does not seem to have been on an hour-for-hour basis. In all of the States, firms that used short-time compensation experienced some net addition to total hours of compensated unemployment (both regular unemployment insurance and short-time compensation), although this addition was quite small in Ore-

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Stuart Kerachsky is a senior economist, Mathematica Policy Research, Inc., Princeton, NJ; Walter Nicholson is a professor of economics at Amherst College, Amherst, MA, and a senior fellow at Mathematica; and Edward Cavin is a senior economist and Alan Hershey, a senior policy analyst, both at Mathematica. The title of their full IRRA paper is "An Evaluation of Short-Time Compensation Programs."

gon. Hence, the empirical results suggest that the actual work force-adjustment strategies adopted by firms under short-time compensation might be quite varied and complex.

The large State-by-State differences in the apparent response to short-time compensation use posed a number of questions that could not be answered satisfactorily. Whether they represented differences caused by how the program is administered, unmeasured differences among the types of firms in the various State samples, or some undiscovered methodological problem in these comparisons could not be determined conclusively given the small number of States involved and the limitations inherent in a comparison-group methodology. However, broadly similar results were obtained through a wide variety of econometric methods.

A number of other topics pertaining to layoffs and short-time compensation use are investigated in the technical report.[3] Perhaps the most interesting finding from these additional investigations is that work sharing appears to have had no discernible effect on the demographic composition of layoffs undertaken by participants. That is, contrary to what has been hypothesized about the program, short-time compensation did not seem to have major "affirmative action" advantages for newly hired minority and female workers.

Unemployment insurance trust fund

Concern that widespread use of short-time compensation might have a negative impact on unemployment insurance trust funds has made many States cautious in adopting such programs and has prompted them to include in their laws special surtax provisions for firms that use the program. This concern appears to have arisen from two sources. The first is the possibility that workers who are placed on short-time compensation may have somewhat higher wages and, hence, higher weekly unemployment insurance benefit amounts than do workers who may have been laid off. Second, if short-time compensation encourages more compensated unemployment than would have occurred under a layoff-only strategy (as our results suggest), benefit payments to workers in firms that use short-time compensation may also increase.

The study results tended to support these presumptions. In all of the States, mean per-employee benefit charges (for regular unemployment insurance and short-time compensation) were significantly higher in the samples of firms that used short-time compensation. About half of the differences appear to be related to the higher unemployment insurance benefit levels for which short-time compensation recipients are eligible, and the other half can be attributed to additional amounts of compensated unemployment.

However, we also found that firms which participated in work sharing tended to have greater increases in their unemployment insurance tax rates over the study period than did otherwise similar firms who did not use the program. Although developing a precise model of how these extra tax collections should be netted against the additional benefit amounts paid was beyond the scope of the project, it was possible to provide a rough, qualitative assessment. In the short run, it is likely that short-time compensation imposed some drain on the unemployment insurance trust fund. Lags in the operations of the States' experience-rating formulas make it unlikely that the extra benefits payable under short-time compensation can be recouped in 1 or 2 tax years. Over the longer term, however, the picture is quite different. Because short-time compensation benefit charges under most of the States' current surtax provisions are more effectively experience-rated than are regular unemployment insurance benefit charges, it seems likely that any extra benefit charges would be fully recouped in the long run. Hence, concerns about the fiscal impact of work sharing might properly be focused on ensuring trust fund adequacy during temporary downturns, because the longer term solvency of the system would not seem to be imperiled by short-time compensation programs if surtax provisions are included in State laws.

Administration of the program

In adopting short-time compensation amendments to their basic unemployment insurance laws, all States attempted to restrict the concept's use to its intended purpose of substituting for layoffs during temporary downturns. In our study, we catalogued a wide variety of these provisions, and attempted to establish their effectiveness. The following general picture emerged: programs experience some startup problems but, on the whole, seem susceptible to careful monitoring and direction. We did find that some of the specific provisions of State laws do not appear to effectively ensure adherence to the basic goals of short-time compensation. (For example, constraints on minimum required work reductions do not seem to restrict minimum hours reductions to at least one averted layoff.) But these shortcomings seem relatively minor, and, in any case, the small number of States in the analysis precluded any quantitative assessment of the impacts of variations in such provisions.

In terms of unemployment insurance administrative costs, work sharing has both advantages and disadvantages relative to an equivalent work force reduction that involves only layoffs with the associated unemployment insurance collections. Initial claims-filing costs are lower under work sharing (because eligibility determination is simpler), and cost associated with unemployment insurance "work test" monitoring do not arise. However, relative to an equivalent level of layoffs, short-time compensation entails processing a much greater number of weekly benefit claims. Our analysis (which was constrained by a relatively meager amount of administrative cost data) suggested that, under current circumstances, the costs associated with the greater volume of claims tended to dominate the lower per-claim costs. However, in interpreting this conclusion, it is important to keep in mind the relative newness of short-time compensation programs. It is quite possible that the administrative cost disadvantages of them may decline over time as experience with the programs accumulates. ☐

FOOTNOTES

[1] The questions focused on the effects of short-time compensation on contemporaneous and subsequent layoffs, unemployment insurance tax rates, the integrity of the unemployment insurance trust funds, and the net benefits to the various affected parties.

[2] The analysis was based on survey and unemployment insurance records data covering 1,050 firms spread across the three States. Approximately half of the sample had used short-time compensation during the study period, and the other half did not. Nonusing firms were carefully matched to the program sample on many observable dimensions, and the actual analysis was based on regression techniques that controlled statistically for possible remaining sample differences.

[3] Stuart Kerachsky and others, "An Evaluation of Short-Time Compensation Programs: Technical Report" (Mathematica Policy Research, Inc., Princeton, NJ, December 1985), prepared for the Employment and Training Administration, U.S. Department of Labor.

Short-time compensation: the AFL–CIO perspective

JOHN ZALUSKY

In 1975, the proposal that shorter workweeks be financed through the unemployment trust funds was cautiously but favorably received by AFL–CIO President George Meany, who wrote to Lillian Poses that the Federation's " . . . general view is in favor of the plan as long as it remains voluntary and safeguards are included in state legislation to protect all parties."

As high unemployment continued, States began cutting unemployment benefits and it became clear that using trust funds to pay for a reduced workweek would mean worse hardship to those totally unemployed. And because benefits had lagged far behind wages, it looked as though senior workers in higher wage classifications would lose a higher share of their incomes, and not just for a few weeks, but for months or years.

Blindness to these threats to well-paid workers with secure jobs on the part of those who continued to promote work sharing as a "win-win" solution to layoffs eroded support among labor leaders. Repeated citations of the great success of German and Canadian experiments with work sharing turned out to be overstated, if not misrepresented. Both the German and Canadian counterparts of the AFL–CIO, the Deutscher Gewerkschafts bund Bundesvorstand (DGB) and the Canadian Labour Congress (CLC), reported problems and shortcomings that made it clear that foreign experiences were irrelevant and nontransferable to the American scene. The AFL–CIO then set about formulating its own concept of how short-time compensation could be made to work in the United States.

While discussions were going on within the AFL–CIO and jointly with the Department of Labor, the California legislature adopted the experimental short-time compensation law which has been extended three times since 1978 and will run through 1986. Although the California AFL–CIO neither supported nor opposed the Shared Work Unemployment Compensation bill, the plan proved more positive than might have been expected in that time and place, and a number of labor leaders strongly supported its passage and extension. Many workers gained from the bill under existing contracts—about 20 percent of the agreements allowed employers to reduce the workweek before resorting to layoffs. Previously, when employers exercised this option, considerable numbers of workers lost income without being able to qualify for unemployment compensation. In meeting this need, California's shared work bill opened the way for further development and experimentation and helped lay the foundation for the executive council's resolution of August 5, 1981, endorsing the concept of short-time compensation and outlining the conditions needed to make the concept's promise a reality.

First, the council said that short-time compensation must not be viewed as an alternative to active government programs to stimulate employment opportunities and the economy. This is vital because work sharing redefines employment while creating no new employment opportunities. This tends to hide a large part of the unemployment problem by inflating the statistic, "Working part-time for economic reasons." In 1985, there were 5.4 million workers in this category, and although it is better than being unemployed, it reflects the failure of our economy to provide full employment. This general concern is strongly shared by the German and Canadian labor movements.

Secondly, the needs of those completely unemployed must be given the highest priority. If short-time compensation increases costs to the unemployment insurance fund, as it certainly may, legislators face the options of either reducing benefits to the unemployed in one way or another or of increasing revenue. And in today's political climate, it is nearly impossible to raise revenue for social needs. This approach—of looking at the costs to the fund—regards unemployment insurance and short-time compensation as a closed system. The meaningful cost-benefit analysis would fit work sharing into the total cost of unemployment to society.

Although the benefits of short-time compensation warrant increasing the funds available for this purpose, well-meaning supporters want to sell it to the employer as a cost-free benefit. This is unrealistic. Work sharing is in the best interest of the States and local governments, most workers, and many farsighted employers. But to do the job well will require additional funding. A fair-cost analysis that looks at all of the costs to State and local governments for unemployment, including lost taxes, the cost of support

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John Zalusky is an economist in the AFL–CIO, Washington, DC. The title of his full IRRA paper is, "Labor's Interest and Concerns with Short Time Compensation."

systems, and the wasted worker's skills, will demonstrate the value of a strong, well-funded program.

Overall, the AFL–CIO supported the short-time compensation concept as a tool in dealing with the multiple consequences of unemployment, but not as a no-cost or even low-cost, "win-win" solution. The problem is that too few employers support it or use it at all, as long as they can get most of the benefits of work sharing costs by just transferring the burden to workers. Workers should be entitled to short-time compensation, through unemployment insurance or some other funding, any time the workweek is reduced due to a lack of work. Absent this, work sharing will only be used by few forward-looking employers, willing to sign up for the program and then after they have laid off the more easily replaced workers.

As the executive council resolution stressed, the AFL–CIO wants assurance that firms that use the concept do not lay off the recently hired and less-costly-to-recruit workers first, that is, women and minority group members.

This issue has been the hardest to deal with, and yet it would seem to be a fairly easy one on which to get support. In discussing this issue prior to passage of the Tax Equity and Fiscal Responsibility Act of 1982, the AFL–CIO sought a provision in the act requiring that employer progress toward Equal Employment Opportunity goals would not be reduced by layoffs prior to application for short-time compensation. Employers objected strongly on the grounds that it would encourage "EEOC fishing expeditions." And, surprisingly, the civil rights groups which the AFL–CIO generally works with were willing to drop the issue on assurance that short-time compensation by its nature would be "helpful."

The result was the present language in Section 194(d)(3) of the Tax Equity and Fiscal Responsibility Act of 1982, which suggests to States that their laws limit participation to employers who have not reduced their work force 10 percent by layoff in the previous 4 months. At the time, it seemed that this language would protect the newly hired youth, minorities, and women. This does not seem to be the case. Rather, it seems to have limited employer participation with little or no help for the newly hired.

The AFL–CIO and other supporters of short-time compensation often complain that employers fail to adopt the concept. Some feel that the low usage is due to employers' lack of knowledge. The Federation is sure this is not the case. The basic options to the employer are not work sharing versus layoff—they are layoffs with unemployment insurance, work sharing without unemployment insurance for their workers, and short-time compensation with unemployment insurance for their workers, or a combination of these options.

The evidence that too few employers use the short-time compensation concept is no surprise. The least cost options to many employers are to reduce the workweek, resort to rotating crews, simply shut down for a week, or require employees to use earned vacation time—all of which avoid adverse unemployment insurance experience ratings and increased costs—and then layoff the most easily replaced workers.

From March 1980 to March 1985, private-sector costs for unemployment insurance increased 15 percent. All other factors remaining equal, there has been a growing incentive for employers to avoid unemployment insurance increases and short-time compensation, just as they have avoided other labor costs. Therefore, if work sharing is to be useful to protect employment opportunities, it should be elective to employees, not employers. And this leads to the final two points in the AFL–CIO Executive Council Resolution, that workers participate voluntarily and that the income replacement be two-thirds of their individual gross pay for each day lost. Most workers would be willing to share their employment with others with lesser entitlements if the hardship is not too great in amount or in time.

Economic need can be just as great among individual workers with longer years of service as to those new to the work relationship. Some senior workers are paying college tuition. About 12 percent have pensions based on their last few years of work. Others have their homes paid for, their children have finished school, and they may well relish preretirement time off.

Elective work sharing is far more acceptable and a lot less devisable than any unilateral decision by the employer or even by a majority of workers in a local union. Thus, rather than force short-time compensation on senior workers, the far better solution is to attract them to it by a respectable income replacement level and maintenance of benefits. The two-thirds replacement rate of individual gross income is also somewhat less than that for the Steelworkers and Autoworkers Supplemental Unemployment Benefit. But the supplemental plan showed that senior workers volunteered for layoff when the income replacement rate was over 80 percent and benefits continued. The short-time compensation replacement rate could be lower, because these higher paid workers will still be working a good share of the week.

California, Arizona, Oregon, Washington, Florida, Maryland, and New York have adopted short-time compensation, and Kentucky, Ohio, Pennsylvania, Illinois, Wisconsin, and New Jersey have considered the concept. The AFL–CIO supports the concept, but delivery on a no-cost, low usage and low benefit basis has been far short of the promise of full employment made by this Nation.

The workers and their unions that have had experience with short-time compensation are pleased with the program and support its improvement as a part of the unemployment insurance concept. But if the full value of the concept is to be achieved for the community, the State, and the Nation, workers must be entitled to short-time compensation when the workweek is reduced, and the funds must be available to maintain benefits and wages while providing decent benefits for those who are totally unemployed. □

Communications

A new leading indicator: workers recently laid off

Geoffrey H. Moore and John P. Cullity

Layoff rates have long been used as leading indicators in business cycle analysis. The layoff rate in manufacturing was initially selected as a leading indicator of business cycles in 1960.[1] In 1961, it became 1 of 12 leading indicators published by the Bureau of Economic Analysis in *Business Conditions Digest*. The rate was derived from the labor turnover survey of manufacturing establishments, conducted by the Bureau of Labor Statistics and discontinued at the end of 1981. BEA subsequently replaced layoffs with initial claims for unemployment insurance.

Prior to 1967, the Current Population Survey collected data on laid-off workers on a very limited basis and only indirectly. This group included only those persons who were neither working nor looking for work, but responded that they had a job from which they were temporarily laid off and expected recall within 30 days. Since 1967, nonworking survey respondents have been asked directly whether they were on layoff. These workers are counted as unemployed regardless of their job search activity and form a subgroup of the job losers category. Further, workers on layoff are classified by the number of weeks since they were laid off.

At the Center for International Business Cycle Research, we used the number of all job losers on layoff, together with temporary layoffs prior to 1967, as a component of our leading employment index.

Recently, we observed that a better leading indicator could be obtained from data on *recent* "job losers on layoff," rather than all workers on layoff. The recent jobless consist of those who were laid off within the last 5 weeks and are still unemployed at the time of the household survey. This group would seem to correspond closely to those included in the reports by employers on the number of workers laid off during the past month. The category can be converted to a layoff rate by dividing by total civilian employment. The result is a new leading indicator available currently.

The new indicator's lead-lag record during the business cycle from 1969 to 1982 is shown in table 1, together with the records of the related series. The layoff series, which we have seasonally adjusted, and the unemployment claims measure performed identically at all four troughs. The new series led at all four peaks, while initial claims led at three of the four.

Compared with the total layoff rate, the new indicator has longer leads at several turns, as would be expected because the new series reflects recent actions, whereas total layoffs include many who were laid off months earlier. Relative to the manufacturing layoff rate during the overlapping period of 1969–81, the new indicator shows longer leads at three of the four peaks, and about the same timing at the troughs. The manufacturing layoff rate, in turn, has a somewhat better leading record than temporary layoffs before 1969. Therefore, it seems reasonable to join the manufacturing layoff rate before 1969 to the new rate after 1969 to form a longer series with one break in coverage. It leads at 14 of the 16 business cycle turns from 1948 to 1982, with coincident timing in the other two turns and an overall average lead time of 6 months. The combined series is a more consistent leader than initial claims for unemployment insurance, which has coincident timing four times and *lags* twice during the same period.

So far as other important indicator characteristics are concerned, such as prompt availability and freedom from extra cycles and erratic movements, the new layoff rate stands up reasonably well to its competitors. Because it is a product of the household employment survey, the figures for a previous month are normally available on the first Friday of the following month. These figures are subject to revision annually, when seasonal factors are changed. Initial claims are available weekly, with a 2-week delay, which puts them on a par with the new layoff rate, although the monthly average is not available until the middle of the following month. Erratic movements in the new layoff rate are relatively large, however, as the following measures show:[2]

	Ratio of irregular to cyclical change	*Months for cyclical dominance*
New layoff rate, under 5 weeks, 1969–85	2.51	3
Manufacturing layoff rate, 1948–75	2.08	3
Initial claims, unemployment insurance, 1948–82	2.00	3

In all three series, it takes a span of 3 months for the average cyclical change to exceed the average irregular change.

The layoff rate and initial claims series tend to lead at business cycle peaks by much longer intervals than at

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Geoffrey H. Moore is a director of the Center for International Business Cycle Research, Columbia University, and John P. Cullity is professor of economics at Rutgers University.

Table 1. Leads and lags of layoff rates at business cycle turns, 1948–82
[Lead (−) or lag (+) in months]

Business cycle		Temporary layoff rate		Layoff rate, manufacturing		Layoff rate, under 5 weeks		Layoff rate, total		Layoff rate, manufacturing, to 1968; layoff rate under 5 weeks, 1969 ff.		Initial claims, unemployment insurance	
Trough	Peak	Peak	Trough	Peak	Trough	Peak	Trough	Peak	Trough	Peak	Trough	Peak	Trough
	November 1948		−4		−8						−6		−22
October 1949		0		−5						−5		+1	
	July 1953		−4		−8						−8		−10
May 1954		−4		−4						−4		+4	
	August 1957		−14		−21						−21		−23
April 1958		0		−1						−1		0	
	April 1960		−12		−11						−11		−12
February 1961		0		0						0		0	
	December 1969				−8		−9		−9		−9		−11
November 1970				−1		−1		0		−1		−1	
	November 1973				−9		−2		−1		−2		−9
March 1975				−1		0		+3		0		0	
	January 1980				−11		−19		−19		−19		−16
July 1980				−2		−2		0		−2		−2	
	July 1981				0		−8		0		−8		0
November 1982				([1])		−2		−2		−2		−2	
Average lead (months):	1948–61	−1	−8	−2	−12								
	Peak and trough	−5		−7									
	1969–81			−1	−7	−1	−10	+1	−7	−1	−10	−1	−9
	Peak and trough			−5		−6		−4		−6		−6	
	1948–82									−2	−10	0	−13
	Peak and trough									−6		−6	
Percent of timing comparisons that are leads:	1948–61	25	100	75	100								
	Peak and trough	62		88									
	1969–81			100	75	66	100	0	75	66	100	66	75
	Peak and trough			86		86		43		86		71	
	1948–82									75	100	38	88
	Peak and trough									88		62	

NOTE: Business cycle turning points are designated by the National Bureau of Economic Research, Inc., Cambridge, MA. All series are adjusted for seasonal variation.

[1] Not available.

Table 2. Leads and lags of layoff rates at turns in employment and unemployment, 1948–82
[Lead (−) or lag (+) in months]

Unemployment rate		Layoff rate, manufacturing, to 1968; layoff rate, under 5 weeks, 1969 ff.		Nonfarm employment		Layoff rate, manufacturing, to 1968; layoff rate, under 5 weeks, 1969 ff.	
Peak	Trough	Peak	Trough	Trough	Peak	Peak	Trough
	January 1948		+4		September 1948		−4
October 1949		−5		October 1949		−5	
	June 1953		−7		July 1953		−7
September 1954		−8		August 1954		−7	
	April 1957		−17		March 1957		−16
July 1958		−4		May 1958		−2	
	February 1960		−9		April 1960		−11
May 1961		−3		February 1961		0	
	May 1969		−2		March 1970		−12
August 1971		−10		November 1970		−1	
	October 1973		−1		October 1974		−13
May 1975		−2		April 1975		−1	
	July 1979		−13		March 1980		−21
July 1980		−2		July 1980		−2	
	July 1981		−8		July 1981		−8
December 1982		−3		December 1982		−3	
Average lead (months):	1948–82	−5	−7			−2	−12
	Peak and trough	−6				−7	
Percent of timing comparisons that are leads:	1948–82	100	88			88	100
	Peak and trough	94				94	

NOTE: Business cycle turning points are designated by the National Bureau of Economic Research, Inc., Cambridge, MA. All series are adjusted for seasonal variation.

troughs. In this respect, they are similar to the total unemployment rate, which leads at peaks but usually lags at troughs. The primary reason for this asymmetry is that business cycle dates are based upon data that reflect the long-run growth of the economy, whereas layoff and unemployment rates are relatively "trendless." A trendless series tends to reach earlier peaks and later troughs than a series with a rising trend. When the turns in the layoff rates are matched with those in the total unemployment rate, rather than the business cycle, the leads are more nearly symmetrical. (See table 2.) The new layoff rate series leads the downturns in unemployment by an average of 5 months and the upturns by 7 months, for an overall average lead of 6 months.

Compared with employment, the new layoff rate again leads at both peaks and troughs, but by much longer intervals at peaks. This is to be expected, because nonfarm employment is virtually coincident with the business cycle, and reflects the growth trend of the economy.

In view of the record of the new layoff rate as a leading indicator, the Center for International Business Cycle Research has revised its leading employment index to include the new layoff rate since 1969 and the manufacturing layoff rate prior to 1969. At some future date, the new indicator might be considered a candidate for the Bureau of Economic Analysis' composite leading index, replacing initial claims for unemployment insurance. □

FOOTNOTES

ACKNOWLEDGMENT: We are indebted to Chantal Dubrin and Marcus Yumane for the statistical work on this report, and to John Stinson of the Bureau of Labor Statistics for providing the new data on layoffs.

[1] Geoffrey H. Moore, *Business Cycle Indicators* (Princeton University Press for the National Bureau of Economic Research, Princeton, NJ, 1961), p. 64.

[2] For an explanation of the ratio of irregular to cyclical change and months for cyclical dominance, see the *Handbook of Cyclical Indicators*, Bureau of Economic Analysis, 1984, pp. 167–68.

Union response to changes in printing technology: another view

David J. Eisen

In the July 1985 issue of the *Review*, Michael Wallace presents a three-nation comparison of union response to the massive technological changes in the newspaper printing industry over the last two decades.[1] Professor Wallace contends that the historical craft orientation of U.S. printing unions and the resulting fragmentation of the labor movement in the industry have seriously impaired workers' ability to deal on an equal footing with management concerning the changes. He asserts, moreover, that a belated wave of mergers between the unions over the last 10 years has done little to give labor the appearance of a united front on the technology issue, citing in particular what he describes as a continuing jurisdictional struggle between The Newspaper Guild (reporters and other nonmechanical workers) and the International Typographical Union (typesetters) over the computerized setting of type. He concludes by describing labor relations patterns in the British and West German newspaper industries where, he claims, more farsighted unions took the decision at much earlier stages to consolidate or cooperate, and thus maintain their traditional control over the allocation of work.

The Newspaper Guild takes issue with Wallace on issues of both fact and interpretation:

Composition of the Guild. Wallace states that The Newspaper Guild is composed of "reporters, editors, and a few other white-collar workers." As a matter of fact, close to half the Guild's members are "other white-collar workers." The union has included advertising, circulation, business office, and other noneditorial employees since 1937 and actively seeks to represent them. On the other hand, Britain's National Union of Journalists (NUJ), which Wallace says "more than its U.S. counterpart, the Guild, seeks a broad-based membership of all white-collar workers in the industry," is, in fact, entirely limited to reporters and editors. Of course, in view of Wallace's mistaken conception of the Guild, his further statement that each of the three U.S. newspaper unions, including the Guild, "continues to be organized along occupational lines," is also incorrect. The Guild is an industrial union, and the Graphic Communications International Union (GCIU) is approaching that status.

Merger efforts. With regard to merger activity, Wallace states that the International Typographical Union (ITU) "was twice unsuccessful in completing merger negotiations with the Guild." Aside from the fact that there was only one such attempt, extending over several years, the statement seems to suggest that the Guild was the unwilling party. As a matter of fact, the Guild sought energetically to bring about a merger and had approved it by convention in June 1983; the plan fell apart when the ITU Convention unexpectedly refused to do likewise 2 months later.

There are other, less consequential errors in Wallace's discussion of merger efforts: the incumbent president, Joe Bingel, was "voted down" in the ITU's 1983 election but the Teamsters merger proposal was not on the ballot, except inferentially. And it was not the National Labor Relations Board but the Labor Department that stepped in to void the election; the NLRB has no such authority.

Guild-ITU conflict. More disturbing is Wallace's notion that "differences among journalists and composing room

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David J. Eisen is Director of Research and Information, The Newspaper Guild.

workers over jurisdiction of cold-type technology remain a point of friction between the Guild and the ITU." There have been such differences in a few shops, where the issue has gone to arbitration, but they have not had any effect on relations between the two unions on the international level and played no role whatsoever in the breakdown of merger efforts.

This questionable evaluation carries over into Wallace's analysis of the impetus for merger negotiations. He states: "The printing unions, particularly the ITU, were slow to react to the changes wrought by the new technology and, as a result, turned to mergers out of desperation after questions of jurisdiction over the new technology had already been decided by publishers on a plant-by-plant basis." As a matter of fact, the ITU for many years made extraordinary efforts to prepare its members for new technology, setting up a training center at its headquarters to school members in the new equipment. These efforts broke down only when computerization set the stage for the complete elimination of typesetting and thus the printers' jobs. Local exceptions aside, the Typographical Union recognized that assertion of jurisdiction over work that now originated almost entirely in the newsroom was not a viable position and that the only practicable choice was a rearguard action to preserve the maximum number of jobs while obtaining the best possible compensation for printers displaced by the new equipment. The ITU's turn to merger was to a great extent motivated by the resulting swath this cut through its membership, to be sure, but it was not the primary force fueling the merger engine. That force was—and is—the compelling need for unity felt by all three unions in the face of the vastly strengthened bargaining position the new technology has given the publishers.

The case of Great Britain. Wallace's analysis also is poorly founded when it moves to Britain. He states:

> The NGA (National Graphical Association) and the NUJ (National Union of Journalists) have established joint committees dealing with technology issues. In general, the journalists have supported the NGA's contention that composing room workers should maintain jurisdiction over direct input of newspaper material into video display terminals (VDT's).

And later:

> Essentially, composing room workers have retained the right to control input of all materials into VDT's, which is critical in the leverage they have with publishers . . . . In contrast to their U.S. counterparts, the British trade unions have displayed considerable farsightedness in anticipating the impact of technological changes in their industry and responding accordingly.

This is an inaccurate picture. The British unions succeeded in fending off the impact of new technology for so long because of their strength. Now, however, the publishers are insisting, like *their* U.S. counterparts, on "capturing the original keystroke," and the jurisdictional question has arisen explosively between the two unions. The Journalists Union by no means concedes that the NGA should retain jurisdiction over input under these circumstances, because it would put the Graphical Association in the newsroom. The issue has been posed sharply in at least one shop, and the ultimate outcome is still unclear. One can hope that the two unions will avert a head-on clash and that the NGA will be able to protect its members' interests without invading the NUJ's territory. But already the NGA and the NUJ are more sharply at odds over management plans for the new technology than the Guild and the Typographers ever were. Wallace has written an epilogue to a story that has yet to unfold.

Postscript: The foregoing comments were written in October 1985. In early February of this year, publisher Rupert Murdoch moved his British newspaper operations to a new, high-technology plant outside of London, and indicated that he would no longer bargain with the Graphical Association. Unfortunately, most of Murdoch's journalists are crossing the NGA's picket lines, despite a directive by the Journalists Union to respect them. The significance of these developments for the argument speaks for itself. □

—— FOOTNOTE ——

[1] Michael Wallace, "Technological changes in printing: union response in three countries," *Monthly Labor Review*, July 1985, pp. 41–43.

Technical Note

Computer-aided telephone interviewing used in the Hours at Work Survey

GUY A. TOSCANO

The Hours at Work Survey, a new component of U.S. productivity measures, represents the first use of Computer Assisted Telephone Interviewing (CATI) at the Bureau of Labor Statistics.[1] CATI refers to the use of interactive computer systems by interviewers during telephone contacts with survey respondents.[2] This relatively new process is in contrast to the traditional "batch" survey procedure, in which interviewing, data entry, data verification, and error correction constitute separate functions. This report describes the CATI process and presents the results of using the technique in the Hours at Work Survey.

An overview of the system

The Hours at Work CATI is an interactive system in which multiple users can access a mainframe computer data base using IBM 3270 terminals. CATI software is written in MANTIS, an application development system produced by CINCOM. Inc., and files are managed using VSAM (Virtual Storage Access Method), an IBM file management system. Communication with the data base is controlled by CICS (Customer Information Control System), also an IBM software package.

When a user logs onto the system and is properly identified, CATI displays a menu screen which contains six functions. By keying in the appropriate code, the user may select one of the following functions:

Function 1. Used to interview the survey respondent or to reconcile data failing edit criteria.

Function 2. Used to display the names of all respondents within the same primary company.

Function 3. Used to display previous year's data for a recurring respondent.

Function 4. Used to scan the data base for reports that have failed edit criteria.

Function 5. Used to scan the data base by interviewer identification code or by the date scheduled for contacting particular respondents.

Function 6. Used to print paper copies of status reports.

The following are the major features of the CATI system:

- *Form script.* A facsimile of the report form is displayed on the screen for the interviewer, along with reported data and notations on edit failures.
- *Cursor control.* The interviewer has complete cursor control and can move the cursor to any field on the facsimile report form to enter or change data.
- *Full screen editing.* While still on the telephone with a respondent, the interviewer can enter data into the mainframe data base and be immediately informed of entries that fail the system's edit criteria.

After telephone contact is established with a respondent, the interviewer simply follows the edit prompts displayed by the CATI system. If the interviewer is unable to resolve an edit failure during the initial contact, CATI provides for entry of a date on which the respondent should be recontacted for clarification. This information is stored in the data base and the file can be searched later based on the scheduled contact date. If the respondent provides an explanation or a correction, the interviewer moves the cursor to the entry in question, and keys a correction or enters an explanation code beside the entry. The system instantaneously edits the record based on the new entry and displays appropriate messages if further clarification is necessary.

With CATI, the interviewer no longer uses a pencil, paper error listing, calculator, and correction form. The edit-reconciliation process is reduced to one task—namely, using a terminal and telephone to interact with a data base containing reported data.

The phasing-in of CATI

The first Hours at Work Survey was conducted in 1982 in order to collect data for the 1981 reference year. The survey collects quarterly and annual data for hours paid (including vacations, holidays, and so forth) and hours actually spent

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Guy A. Toscano is an economist in the Office of Survey Processing, Bureau of Labor Statistics. The Hours at Work Survey CATI system was developed by Kevin C. Tidemann, a computer systems analyst in the same office.

at work for production or nonsupervisory employees at business establishments in all nonagricultural sectors of the economy. The survey is based on a probability design to produce ratios of "hours at work" to "hours paid" for each 2-digit Standard Industrial Classification in manufacturing and 1-digit Standard Industrial Classification in nonmanufacturing. The ratios are then used in computing productivity measures for the major economic sectors.

The first annual survey was conducted entirely by mail. It was not until 1983, the second survey year, that CATI was used. Because it was not known how CATI would affect the survey response, the new system was implemented in stages over a period of several years.

1982: basic operations. The first-year operation consisted of an initial mailing of 1-page questionnaires to approximately 4,200 sample units in March, with two mail follow-ups to nonrespondents between April and June. Upon receipt, the completed reports were checked in and batched for key entry. The reported data were machine edited for validity, and data failing the edit criteria were printed on error listings for review. A report failing the edit was first checked for key entry errors, and then the respondent was contacted by mail or telephone to verify any remaining questionable entries. The resulting corrections were manually transcribed to yet another form which was sent to key entry for processing. Once again, data records with corrections would either pass or fail computer editing. If a record failed, it would go through the verification procedures again. This reiterative process continued until all data passed the prescribed edit criteria.

The data processing was labor-intensive and time-consuming. Approximately one-third of the respondents (1,200 sample units) had to be contacted for data verification. Many of these were contacted by telephone. This led the Bureau to conclude that telephone contact to clarify information previously supplied by mail was feasible and cost-effective. Although 76 percent of the initial sample units returned the survey form, the response rate—the proportion of sample units providing usable data—was only 50.4 percent.[3] The difference between the two rates occurred primarily because some reported data did not meet the survey definition of "hours at work," rendering the report unusable. A response is considered usable when a reporting unit provides acceptable data for at least one quarter of the reference year.

1983: the second year. In 1983, the survey operation was modified to incorporate CATI into the edit-reconciliation function. The questionnaires were mailed to the sample units, returned reports were batched, and data were keyed and computer edited as in the previous year. Additionally, the name and telephone number of the respondent were entered into the data base. Using the edit-reconciliation function, interviewers searched the data base for records with error codes. No paper error listings were produced, however. Instead, data failing one or more edits were displayed on a terminal video screen. The respondent was then contacted by telephone and requested to verify the reported information.

Table 1. Response rates for the BLS Hours at Work Survey over the CATI phase-in period, 1982–85

Item	1982[1]	1983[2]	1984[3]	1985[4]
Total response rate (percent)	50.4	80.1	78.2	85.2
Initial mailing	24.0	40.1	35.0	32.0
First follow-up (mail)	15.0	23.0	21.0	23.6
Second follow-up:				
Mail	11.4	17.0	13.2	12.5
CATI	—	—	9.0	17.1
Designated sample	4,170	4,584	4,582	4,565
Eligible sample	3,773	4,242	4,095	4,054

[1] No use of CATI.
[2] CATI used for edit-reconciliation only.
[3] CATI used for edit-reconciliation and follow-up of nonresponse.
[4] Augmented CATI.

CATI produced excellent results. A completion rate (sample units reporting data) of 90 percent yielded a total response rate of 80.1 percent, despite a 75-percent staff turnover from the previous year. Staff productivity was clearly enhanced through use of the new system. Although the improvement in the response rate was not entirely attributable to the implementation of CATI, it was apparent that the system enabled the staff to be more efficient in the edit-reconciliation process.

1984: initial solicitation of nonrespondents. In the third year, a prompting feature was added to CATI for use in conducting initial solicitation. The prompts display questions designed to guide the interviewer through the process of initiating solicitation by telephone. However, it was decided to use this new feature only after all efforts to obtain the data by mail had failed. This decision was based on the following considerations:

- While data being requested are generally available from the payroll records of employers, the respondent probably would not be able to provide the information by telephone without some type of prenotification. Mail solicitation gives the respondent more time to research and prepare these data.
- Before the Bureau could initiate a contact by telephone, time and resources would be needed to obtain the name and telephone number of the appropriate person to contact within each sample unit. Telephone numbers for sample units were accessible, but reaching an individual in the establishment who could provide the information was more difficult and time consuming.

After efforts to obtain data by mail ended, the CATI solicitation function was used to conduct follow-ups of the 1,079 nonrespondents. The sample units were equally and randomly assigned to each of five interviewers, who were given 10 workdays to complete the contacts and to obtain data using the CATI system.

Completion rates, measured as usable responses divided by eligible assigned units,[4] varied by interviewer from a low of 21.5 percent to a high of 78.6 percent. The interviewer with the highest completion rate had a rate that was 24.7 percent higher than the second most successful interviewer, who had a rate of 53.9 percent. The average completion rate for all interviewers using CATI was 34 percent.

Both clerical employees and junior level professionals were used in the CATI data collection procedure. All interviewers received training on the IBM 3270 terminal. In addition, recommended interviewing techniques were demonstrated using mock interviews. Although there was a standard script for introducing oneself to the respondent, interviewers were given approval to develop their own introductory statements using established guidelines.

A thorough review of the CATI solicitation procedures used by each interviewer was conducted in order to identify any cause for the large differences in the completion rates. The review revealed that certain personal characteristics of the interviewers, such as a professional demeanor and a good grasp of the subject matter, contributed significantly to effectiveness on the telephone. The results of the review were documented and used in staff selection and in training interviewers.

Collecting "hard data" by telephone generally required several telephone calls to a sample unit: first, to establish a contact who could provide the data or schedule a date when the data would be available, and later, to actually collect the data. The final survey results were comparable to those in the previous year. The response rate was 78.2 percent, of which 9 percent was obtained using CATI solicitation.

1985: monitoring continues. As in previous years, the initial survey contact was done by mail. A certified follow-up mailing was used to contact the nonrespondents. The signature on the certified return receipt was entered into the CATI data base and used to establish an initial contact person within the nonresponding unit. For program analysis, CATI was modified to keep a record of each call, including the duration of the call.

The initial response rate by mail was 32 percent. The response rates for two mail follow-ups were 23.6 percent and 12.5 percent. After mail solicitation ended, there were 1,413 sample units with eligibility not determined, of which 1,120 were contacted using the CATI system. Data were collected from two-thirds of the eligible sample units.

An average of 2.1 telephone calls was made to each sample unit, and the average time spent on each telephone contact was 5.9 minutes. CATI solicitation contributed 17.1 percent to the total response rate, which was 85.2 percent for the year.

Summary on using CATI

The BLS experience with using CATI to improve survey response has been positive. We started the first year with a response rate of 50.4 percent, and three surveys later, attained a response rate of 85.2 percent. This improvement was not wholly attributable to CATI but, rather to a combination of CATI and a more experienced staff. Even so, evidence of the benefits of CATI has been so persuasive that plans have been developed for modifying the Hours at Work Survey CATI to run on a microcomputer. Switching the system from a mainframe computer to a microcomputer will significantly reduce system operating costs and improve online computer response time. The use of CATI is also being tested for other BLS survey programs, in hopes of similarly cutting data collection time and operating costs, boosting response rates, and improving data quality. ☐

——FOOTNOTES——

[1] See Kent Kunze, "A new BLS survey measures the ratio of hours worked to hours paid," *Monthly Labor Review*, June 1984, pp. 3–7, for a description of the Hours at Work Survey.

[2] Robert M. Groves and Nancy A. Mathiowetz, "Computer Assisted Telephone Interviewing: Effects on Interviewers and Respondents," *Public Opinion Quarterly*, Spring 1984, pp. 356–69; J. Merrill Shanks, "The Current Status of Computer-Assisted Telephone Interviewing: Recent Progress and Future Prospects," *Sociological Methods and Research*, November 1983, pp. 119–42; and *The Role of Telephone Data Collection in Federal Statistics*, Statistical Policy Working Paper 12, Prepared by Subcommittee on the Role of Telephone, Mail, and Personal Interviews in Federal Statistics, Federal Committee on Statistical Methodology, Statistical Policy Office (Washington, Office of Management and Budget, 1984).

[3] Response rate = Number of units providing usable reports/(Number of eligible sample units + Number of sample units with eligibility not determined).

[4] A sample unit is deemed "ineligible" if, by the nature of its activity, it does not meet the definitions established for the Hours at Work Survey or the unit is out of business and no longer exists.

Research Summaries

Work-related deaths in 1984: BLS survey findings

DIANE M. COTTER

The number of occupational fatalities in private sector establishments with 11 employees or more was 3,740 in 1984, according to the Bureau of Labor Statistics' Annual Survey of Occupational Injuries and Illnesses. (See table 1.) The corresponding fatality rate was 6.4 per 100,000 full-time workers. About 3,300 of all deaths were related to injuries.

Among industry divisions, fatality rates ranged from 41.4 per 100,000 full-time workers in mining to 1.9 in finance, insurance, and real estate. (See table 2.) A high of 800 lives were lost in manufacturing and a low of 80, in finance, insurance, and real estate.

The fatality data are based on reports received from a sample of employers selected randomly. Participating employers provided a brief description of the object or event most directly responsible for the death. Although the sample for this survey is large (280,000 units), reported fatalities (3,740) are relatively rare events which make it tenuous to compare year-to-year changes precisely. The fatalities are classified into broad causal categories, and estimates of the percentages of fatalities are based on the total number of reported cases for the 1983 and 1984 surveys.

Analysis by cause and industry

The majority of deaths from occupational accidents in the private sector were grouped into four causal categories: highway vehicles, industrial vehicles or equipment, falls, and electrocutions. (See table 3.) Cars and trucks were involved in more than one-fourth of the work-related deaths; heart attacks caused about one-eighth; and industrial vehicles or equipment, falls, and electrocutions each contributed roughly one-tenth. The remaining deaths were related to assaults, entrapments, explosions, aircraft crashes, gas inhalation, plant machinery operations, fires, objects other than vehicles or equipment, and other causes.

Highway vehicles were the leading cause of death in 6 of the 8 industry divisions. Cars and trucks were responsible for the largest percentage of fatalities in the industries of agriculture, forestry, and fishing; manufacturing; transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. About 30 percent of these over-the-road fatalities occurred in the transportation and public utilities industry, which had only 7 percent of total employment. (See table 4.) Some of these deaths were the result of employees being run over at the worksite, overturning vehicles, and collisions.

Industrial vehicles or equipment, such as tractors and high-lift trucks, were involved in nearly 11 percent of all fatalities. The construction and manufacturing industries each accounted for about one-fourth of these fatalities. These industries accounted for about 5 and 28 percent of total employment.

Approximately 11 percent of all fatalities involved falls, particularly from higher levels. More than 2 of every 5 of these deaths occurred in construction industries.

Electrocutions were the cause of roughly 10 percent of all fatalities. Almost three-tenths occurred in construction industries, and nearly one-fourth were in manufacturing industries. Some electrocutions resulted from workers receiv-

Table 1. Number and rate of fatalities for employers with 11 employees or more, private sector, 1974 through 1984

Year	Annual average employment[1] (thousands)	Number of fatalities	Incidence rate per 100,000 workers[2]
1974	54,272	4,970	9.8
1975	52,693	4,570	9.4
1976	53,693	3,940	7.9
1977	56,333	4,760	9.1
1978	59,297	4,590	8.2
1979	61,660	4,950	8.6
1980	61,677	4,400	7.7
1981	62,895	4,370	7.6
1982	61,646	4,090	7.4
1983	63,981	3,100	5.6
1984	68,006	3,740	6.4

[1] Employment is expressed as an annual average and is derived primarily from the BLS-State Current Employment Statistics program. Employment estimates have been adjusted based on data provided by the Annual Survey of Occupational Injuries and Illnesses to exclude establishments with fewer than 11 employees.

[2] The incidence rates represent the number of fatalities per 100,000 full-time workers and were calculated as: (N/EH) × 200,000,000, where:

N = number of fatalities
EH = total hours worked by all employees during calendar year
200,000,000 = base for 100,000 full-time equivalent workers (working 40 hours per week, 50 weeks per year).

Diane M. Cotter is an economist in the Office of Occupational Safety and Health Statistics, Bureau of Labor Statistics.

ing a severe shock after coming in contact with electrical wires.

Agriculture, forestry, and fishing. Highway vehicles accounted for the plurality of the fatalities, followed by industrial vehicles or equipment, and then heart attacks.

Mining—oil and gas extraction only.[1] Accidents involving industrial vehicles or equipment, highway vehicles, and falling objects—other than vehicles or equipment—were the primary causes of death.

Construction. Deaths which occurred as the result of an employee falling were the most common, followed by accidents involving highway vehicles, and industrial vehicles or equipment.

Manufacturing. Highway vehicles were the primary cause of deatn; industrial vehicles or equipment, heart attacks, and electrocutions were also leading causes.

Transportation and public utilities. Highway vehicles were the main cause of death; heart attacks and industrial vehicles or equipment were also important causes.

Wholesale and retail trade. Primary causes of death involved highway vehicles, industrial vehicles or equipment, and assaults.

Finance, insurance, and real estate. Highway vehicles caused the majority of the fatalities, and heart attacks accounted for another large portion.

Services. Highway vehicles were the major cause of death; heart attacks and electrocutions were other chief causes.

Table 2. Number and rate of occupational fatalities for employers with 11 employees or more, by industry division, 1983–1984

Industry division	1983		1984	
	Fatalities	Incidence rate[1]	Fatalities	Incidence rate[1]
Private sector	3,100	5.6	3,740	6.4
Agriculture, forestry, and fishing	80	12.7	110	16.3
Mining	240	27.6	370	41.4
Construction	670	26.3	660	22.8
Manufacturing	730	4.3	800	4.4
Transportation and public utilities	570	13.3	770	16.9
Wholesale and retail trade	440	3.3	440	3.1
Finance, insurance, and real estate	70	1.7	80	1.9
Services	310	2.2	510	3.9

[1] The incidence rates represent the number of fatalities per 100,000 full-time workers and were calculated as: (N/EH) × 200,000,000, where:

N = number of fatalities
EH = total hours worked by all employees during calendar year
2,000,000,000 = base for 100,000 full-time equivalent workers (working 40 hours per week, 50 weeks per year).

NOTE: Because of rounding, components may not add to totals.

Background of the survey

The 1984 Annual Survey of Occupational Injuries and Illnesses, authorized by the Occupational Safety and Health Act, surveyed all employers except the self-employed, farmers with fewer than 11 employees, private households, Federal, State, and local government agencies, employers with fewer than 11 employees in low-risk industries, and those establishments in which working conditions are covered by other Federal safety and health laws.

Since 1977, the published data on occupational fatalities reflect only those deaths in establishments with 11 employees or more. The 1983 report on the survey of occupational fatalities entitled, "Work-related deaths dropped sharply during 1983, BLS survey finds," was published in the

Table 3. Distribution of fatalities by cause for employers with 11 employees or more, private sector, 1983 and 1984[1]

[In percent]

Cause[2]	Total private sector[3]	Agriculture, forestry, and fishing	Mining—oil and gas extraction only	Construction	Manufacturing	Transportation and public utilities[4]	Wholesale and retail trade	Finance, insurance, and real estate	Services
Total—all causes	100	100	100	100	100	100	100	100	100
Highway vehicles	27	30	18	20	19	42	38	51	23
Heart attacks	12	13	9	12	11	10	8	25	20
Industrial vehicles or equipment	11	19	19	15	12	8	13	5	2
Falls	11	8	8	23	8	5	9	7	9
Electrocutions	10	7	3	14	9	7	7	4	16
Assaults	4	1	0	1	2	3	10	4	12
Struck by objects other than vehicles or equipment	4	6	15	3	7	2	2	0	1
Caught in, under, or between objects other than vehicles or equipment	4	3	2	3	7	3	3	0	2
Explosions	4	2	9	2	8	2	4	0	1
Aircraft crashes	3	2	2	1	4	4	3	3	5
Gas inhalation	3	1	8	1	3	8	0	0	1
Plant machinery operations	2	1	0	(5)	6	1	2	0	(5)
Fires	1	1	3	2	2	(5)	1	0	(5)
All other[6]	4	5	5	4	3	5	1	1	9

[1] It is difficult to estimate year-to-year changes for the causal categories precisely because sampling errors are large at the industry division level. Therefore, the results are for both years rather than a comparison between them.

[2] Cause is defined as the object or event associated with the fatality.

[3] Excludes coal, metal and nonmetal mining, and railroads, for which data are not available.

[4] Excludes railroads.

[5] Less than 1 percent.

[6] The "All other" category includes, for example, contact with carcinogenic or toxic substances, drowning, train accidents, and various occupational illnesses.

NOTE: Because of rounding, percentages may not add to 100.

Table 4. Distribution of fatalities by industry division for employers with 11 employees or more, private sector, 1983 and 1984[1]

[In percent]

Cause[2]	Total private sector[3]	Agriculture, forestry, and fishing	Mining—oil and gas extraction only	Construction	Manufacturing	Transportation and public utilities[4]	Wholesale and retail trade	Finance, insurance, and real estate	Services
Total—all causes	100	3	5	20	25	19	14	1	13
Highway vehicles	100	3	4	15	17	29	19	3	11
Heart attacks	100	3	4	20	24	16	9	3	21
Industrial vehicles or equipment	100	5	9	28	27	13	16	1	2
Falls	100	2	3	44	17	10	12	1	11
Electrocutions	100	2	2	29	23	14	9	1	21
Assaults	100	1	0	4	12	14	33	1	35
Struck by objects other than vehicles or equipment	100	5	20	14	41	11	6	0	3
Caught in, under, or between objects other than vehicles or equipment	100	3	3	18	45	16	10	0	5
Explosions	100	2	13	10	51	9	13	0	3
Aircraft crashes	100	2	4	5	27	27	15	1	19
Gas inhalation	100	1	15	6	23	53	0	0	3
Plant machinery operations	100	1	0	3	74	7	12	0	3
Fires	100	3	12	25	48	3	8	0	2
All other[6]	100	4	6	18	19	25	3	([5])	25

[1] It is difficult to estimate year-to-year changes for the causal categories precisely because sampling errors are large at the industry division level. Therefore, the results are for both years rather than a comparison between them.

[2] Cause is defined as the object or event associated with the fatality.

[3] Excludes coal, metal and nonmetal mining, and railroads, for which data are not available.

[4] Excludes railroads.

[5] Less than 1 percent.

[6] The "All other" category includes, for example, contact with carcinogenic or toxic substances, drowning, train accidents, and various occupational illnesses.

NOTE: Because of rounding, percentages may not add to 100.

Monthly Labor Review, September 1985, pp. 41–44.

The 1984 survey was comprised of a sample of 280,000 units. The relative standard errors, which are a measure of the sampling error in the estimates, are given in the following tabulation in percent and are to be used only in conjunction with the numbers of fatalities or the incidence rate for 1984 shown in tables 1 and 2:

Industry	*Relative standard error*
Private sector	8
Agriculture, forestry, and fishing	26
Mining	13
Construction	12
Manufacturing	6
Transportation and public utilities	13
Wholesale and retail trade	58
Finance, insurance, and real estate	39
Services	21

——*FOOTNOTE*——

[1] The Mine Safety and Health Administration of the U.S. Department of Labor and the Federal Railroad Administration of the U.S. Department of Transportation provided data for the number of deaths in coal, metal, and nonmetal mining and railroads but not for the objects or events involved in the cases.

Union membership of employed wage and salary workers, 1985

The number of employed wage and salary workers who were members of unions or employee associations declined from 20.1 to 17.0 million between 1980 and 1985. During the same period, the number of employed wage and salary workers rose from 87.5 to 94.5 million. Thus, the proportion of workers who were union members fell from 23.0 to 18.0 percent over the 5-year period. The number and proportion of workers represented by unions—that is, union members as well as nonmembers covered by collective bargaining agreements—also declined, from 22.5 to 19.4 million or from 25.7 to 20.5 percent of employed wage and salary workers.

Data on union employment were obtained from the Current Population Survey (CPS), conducted by the Bureau of the Census for the Bureau of Labor Statistics. The CPS collected data on workers identified by their membership in unions or by their representation at work by a union, whether or not they were members. It should be noted that the CPS union membership data covered only employed wage and salary workers, not union members who were self-employed, unemployed, retired, laid off, or who, for other reasons, were not wage and salary employees.

Industry. Among the major industry groups, the transportation, communications, and public utilities industry had the highest union membership proportion—37 percent, or 2.1 million members out of 5.7 million workers. Three other major industry groups had union membership proportions greater than the national average of 18.0 percent: the public sector—Federal, State, and local government (35.8 percent); manufacturing (24.8 percent); and construction (22.3 percent). In mining, 17.3 percent of the workers were union members, just below the national average. Among the other industry groups (wholesale and retail trade; services; and finance, insurance, and real estate), union membership rates were no higher than 7.2 percent. (See table 1.)

Union membership was disproportionately concentrated in three major industry groups. The public sector accounted for 33.8 percent of all employed union members; manufac-

Table 1. Employed wage and salary workers affiliated with a union, by selected characteristics, 1985 annual average

[Numbers in thousands]

Characteristic	Total employed	Members of unions[1]		Represented by unions[2]	
		Total	Percent of employed	Total	Percent of employed
Total, 16 years and over	94,521	16,996	18.0	19,358	20.5
Men	51,015	11,264	22.1	12,448	24.4
Women	43,506	5,732	13.2	6,910	15.9
White[3]	81,862	14,124	17.3	16,083	19.6
Men	44,680	9,623	21.5	10,625	23.8
Women	37,182	4,501	12.1	5,458	14.7
Black[3]	10,073	2,445	24.3	2,775	27.6
Men	4,967	1,387	27.9	1,530	30.8
Women	5,106	1,058	20.7	1,245	24.4
Full-time workers[4]	77,002	15,717	20.4	17,816	23.1
Part-time workers[4]	17,518	1,280	7.3	1,542	8.8
Occupation:					
Managerial and professional specialty	21,688	3,307	15.2	4,166	19.2
Technical, sales, and administrative support	30,082	3,243	10.8	3,928	13.1
Service occupations	13,325	1,922	14.4	2,162	16.2
Precision production, craft, and repair	11,482	3,272	28.5	3,543	30.9
Operators, fabricators, and laborers	16,207	5,157	31.8	5,453	33.6
Farming, forestry, and fishing	1,736	95	5.5	107	6.1
Industry:					
Agricultural wage and salary workers	1,427	30	2.1	32	2.3
Private nonagricultural wage and salary workers	77,044	11,227	14.6	12,409	16.1
Mining	881	153	17.3	167	19.0
Construction	4,716	1,051	22.3	1,114	23.6
Manufacturing	20,120	4,996	24.8	5,422	26.9
Transportation and public utilities	5,725	2,118	37.0	2,275	39.7
Wholesale and retail trade	19,402	1,400	7.2	1,552	8.0
Finance, insurance, and real estate	6,032	177	2.9	244	4.0
Services	20,167	1,331	6.6	1,636	8.1
Government workers	16,050	5,740	35.8	6,917	43.1

[1] Members of a labor union or an employee association similar to a union.

[2] Members of a labor union or an employee association similar to a union, as well as workers who report no union affiliation but whose jobs are covered by a union or employee association contract.

[3] Detail for the race groups will not add to total because separate data are not presented for "other races" and Hispanic groups.

[4] The distinction between full- and part-time workers is based on hours usually worked.

NOTE: Data refer to the sole or principal job of full- and part-time workers. Excluded are self-employed workers whose businesses are incorporated, although they technically qualify as wage and salary workers.

turing for 29.4 percent; and transportation, communications, and public utilities for 12.5 percent. Although these three groups accounted for three-fourths of union membership, they employed only 44 percent of the Nation's wage and salary workers.

Occupation. The two most heavily unionized major occupational groups were operators, fabricators, and laborers, with 31.8 percent membership, and precision production, craft, and repair workers, with 28.5 percent membership. Although membership rates were less than 16 percent among the other occupational groups, two subgroups had comparatively high rates of unionization.

About three-tenths of all union members were in the operators, fabricators, and laborers occupational group. Almost 60 percent were about equally distributed among three other major occupational groups: managerial and professional specialty; precision production, craft, and repair; and technical, sales, and administrative. The service occupations accounted for about one-tenth of the workers who were union members.

Demographic characteristics. While a larger proportion of male workers than of female workers belonged to unions (22.1 versus 13.2 percent), the pattern of change in union membership proportions across age brackets was similar for both sexes. The proportion of workers belonging to unions was smallest for workers age 16 to 24 for both men and women. (See table 1.) As workers' age rose, so did the percentage of those who belonged to unions. The highest unionization rate reported was for workers in the 45- to 64-year old bracket. This relationship held for both men and women.

A higher proportion of black than of white employees

Table 2. Median weekly earnings of full-time wage and salary workers affiliated with a union, by selected characteristics, 1985 annual average

Characteristic	Total	Represented by a union[1]	Not represented by a union
Total, 16 years and over	$343	$419	$315
Men	406	463	383
Women	277	347	262
White[2]	355	433	323
Men	417	475	395
Women	281	356	267
Black[2]	277	352	246
Men	304	381	266
Women	252	316	228
Occupation:			
Managerial and professional specialty	488	481	490
Technical sales and administrative support	307	380	297
Service	216	322	195
Precision production, craft, and repair	397	495	349
Operators, fabricators, and laborers	295	395	249
Farming, forestry, and fishing	212	334	206
Industry:			
Agricultural wage and salary workers	211	(3)	210
Private nonagricultural wage and salary workers	332	418	312
Mining	501	507	499
Construction	369	556	315
Manufacturing	368	401	347
Transportation and public utilities	458	492	414
Wholesale and retail trade	270	373	262
Finance, insurance, and real estate	334	340	333
Services	298	327	294
Government workers	394	420	360

[1] Members of a labor union or an employee association similar to a union, as well as workers who report no union affiliation but whose jobs are covered by a union or an employee association contract.

[2] Detail for the race groups will not add to total because data for "other races" and Hispanic groups are not presented.

[3] Data not shown where base is less than 50,000.

NOTE: Data refer to the sole or principal job of full- and part-time workers. Excluded are self-employed workers whose businesses are incorporated although they technically qualify as wage and salary workers. Data on median weekly earnings are derived using $50 centered intervals, rather than the $10 intervals previously used.

belonged to unions, 24.3 and 17.3 percent. This relationship held for both men and women.

Earnings. Full-time unionized workers had substantially higher median usual weekly earnings than those who were not represented by a union. (See table 2.) This relationship held for six of the eight major industry groups (exceptions were mining and finance, insurance, and real estate) and among the occupational groups, except for managerial and professional specialty workers. Similarly, among black and white workers of both sexes, those covered by a collective bargaining agreement had weekly earnings substantially higher than their nonrepresented counterparts.

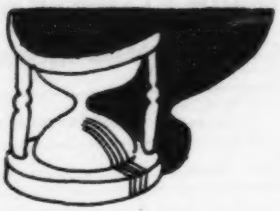
More detailed data appear in Larry T. Adams, "Union Membership of Employed Wage and Salary Workers," *Current Wage Developments*, March 1985, pp. 45-50. ☐

Making work more human

Where work is badly organized, the morale of the workers is almost certainly going to be low, and the working atmosphere depressed. Monotonous jobs, requiring little skill, can be extremely tiring and even degrading. An authoritarian style of management can add to the burden. If a worker has only one duty and that is to be obedient; if he is given only simple tasks, to be repeated from morning till night; if the pace of work allows him no time to relax for a moment; in all these conditions, he is gradually forced into the position of a draught animal who only works, eats, and sleeps. Fortunately, it is now increasingly acknowledged that—whatever purely economic considerations might dictate—this is not good enough. Everyone is now familiar with the demand for "the humanization of work."

—INTERNATIONAL LABOR ORGANIZATION
Working Conditions and Environment:
A Worker's Education Manual
(Washington, International Labor
Organization, 1983), pp. 27–28.

Major Agreements Expiring Next Month



This list of selected collective bargaining agreements expiring in June is based on information collected by the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more. Private industry is arranged in order of Standard Industrial Classification.

Employer and location	Industry or activity	Labor organization[1]	Number of workers
Private			
Kennecott Copper Corp. (Interstate)	Mining	Steelworkers	4,600
Magma Copper Co. (Superior, AZ)	Mining	Steelworkers	2,800
Inspiration Consolidated Copper Co. (Arizona)	Mining	Various unions	1,000
Associated General Contractors of California, Inc., and 2 others (California)	Construction	Carpenters	20,000
Associated General Contractors of California, Inc., and 2 others (California)	Construction	Laborers	15,000
Associated General Contractors, San Diego Chapter and 1 other (California)	Construction	Laborers	4,000
Associated General Contractors (Alaska)	Construction	Operating Engineers	6,300
Associated General Contractors and others, Northern California (California)	Construction	Laborers	15,000
Associated General Contractors of California, Inc., Northern California (California)	Construction	Plasterers and Cement Masons	4,000
Building Industry Association and 2 others, Northern California (California)	Construction	Carpenters	16,000
Associated General Contractors and 2 others, Southern California (California)	Construction	Carpenters	13,000
Residential Contractors Employers Council (Chicago, IL)	Construction	Carpenters	12,000
Michigan Road Builders Association (Michigan)	Construction	Operating Engineers	6,500
Associated General Contractors of California, Inc., 46 Northern California counties (California)	Construction	Carpenters	15,000
Associated General Contractors of California, Inc., Northern California (California)	Construction	Operating Engineers	12,000
Associated General Contractors of California, Inc., Northern California (California)	Construction	Teamsters (Ind.)	2,400
Associated General Contractors, Southern California Chapter (California)	Construction	Plasterers and Cement Masons	4,100
Highway Contractors Inc. (Kentucky)	Construction	Carpenters	5,500
New York Electrical Contractors Association (New York, NY)	Construction	Electrical Workers (IBEW)	10,000
California Conference of Mason Contractors Association, bricktenders (California)	Construction	Laborers	2,000
Plumbing and Piping Industry Council (Los Angeles, CA)	Construction	Plumbers	11,000
Sheet Metal and Air Conditioning Contractors and 1 other, Los Angeles Chapter (California)	Construction	Sheet Metal Workers	2,400
Associated General Contractors and others (California and Nevada)	Construction	Iron Workers	10,000
Mechanical Contractors Council of Central California (California)	Construction	Plumbers	2,000
Painting and Decorating Contractors Association (Seattle, WA)	Construction	Painters	2,500
San Francisco Newspaper Publishers Association (California)	Printing and publishing	Newspaper Guild	1,000
Celanese Corp. of America, Fibers division (Virginia)	Chemicals	Clothing Workers	4,000
Asarco, Inc. (Interstate)	Primary Metals	Various unions	3,000
American Standard Inc. (Louisville, KY)	Fabricated metal products	Standard Allied Trades Council	1,250
Master Lock Co. (Milwaukee, WI)	Fabricated metal products	Auto Workers	1,000
Western Steel Council (San Francisco, CA)	Fabricated metal products	Iron Workers	1,000
Aluminum Co. of America (Cleveland, OH)	Fabricated metal products	Auto Workers	1,100
Caterpillar Tractor Co. (Interstate)	Machinery	Auto Workers	20,400
Deere and Co. (Interstate)	Machinery	Auto Workers	18,000
Tecumseh Products Co., Lauson Engine division (Wisconsin)	Machinery	Machinists	1,000
Brunswick Corp., Mercury Marine division (Fond Du Lac, WI)	Machinery	Machinists	2,300

See footnotes at end of table.

Continued—Major Agreements Expiring Next Month

Employer and location	Industry or activity	Labor organization[1]	Number of workers
Manufacturers of Illumination Products, Inc. (New York, NY)	Electrical products	Electrical Workers (IBEW)	1,000
Magnavox Consumer Electronics Co. (Greenville, TN)	Electrical products	Electrical Workers (IUE)	2,600
Avco Corp., Aerostructures division (Tennessee)	Transportation equipment	Machinists	2,100
Teledyne Continental Motors (Interstate)	Transportation equipment	Auto Workers	3,400
Motor Wheel Corp. (Lansing, MI)	Transportation equipment	Industrial Workers	2,500
MTL, Inc. (Hawaii)	Transit	Teamsters (Ind.)	1,200
Northwest Airlines, pilots (Interstate)[2]	Air transportation	Air Line Pilots	1,600
Connecticut Light and Power Co. (Connecticut)	Utilities	Electrical Workers (IBEW)	1,800
Consolidated Edison Company of New York (New York)	Utilities	Utility Workers	16,000
Gulf States Utilities Co. (Interstate)	Utilities	Electrical Workers (IBEW)	3,000
Illinois Power Co. (Illinois)	Utilities	Electrical Workers (IBEW)	1,150
Acme Markets, Inc. (Pennsylvania)	Retail trade	Food and Commercial Workers	2,200
Safeway Stores Inc. (Interstate)	Retail trade	Teamsters (Ind.)	2,600
Star Markets (Rhode Island and Massachusetts)	Retail trade	Food and Commercial Workers	1,200
Eastern Motor Car Dealers, Inc. (California)	Retail trade	Various unions	1,200
Save-On Drug Stores (California)	Retail trade	Food and Commercial Workers	2,500
Blue Cross of California (California)	Insurance	Office and Professional Employees	1,200
Maintenance Contractors agreement (Los Angeles, CA)	Services	Service Employees	1,800
Alliance of Motion Picture and Television Producers, Inc. (Interstate)	Amusements	Screen Actors Guild	4,300
League of New York Theatres Inc. (Interstate)	Amusements	Actors' Equity Association	1,300
League of Voluntary Hospitals and Homes of New York (New York, NY)	Hospitals	Retail, Wholesale and Department Store	50,000
Rush Presbyterian-St. Lukes Medical Center (Chicago, IL)	Hospitals	Various unions	1,000
Kaiser Permanente (Los Angeles, CA)	Hospitals	United Nurses Association of California	2,200
Washington Hospital Center, nurses (Washington, DC)	Hospitals	Nurses' Association (Ind.)	1,000
Community Hospital and Health Care Systems, Inc., Prince Georges County (Maryland)	Hospitals	Firemen and Oilers	1,100
Public			
Arizona: Phoenix general unit, clerical	General government	State, County and Municipal Employees	1,800
Phoenix general unit, blue collar	General government	State, County and Municipal Employees	2,400
Phoenix Police Department, nonsupervisory	Law enforcement	Police Associations (Ind.)	1,400
Phoenix teachers	Education	Education Association (Ind.)	1,100
Tucson Board of Education, teachers	Education	Education Association (Ind.)	2,906
California: Chula Vista Board of Education, teachers	Education	Education Association (Ind.)	1,100
Compton Board of Education, teachers	Education	Education Association (Ind.)	1,300
Fremont Board of Education, teachers	Education	Education Association (Ind.)	1,100
Fremont Board of Education, clerical	Education	State Employees Association	1,500
Freemont Board of Education, classified	Education	United Public Employees union (Ind.)	1,000
Long Beach office and technical nonsupervisory unit	General government	Long Beach City Employees Association (Ind.)	1,300
Alameda County Contra Costa Transit Authority	Transit	Transit Union	1,800
Sacramento Board of Education, teachers	Education	Education Association (Ind.)	3,000
California Forest fire fighters, Unit 8	Fire protection	Fire Fighters	3,000
Monterey County general unit	General government	Monterey County Employees Association	1,600
San Diego general unit, blue collar	General government	State, County and Municipal Employees	1,700
San Diego Board of Education, operational support	Education	Service Employees	2,000
San Diego County multi-unit	General government	Various unions	7,200
San Diego County sheriffs	Law enforcement	San Diego County Sheriffs Association	1,000
San Jose Board of Education, teachers	Education	Education Association (Ind.)	1,400
San Juan Board of Education, teachers	Education	Education Association, (Ind.)	2,350
Connecticut: Bridgeport teachers	Education	Education Association (Ind.)	1,100
State Department of Mental Retardation, nonprofessional	Social services	Various unions	6,000
Hartford Board of Education, teachers	Education	Teachers	1,600
University of Connecticut, faculty	Education	University Professors (Ind.)	1,600
Florida: Broward County Board of Education, clerical	Education	Education Association (Ind.)	1,000
Duval County School District, teachers	Education	Teachers	5,700
Leon County Board of Education, teachers	Education	Education Association (Ind.)	1,400
Hillsborough County, paraprofessionals	Education	Hillsborough Classroom Teachers Association	1,600
Iowa: Davenport Board of Education, teachers	Education	Education Association (Ind.)	1,300
Illinois: Department of Corrections multi-unit	Prisons	State, County and Municipal Employees	4,300
Paraprofessionals unit RC28	General government	State, County and Municipal Employees	2,000
Clerical unit	General government	State, County and Municipal Employees	10,200

See footnotes at end of table.

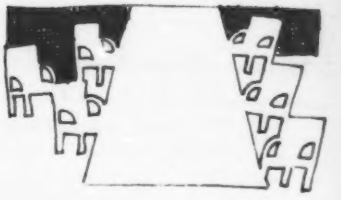
Continued—Major Agreements Expiring Next Month

Employer and location	Industry or activity	Labor organization[1]	Number of workers
Mental health workers	Social services	State, County and Municipal Employees	8,400
Protective and regulatory unit RC29	Law enforcement	State Employees Association	1,300
Nurses unit RC23	Health services	Nurses Association (Ind.)	1,200
Indiana: Indiana University, maintenance unit	Education	State, County and Municipal Employees	1,500
Kansas: Shawnee Mission, teachers	Education	Education Association (Ind.)	2,000
Wichita Board of Education, noninstructional	Education	Service Employees	1,150
Massachusetts: University of Massachusetts, service, clerical, security	Education	Various unions	4,000
Massachusetts State College, faculty	Education	Education Association (Ind.)	1,500
Commonwealth administrative and clerical	General government	Service Employees	9,000
Commonwealth administrative professionals	General government	Service Employees	3,500
Commonwealth trades and crafts	General government	Service Employees	1,500
Commonwealth engineers and scientists	General government	Massachusetts Organization of State Engineers and Scientists	2,800
Springfield Board of Education, teachers	Education	Education Association (Ind.)	1,600
Worcester general unit	General government	Service Employees	1,400
Maryland: Anne Arundel County Board of Education, bus drivers, custodians, maintenance, cafeteria employees	Education	State, County and Municipal Employees	1,450
Technical, clerical, instructional aides	Education	Secretaries and Aides Association	1,000
Baltimore classified white collar	General government	State, County and Municipal Employees	5,000
Baltimore blue collar	General government	State, County and Municipal Employees	7,200
Baltimore Fire Department	Fire protection	Fire Fighters	1,700
Baltimore Board of School Commissioners, teachers, paraprofessionals, 2 agreements	Education	Teachers	7,600
Hartford County Board of Education, teachers	Education	Education Association (Ind.)	1,600
Frederick County Board of Education, teachers	Education	Education Association (Ind.)	1,450
Howard County Board of Education, teachers	Education	Education Association (Ind.)	1,600
Prince Georges County Board of Education, classified	Education	State, County and Municipal Employees	3,000
Maine: State employees	General government	State Employees Association	10,000
Michigan: Detroit city employees	General government	State, County and Municipal Employees	7,000
Detroit Police Department	Law enforcement	Police Officers Association (Ind.)	4,400
Detroit Fire Department	Fire protection	Fire Fighters	1,200
University of Michigan, service and maintenance	Education	State, County and Municipal Employees	2,100
Missouri: St. Louis Board of Education, teachers	Education	Education Association (Ind.)	3,800
New Jersey: State administrative and clerical	General government	State Employees Association	12,400
State professional unit	General government	State Employees Association	11,200
State blue collar unit	General government	State, County and Municipal Employees	8,000
State Health, Care and Rehabilitation Services	Health services	State, County and Municipal Employees	10,000
Nevada: Clark County public employees unit	General government	Public Employees Association (Ind.)	2,100
Las Vegas general unit	General government	Las Vegas Employees Association (Ind.)	1,500
Washoe County Board of Education, teachers	Education	Education Association (Ind.)	1,700
New York: Buffalo Fire Department	Fire protection	Fire Fighters	1,000
Oklahoma: Oklahoma City Board of Education, teachers	Education	Teachers	2,300
Tulsa Board of Education, teachers	Education	Classroom Teachers Association (Ind.)	1,100
Oregon: Eugene Board of Education, teachers	Education	Education Association (Ind.)	1,200
Multnomah County School District, teachers	Education	Portland Association of Teachers (Ind.)	3,000
Portland Board of Education, teachers	Education	Education Association (Ind.)	2,500
Pennsylvania: Philadelphia Fire Department	Fire protection	Fire Fighters	2,700
Philadelphia Police Department	Law enforcement	Police	7,200
Philadelphia city employees	General government	State, County and Municipal Employees	13,000
Rhode Island: State employees	General government	State, County and Municipal Employees	10,500
Tennessee: Hamilton County Board of Education, teachers	Education	Education Association (Ind.)	1,100
Memphis general unit	General government	State, County and Municipal Employees	1,900
Memphis Fire Department	Fire protection	Fire Fighters	1,250
Utah: Davis County Board of Education, noninstructional	Education	State Employees Association	1,600
Teachers	Education	Education Association (Ind.)	1,750
Salt Lake City Board of Education, teachers	Education	Salt Lake City Teachers Association (Ind.)	1,200
Vermont: State nonmanagement unit	General government	State Employees Association	4,500

[1] Affiliated with AFL-CIO except where noted as independent (Ind.).

[2] Information is from newspaper reports.

Developments in Industrial Relations



Container contracts call for two-tier pay system

A 16-day strike ended when four container manufacturers and the Steelworkers agreed on 3-year contracts for 13,300 employees. The first settlement was with National Can Corp., followed hours later by agreements on similar terms at Continental Can Co., American Can Co., and Crown Cork & Seal Co. This company-by-company bargaining was a departure from the employers' practice of bargaining as a unit, but the union was able to maintain similar terms at all of the companies.

The contracts do not provide for specified wage increases, but the workers will receive an immediate $400 lump-sum payment and $300 payments in the second and third years. They will also continue to be eligible for annual cost-of-living pay adjustments.

In a change that will save money for the companies, the union agreed to a temporary two-tier pay system under which new workers will be paid 20 percent less than the regular rate for the job during their first 2 years of employment. Leon Lynch, the union's chief negotiator for the industry, explained, "our members are some of the highest paid workers in the industrial sector, and workers who come in off the street don't always have the highest skills." At the time of the settlements, pay rates ranged from $12.55 to $15.93 an hour, according to the union.

The new contracts, which expire February 19, 1989, also provide for:

- A $3 increase in the monthly pension rate for each year of credited service.
- A health care cost containment program including preadmission reviews of non-emergency surgery, second opinion requirements, 20 percent co-payments for employees who do not follow the requirements of the program (one "learning experience" is permitted in the first year); establishment of a mail order generic drug program; and a medical expense audit program under which employees can recover up to $500.
- A voluntary product promotion program financed through payroll deductions.
- A joint committee, financed 85 percent by the company and 15 percent by the union, to determine if "special treatment" is necessary to preserve plants that continue to manufacture three-piece cans.

Volkswagen pay catches 'Big Three' automakers

Volkswagen of America and the United Auto Workers negotiated new contracts for plants in New Stanton, PA, and South Charleston, WV. The 3-year New Stanton accord, covering 2,200 employees, brought wage and benefit levels up to parity with General Motors Corp., Ford Motor Co., and Chrysler Corp. The immediate pay increase ranged from 3 cents to $1.69 an hour. For assemblers, the most heavily populated job category, the increase was 13 cents an hour, bringing the rate to $13.46. In April 1987, the employees will receive a lump-sum payment equal to 3 percent of their earnings during the preceding 12 months. Their April 1988 pay increase will match the initial increase resulting from the union's 1987 bargaining with Ford and General Motors.

Other provisions included a $6 increase in the pension calculation rate over the term, bringing the range to $18.75-$19.50 a month for each year of credited service; a 6-cent per hour increase in Volkswagen's financing of Supplemental Unemployment Benefits; and increased sickness and accident benefits.

The company also agreed to place the Auto Workers' logo on vehicles assembled at the plant, and to give the union 60 days' notice of planned subcontracting of work that will eliminate five or more jobs.

The agreement for the South Charleston stamping plant runs to June 30, 1987, the date the facility is scheduled to close if a buyer is not found. Provisions to aid the 750 employees include:

- a new income maintenance program financed by a company payment of 51.3 cents per hour—1.5 times the amount necessary to attain parity with the "Big Three" auto companies;
- a plan for converting Supplemental Unemployment Benefits to a separation pay fund, paying displaced workers amounts equivalent to 50 hours of pay for those with 2 years of service up to 570 hours for those with 13 or more years of service;
- an early retirement provision giving employees age 50 with 10 years of service lifetime benefits calculated at $12.75 to $13.50 a month for each year of service, plus supplemental benefits until age 62, calculated at $11 a month for each year of service; and

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"Developments in Industrial Relations" is prepared by George Ruben of the Division of Developments in Labor-Management Relations, Bureau of Labor Statistics, and is largely based on information from secondary sources.

- continuation of health insurance and job search assistance for 6 months after layoff.

The South Charleston employees will receive a lump-sum payment in April 1987 equal to 2.25 percent of their earnings during the preceding 12 months. They will also receive automatic quarterly cost-of-living pay adjustments during the contract's term.

UAW to intensify organizing efforts at Honda

The United Auto Workers' plan to organize foreign-owned vehicle and parts plants opening in the United States suffered a blow when the union was forced to drop its bid for a representation election at the Honda of America Manufacturing Corp.'s plant in Marysville, OH. The union said the withdrawal of its petition to the National Labor Relations Board was a temporary action. It attributed the setback to confusion resulting from unfair labor practices charges it had filed against Honda (which were rejected by the Board), "misinformation" being spread by anti-UAW workers, and an influx of new employees. The UAW said the withdrawal of the election petition was not a defeat and that the drive to organize the Honda operations will be intensified.

In the charges filed with the Board late last year, the UAW contended that Honda had attempted to influence the election outcome by illegally questioning plant workers about their attitude toward unions, allowing anti-union material to be distributed on company time, and improving employees benefits during the organizing drive. The Board dismissed the complaint, citing "insufficient evidence."

So far, the UAW has not been successful in organizing any of the Japanese-owned automobile plants that have resisted the union's efforts. UAW does represent workers at the General Motors-Toyota joint venture in Fremont, CA, and will represent workers at the Mazda plant being built in Flat Rock, MI, and has represented workers at the Volkswagen plant in New Stanton, PA, since 1978.

Court contract allows drug testing

Drug testing and treatment provisions were adopted in a settlement between New York State's Office of Court Administration and three unions representing 3,000 court officers and clerks in State courts in New York City. Howard Rubenstein, director of employee relations for the Office of Court Administration, said the agency was committed to adopting similar provisions for the rest of the State court system when labor contracts expire in 1988.

Both the Office of Court Administration and the three unions indicated that the drug control provisions were a preventive measure rather than a reaction to an existing problem. Rubenstein said, "We think it's an issue whose time has come. These are people who carry guns, and I think we have a duty to assure the public." A union official indicated that the unions were not pleased with the program but had accepted it because the workers' sensitive duties required them to be above suspicion.

Under the provisions, the deputy chief administrative judge in the area will determine if there is "reasonable cause" to test a particular employee. If so, and the test is positive, the employee will be given the option of entering a rehabilitation program rather than facing disciplinary action. After completing the program, which will vary in scope and duration according to the employee's needs, the employee will be subject to periodic retesting and disciplinary action if drug abuse is again detected.

Other contract terms included wage increases of 5 percent retroactive to June 13, 1985, 5.5 percent on April 1, 1986, and 6 percent on April 1, 1987. The unions, comprising a joint bargaining council sponsored by the International Longshoremen's Association, are the Court Officers Association, the New York State Supreme Court Officers Association, and the Court Clerks Associations.

New rules on drug, alcohol use by rail workers

After years of controversy, the Department of Transportation issued regulations banning railroad workers from reporting to work under the influence of alcohol or drugs or consuming them on the job. The rules had been scheduled to go into effect on November 1, 1985, but were delayed by legal challenges by railroad unions. Implementation of the rules became possible when the Supreme Court favored the Government's position.

The new rules also authorize testing of employees following major accidents; when there are indications of possible impairment; and as a routine part of the hiring procedure. The regulations also require railroads to establish incentives for addicted employees to seek help voluntarily, but also permit employers to dismiss workers who violate the drug and alcohol rules.

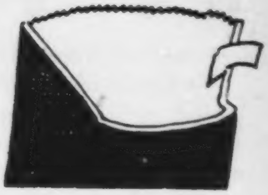
One of the first calls for adoption of the rules came from the National Transportation Safety Board in 1974. There have been 48 train accidents since 1975 attributed to employees impaired by alcohol or drugs, resulting in 37 deaths and $34 million in property damage.

Displaced airline workers given rehire rights

In the airline transportation industry, the Department of Labor issued rules providing rehiring rights for employees who lost their jobs as a result of the Airline Deregulation Act of 1978, which opened the industry to intense competition. Under the rules, all airlines must list their job vacancies on a central register and airlines that were in existence when the law took effect must give preference to applicants with rehiring rights. Preferential hiring is limited to persons who were employed by an airline for at least 4 years prior to 1978.

The hiring preference rule, authorized by the deregulation act, was originally expected to continue for 10 years, but because of delays resulting from legal challenges by the airlines, will now extend for fewer than 3 years. □

Book Reviews



A neoclassical perspective

Labor Market Economics. By Saul D. Hoffman. Englewood Cliffs, NJ, Prentice-Hall, Inc., 1986. 354 pp. $28.95.

The first interesting thing about this book appears on its cover—the title. Although the author may assume that his readership would pay no particular attention to the word "market," that is precisely the word that piques the interest of the classical economist. Has a modern text finally been written which begins with the premise that labor is, among other things, a commodity which is bought and sold? Yes, and Saul D. Hoffman is its author.

Indeed, a major strength of this book is its sound economic analysis, which is based on the understanding that labor is not magically exempt from the economic laws and pressures which operate in a market economy. (Anticipating the objections of those who would say that today's economy is too far removed from the free-market ideal to justify such an approach, Hoffman has included a convincing defense.) The use of the traditional economic tools of analysis, avoiding the need to reinvent the wheel in order to examine the subject, contributes to the effectiveness of this text, which uses a "neoclassical" perspective.

This comprehensive study is well written and well organized. There are separate chapters on demand for labor, labor supply, human capital, discrimination, unions, income, and unemployment, as well as one on "further topics." "Applications sections" are employed, many of which delve into real-world cases. Much of the author's analysis is quite enlightening, while imprecisions are mostly minimal. The exception is the statement: ". . . it should be obvious that the wage income of all workers is exactly equal to the labor costs of all firms." The author should have added a section on benefits as an aspect of compensation, or included a disclaimer stating that the term "wages" is used synonymously with "compensation." Also, because the idea of labor cost is not useful without considering productivity, it cannot be considered in such absolute terms. In a lesser violation, Puerto Rico is listed as one of the "countries" (sic) which has minimum wage legislation.

Although some equations and graphs merely quantify the obvious, most are helpful. Hoffman makes good use of new ideas and research. Divergent opinions are presented in a balanced, unbiased manner. Overall, *Labor Market Economics* is an excellent choice for the introductory college course and for those interested in the subject.

—MICHAEL WEINERT
Chicago Regional Office
Bureau of Labor Statistics

Pruning the executive branch

Servants of the People: The Uncertain Future of the Federal Civil Service. By Howard Rosen. Salt Lake City, UT, Olympus Publishing Co., 1985. 188 pp. $12.95, paper.

Howard Rosen has presented a frank, well-written book concerning the Federal Government's personnel system. This is more than just a good textbook about the personnel system, although any professor who chose this as a text would be doing students a favor. It is also a frank assessment of the follies and foibles of the system which the government has saddled itself for many years.

Rosen speaks with the authority of a man who understands the system. If there is a dimension missing from Rosen's perceptions, it stems from the fact that this book represents a personnel view of the system rather than that of a line manager. When he poses the question, "Who Manages the Workforce?" he is eloquent in explaining how the system is weak and outmoded as a management tool, but he never states clearly that it is the *managers* who are supposed to be using the tool, because they are in charge of the work force and are its most critical element. Thus, managers are let off Rosen's hook.

The author also deals inadequately with the current topic of contracting out work formerly done by civil servants. The chapter entitled, "The Contracting-Out Industry: An Extension of the Federal Labor Force?" treats the issue of government contracting on far too narrow a base, ignoring decades of broader government-industry contract relationships in major program arenas such as military weapons system manufacture, NASA's large scale R&D contracts, and extensive grant-based programs for highways, water treatment, and other public infrastructure.

Finally, Rosen seems reluctant to deal with a difficult question: what happens when, for reasonable and legitimate reasons, the Federal work force must be cut back? He suggests that cutbacks are made solely for short term and questionable reasons. But managers in the private sector and in State and local government have faced numerous situations where cutting back the work force was a correct decision and had to be done. We need to stop denying that this reality cannot and should not occur in the Federal Government. Instead, we need to deal with the necessary political and systemic changes in order to consider this possibility realistically and, where justified, handle cutbacks sensibly and humanely.

If there is a threat to the civil service system, it is, as Rosen states, that the American public will lose the recognition that this enormously talented body of employees are indeed the servants of the people. This ethic is a great strength for government. The most corrosive thing that the political leadership can do is to believe that this talent is irrelevant and unneeded in the conduct of the public's business, and that government can be run on a combination of a deeper, thicker layer of political appointees, and a mass of clerks. Rosen attempts to emphasize that this is bad judgment on the part of politicians. I suggest the American public knows better.

—CHARLES F. BINGMAN

Visiting Professor, School of Government
and Business Administration
George Washington University

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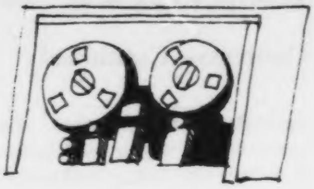

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U.S. Import and Export Price Indexes	May 1	1st quarter	....	....	July 31	2nd quarter	2: 36-41
Employment situation	May 2	April	June 6	May	July 3	June	1: 4-21
Producer Price Index	May 16	April	June 13	May	July 11	June	2: 33-35
Consumer Price Index	May 21	April	June 20	May	July 23	June	2: 30-32
Real earnings	May 21	April	June 20	May	July 23	June	14-17
Productivity and costs:							
Nonfinancial corporations	May 29	1st quarter	......	....	......	....	2: 42-44
Nonfarm business and manufacturing	......	....	......	....	July 30	2nd quarter	2: 42-44
Major collective bargaining settlements	......	....	......	....	July 28	1st 6 months	3: 25-28
Employment Cost Index	......	....	......	....	July 29	2nd quarter	1-3: 22-24

NOTES ON CURRENT LABOR STATISTICS

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics: series on labor force, employment, unemployment, collective bargaining settlements, consumer, producer, and international prices, productivity, international comparisons, and injury and illness statistics. In the notes that follow, the data in each group of tables is briefly described, key definitions are given, notes on the data are set forth, and sources of additional information are cited.

General notes

The following notes apply to several tables in this section:

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect on the data of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might prevent short-term evaluation of the statistical series. Tables containing data that have been adjusted are identified as "seasonally adjusted." (All other data are not seasonally adjusted.) Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. (Seasonally adjusted data appear in tables 1–3, 4–10, 13, 14, and 18.) Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are being seasonally adjusted with a new procedure called X–11 ARIMA, which was developed at Statistics Canada as an extension of the standard X–11 method previously used by BLS. A detailed description of the procedure appears in *The X–11 ARIMA Seasonal Adjustment Method* by Estla Bee Dagum (Statistics Canada, Catalogue No. 12–564E, January 1983). The second change is that seasonal factors are now being calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year for the July-December period. However, revisions of historical data continue to be made only at the end of each calendar year.

Seasonally adjusted labor force data in tables 1 and 4–10 were revised in the February 1986 issue of the *Review*, to reflect experience through 1985.

Annual revisions of the seasonally adjusted payroll data shown in tables 13, 14, and 18 were made in July 1985 using the X–11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in table 42 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the Hourly Earnings Index in table 17—are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is $2 ($3/150 × 100 = $2). The $2 (or any other resulting values) are described as "real," "constant," or "1967" dollars.

Additional information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule preceding these general notes. More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in *Employment and Earnings*, a monthly publication of the Bureau. More data from the household survey is published in the two-volume data book—*Labor Force Statistics Derived From the Current Population Survey*, Bulletin 2096. More data from the establishment survey appears in two data books—*Employment, Hours, and Earnings, United States*, and *Employment, Hours, and Earnings, States and Areas*, and the annual supplements to these data books. More detailed information on employee compensation and collective bargaining settlements is published in the monthly periodical, *Current Wage Developments*. More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report*, and *Producer Prices and Price Indexes*. Detailed data on all of the series in this section are provided in the *Handbook of Labor Statistics*, which is published biennally by the Bureau. BLS bulletins are issued covering productivity, injury and illness, and other data in this section. Finally, the *Monthly Labor Review* carries analytical articles on annual and longer term developments in labor force, employment and unemployment; employee compensation and collective bargaining; prices; productivity; international comparisons; and injury and illness data.

Symbols

p = preliminary. To increase the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally, this revision reflects the availability of later data but may also reflect other adjustments.
n.e.c. = not elsewhere classified.
n.e.s. = not elsewhere specified.

COMPARATIVE INDICATORS
(Tables 1–3)

Comparative indicators tables provide an overview and comparison of major BLS statistical series. Consequently, although many of the included series are available monthly, all measures in these comparative tables are presented quarterly and annually.

Labor market indicators include employment measures from two major surveys and information on rates of change in compensation provided by the Employment Cost Index (ECI) program. The labor force participation rate, the employment-to-population ratio, and unemployment rates for major demographic groups based on the Current Population ("household") Survey are presented, while measures of employment and average weekly hours by major industry sector are given using nonagricultural payroll data. The Employment Cost Index (compensation), by major sector and by bargaining status, is chosen from a variety of BLS compensation and wage measures because it provides a comprehensive measure of employer costs for hiring labor, not just outlays for wages, and it is not affected by employment shifts among occupations and industries.

Data on **changes in compensation, prices, and productivity** are presented in table 2. Measures of rates of change of compensation and wages from the Employment Cost Index program are provided for all civilian

nonfarm workers (excluding Federal and household workers) and for all private nonfarm workers. Measures of changes in: consumer prices for all urban consumers; producer prices by stage of processing; and the overall export and import price indexes are given. Measures of productivity (output per hour of all persons) are provided for major sectors.

Alternative measures of wage and compensation rates of change, which reflect the overall trend in labor costs, are summarized in table 3. Differences in concepts and scope, related to the specific purposes of the series, contribute to the variation in changes among the individual measures.

Notes on the data

Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data. For detailed descriptions of each data series, see BLS *Handbook of Methods*, Volumes I and II, Bulletins 2134–1 and 2134–2 (Bureau of Labor Statistics, 1982 and 1984, respectively), as well as the additional bulletins, articles, and other publications noted in the separate sections of the *Review*'s "Current Labor Statistics Notes." Historical data for many series are provided in the *Handbook of Labor Statistics, Bulletin 2217* (Bureau of Labor Statistics, 1985). Users may also wish to consult *Major Programs, Bureau of Labor Statistics*, Report 718 (Bureau of Labor Statistics, 1985).

EMPLOYMENT DATA

(Tables 1; 4–21)

Household survey data

Description of the series

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 59,500 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons include (1) all civilians who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. Members of the Armed Forces stationed in the United States are also included in the employed total. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **overall unemployment rate** represents the number unemployed as a percent of the labor force, including the resident Armed Forces. The **civilian unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **labor force** consists of all employed or unemployed civilians plus members of the Armed Forces stationed in the United States. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons who are retired, those engaged in their own housework, those not working while attending school, those unable to work because of long-term illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy, and members of the Armed Forces stationed in the United States. The **labor force participation rate** is the proportion of the noninstitutional populaton that is in the labor force. The **employment-population ratio** is total employment (including the resident Armed Forces) as a percent of the noninstitutional population.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 4–10 are seasonally adjusted, based on the seasonal experience through December 1984.

Additional sources of information

For detailed explanations of the data, see BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 1, and for additional data, *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). A detailed description of the Current Population Survey as well as additional data are available in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*. Historical data from 1948 to 1982 are available in *Labor Force Statistics Derived from the Current Population Survey: A Databook*, Vols. I and II, Bulletin 2096 (Bureau of Labor Statistics, 1982).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

Establishment survey data

Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by more than 200,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

An **establishment** is an economic unit which produces goods or services (such as a factory or store) at a single location and is engaged in one type of economic activity.

Employed persons are all persons who received pay (including holiday

and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 12–16 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in the following industries: transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earner and Clerical Workers (CPI-W). The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

The Diffusion Index, introduced in the May 1983 *Review*, represents the percent of 185 nonagricultural industries in which employment was rising over the indicated period. One-half of the industries with unchanged employment are counted as rising. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. The diffusion index is useful for measuring the dispersion of economic gains or losses and is also an economic indicator.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of May 1985 data, published in the July 1985 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Unadjusted data have been revised back to April 1983; seasonally adjusted data have been revised back to January 1980. These revisions were published in the *Supplement to Employment and Earnings* (Bureau of Labor Statistics, 1985). Unadjusted data from April 1984 forward, and seasonally adjusted data from January 1981 forward are subject to revision in future benchmarks.

Additional sources of information

Detailed data from the establishment survey are published monthly in the BLS periodical, *Employment and Earnings*. Earlier comparable unadjusted and seasonally adjusted data are published in *Employment, Hours, and Earnings, United States, 1909–84*, Bulletin 1312–12 (Bureau of Labor Statistics, 1985) and its annual supplement. For a detailed discussion of the methodology of the survey, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 2. For additional data, see *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

Unemployment data by State

Description of the series

Data presented in this section are obtained from two major sources—the Current Population Survey (CPS) and the Local Area Unemployment Statistics (LAUS) program, which is conducted in cooperation with State employment security agencies.

Monthly estimates of the labor force, employment, and unemployment for States and sub-State areas are a key indicator of local economic conditions and form the basis for determining the eligibility of an area for benefits under Federal economic assistance programs such as the Job Training Partnership Act and the Public Works and Economic Development Act. Insofar as possible, the concepts and definitions underlying these data are those used in the national estimates obtained from the CPS.

Notes on the data

Data refer to State of residence. Monthly data for 11 States—California, Florida, Illinois, Massachusetts, Michigan, New York, New Jersey, North Carolina, Ohio, Pennsylvania, and Texas—are obtained directly from the CPS, because the size of the sample is large enough to meet BLS standards of reliability. Data for the remaining 39 States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates for the 11 States are revised to new population controls. For the remaining States and the District of Columbia, data are benchmarked to annual average CPS levels.

Additional sources of information

Information on the concepts, definitions, and technical procedures used to develop labor force data for States and sub-State areas as well as additional data on sub-States are provided in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*, and the annual report, *Geographic Profile of Employment and Unemployment* (Bureau of Labor Statistics). See also *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 4.

COMPENSATION AND WAGE DATA

(Tables 1–3; 22–29)

COMPENSATION AND WAGE DATA are gathered by the Bureau from business establishments, State and local governments, labor unions, collective bargaining agreements on file with the Bureau, and secondary sources.

Employment Cost Index

Description of the series

The **Employment Cost Index** (ECI) is a quarterly measure of the rate of change in compensation per hour worked and includes wages, salaries, and employer costs of employee benefits. It uses a fixed market basket of labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over time in employer costs of employing labor. The index is not seasonally adjusted.

Statistical series on total compensation costs and on wages and salaries are available for private nonfarm workers excluding proprietors, the self-employed, and household workers. Both series are also available for State and local government workers and for the civilian nonfarm economy, which consists of private industry and State and local government workers combined. Federal workers are excluded.

The Employment Cost Index probability sample consists of about 2,200 private nonfarm establishments providing about 12,000 occupational observations and 700 State and local government establishments providing

3,500 occupational observations selected to represent total employment in each sector. On average, each reporting unit provides wage and compensation information on five well-specified occupations. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Fixed employment weights from the 1970 Census of Population are used each quarter to calculate the indexes for civilian, private, and State and local governments. These fixed weights, also used to derive all of the industry and occupation series indexes, ensure that changes in these indexes reflect only changes in compensation, not employment shifts among industries or occupations with different levels of wages and compensation. For the bargaining status, region, and metropolitan/nonmetropolitan area series, however, employment data by industry and occupation are not available from the census. Instead, the 1970 employment weights are reallocated within these series each quarter based on the current sample. Therefore, these indexes are not strictly comparable to those for the aggregate, industry, and occupation series.

Definitions

Total compensation costs include wages, salaries, and the employer costs for employee benefits.

Wages and salaries consist of earnings before payroll deductions, including production bonuses, incentive earnings, commissions, and cost-of-living adjustments.

Benefits include the cost to employers for paid leave, supplemental pay (including nonproduction bonuses), insurance, retirement and savings plans, and legally required benefits (such as social security, workers' compensation, and unemployment insurance).

Excluded from wages and salaries and employee benefits are such items as payment-in-kind, free room and board, and tips.

Notes on the data

The Employment Cost Index data series began in the fourth quarter of 1975, with the quarterly percent change in wages and salaries in the private nonfarm sector. Data on employer costs for employee benefits were included in 1980 to produce, when combined with the wages and salaries series, a measure of the percent change in employer costs for employee total compensation. State and local government units were added to the ECI coverage in 1981, providing a measure of total compensation change in the *civilian* nonfarm economy (excluding Federal employees). Historical indexes (June 1981 = 100) of the quarterly rates of change are presented in the May issue of the BLS monthly periodical, *Current Wage Developments*.

Additional sources of information

For a more detailed discussion of the Employment Cost Index, see Chapter 11, "The Employment Cost Index," in the *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 11, and the following *Monthly Labor Review* articles: "Employment Cost Index: a measure of change in the 'price of labor'," July 1975; "How benefits will be incorporated into the Employment Cost Index," January 1978; "Estimation procedures for the Employment Cost Index," May 1982; and "Introducing new weights for the Employment Cost Index," June 1985.

Data on the ECI are also available in BLS quarterly press releases issued in the month following the reference months of March, June, September, and December; and from the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

Collective bargaining settlements

Description of the series

Collective bargaining settlements data provide statistical measures of negotiated adjustments (increases, decreases, and freezes) in compensation (wages and benefits costs) and wages alone, quarterly for private industry and semiannually for State and local government. Compensation measures cover all collective bargaining situations involving 5,000 workers or more and wage measures cover all situations involving 1,000 workers or more. These data, covering private nonagricultural industries and State and local governments, are calculated using information obtained from bargaining agreements on file with the Bureau, parties to the agreements, and secondary sources, such as newspaper accounts. The data are not seasonally adjusted.

Settlement data are measured in terms of future specified adjustments: those that will occur within 12 months after contract ratification—first year—and all adjustments that will occur over the life of the contract expressed as an average annual rate. Adjustments are worker weighted. Both first-year and over-the-life measures exclude wage changes that may occur under cost-of-living clauses that are triggered by future movements in the Consumer Price Index.

Effective wage adjustments measure all adjustments occurring in the reference period, regardless of the settlement date. Included are changes from settlements reached during the period, changes deferred from contracts negotiated in earlier periods, and changes under cost-of-living adjustment clauses. Each wage change is worker weighted. The changes are prorated over all workers under agreements during the reference period yielding the average adjustment.

Definitions

Wage rate changes are calculated by dividing newly negotiated wages by the average hourly earnings, excluding overtime, at the time the agreement is reached. Compensation changes are calculated by dividing the change in the value of the newly negotiated wage and benefit package by existing average hourly compensation, which includes the cost of previously negotiated benefits, legally required social insurance programs, and average hourly earnings.

Compensation changes are calculated by placing a value on the benefit portion of the settlements at the time they are reached. The cost estimates are based on the assumption that conditions existing at the time of settlement (for example, methods of financing pensions or composition of labor force) will remain constant. The data, therefore, are measures of negotiated changes and not of total changes in employer cost.

Contract duration runs from the effective date of the agreement to the expiration date or first wage reopening date, if applicable. Average annual percent changes over the contract term take account of the compounding of successive changes.

Notes on the data

Care should be exercised in comparing the size and nature of the settlements in State and local government with those in the private sector because of differences in bargaining practices and settlement characteristics. A principal difference is the incidence of cost-of-living adjustment (COLA) clauses which cover only about 2 percent of workers under a few local government settlements, but cover 50 percent of workers under private sector settlements. Agreements without COLA's tend to provide larger specified wage increases than those with COLA's. Another difference is that State and local government bargaining frequently excludes pension benefits which are often prescribed by law. In the private sector, in contrast, pensions are typically a bargaining issue.

Additional sources of information

For a more detailed discussion on the series, see of the *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 10. Comprehensive data are published in press releases issued quarterly (in January, April, July, and October) for private industry, and semi-

annually (in February and August) for State and local government. Historical data and additional detailed tabulations for the prior calendar year appear in the April issue of the BLS monthly periodical, *Current Wage Developments*.

Work stoppages

Description of the series

Data on **work stoppages** measure the number and duration of major strikes or lockouts (involving 1,000 workers or more) occurring during the month (or year), the number of workers involved, and the amount of time lost because of stoppage.

Data are largely from newspaper accounts and cover only establishments directly involved in a stoppage. They do not measure the indirect or secondary effect of stoppages on other establishments whose employees are idle owing to material shortages or lack of service.

Definitions

Number of stoppages: The number of strikes and lockouts involving 1,000 workers or more and lasting a full shift or longer.

Workers involved: The number of workers directly involved in the stoppage.

Number of days idle: The aggregate number of work days lost by workers involved in the stoppages.

Days of idleness as a percent of estimated working time: Aggregate work days lost as a percent of the aggregate number of standard work days in the period multiplied by total employment in the period.

Notes on the data

This series is not comparable with the one terminated in 1981 that covered strikes involving six workers or more.

Additional sources of information

Data for each calendar year are reported in a BLS press release issued in the first quarter of the following year. Monthly data appear in the BLS monthly periodical, *Current Wage Developments*. Historical data appear in the BLS *Handbook of Labor Statistics*.

Other compensation data

Other BLS data on pay and benefits, not included in the Current Labor Statistics section of the *Monthly Labor Review*, appear in and consist of the following:

Industry Wage Surveys provide data for specific occupations selected to represent an industry's wage structure and the types of activities performed by its workers. The Bureau collects information on weekly work schedules, shift operations and pay differentials, paid holiday and vacation practices, and information on incidence of health, insurance, and retirement plans. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Monthly Labor Review*.

Area Wage Surveys annually provide data for selected office, clerical, professional, technical, maintenance, toolroom, powerplant, material movement, and custodial occupations common to a wide variety of industries in the areas (labor markets) surveyed. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Review*.

The National Survey of Professional, Administrative, Technical, and Clerical Pay provides detailed information annually on salary levels and distributions for the types of jobs mentioned in the survey's title in private employment. Although the definitions of the jobs surveyed reflect the duties and responsibilities in private industry, they are designed to match specific pay grades of Federal white-collar employees under the General Schedule pay system. Accordingly, this survey provides the legally required information for comparing the pay of salaried employees in the Federal civil service with pay in private industry. (See Federal Pay Comparability Act of 1970, 5 U.S.C. 5305.) Data are published in a BLS news release issued in the summer and in a bulletin each fall; summaries and analytical articles also appear in the *Review*.

Employee Benefits Survey provides nationwide information on the incidence and characteristics of employee benefit plans in medium and large establishments in the United States, excluding Alaska and Hawaii. Data are published in an annual BLS news release and bulletin, as well as in special articles appearing in the *Review*.

PRICE DATA
(Tables 2; 30–41)

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Consumer Price Indexes

Description of the series

The **Consumer Price Index** (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI-W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all urban consumer index (CPI-U) introduced in 1978 is representative of the 1972–73 buying habits of about 80 percent of the noninstitutional population of the United States at that time, compared with 40 percent represented in the CPI-W. In addition to wage earners and clerical workers, the CPI-U covers professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items are kept essentially unchanged between major revisions so that only price changes will be measured. All taxes directly associated with the purchase and use of items are included in the index.

Data collected from more than 24,000 retail establishments and 24,000 tenants in 85 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 28 major urban centers are presented in table 31. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

Notes on the data

In January 1983, the Bureau changed the way in which homeownership costs are measured for the CPI-U. A rental equivalence method replaced the

asset-price approach to homeownership costs for that series. In January 1985, the same change was made in the CPI-W. The central purpose of the change was to separate shelter costs from the investment component of homeownership so that the index would reflect only the cost of shelter services provided by owner-occupied homes.

Additional sources of information

For a discussion of the general method for computing the CPI, see *BLS Handbook of Methods, Volume II, The Consumer Price Index*, Bulletin 2134–2 (Bureau of Labor Statistics, 1984). The recent change in the measurement of homeownership costs is discussed in Robert Gillingham and Walter Lane, "Changing the treatment of shelter costs for homeowners in the CPI," *Monthly Labor Review*, June 1982, pp. 9–14.

Additional detailed CPI data and regular analyses of consumer price changes are provided in the *CPI Detailed Report*, a monthly publication of the Bureau. Historical data for the overall CPI and for selected groupings may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

Producer price indexes

Description of the series

Producer Price Indexes (PPI) measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 60,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The stage of processing structure of Producer Price Indexes organizes products by class of buyer and degree of fabrication (that is, finished goods, intermediate goods, and crude materials). The traditional commodity structure of PPI organizes products by similarity of end-use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

Since January 1976, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

Notes on the data

Beginning with the January 1986 issue, the *Review* is no longer presenting tables of Producer Price Indexes for commodity groupings, special composite groups, or SIC industries. However, these data will continue to be presented in the Bureau's monthly publication *Producer Price Indexes*. Series on the net output of major mining and manufacturing industry groups will appear in the *Review* starting with data for July 1986.

The Bureau has completed the first major stage of its comprehensive overhaul of the theory, methods, and procedures used to construct the Producer Price Indexes. Changes include the replacement of judgment sampling with probability sampling techniques; expansion to systematic coverage of the net output of virtually all industries in the mining and manufacturing sectors; a shift from a commodity to an industry orientation; the exclusion of imports from, and the inclusion of exports in, the survey universe; and the respecification of commodities priced to conform to Bureau of the Census definitions. These and other changes have been phased in gradually since 1978. The result is a system of indexes that is easier to use in conjunction with data on wages, productivity, and employment and other series that are organized in terms of the Standard Industrial Classification and the Census product class designations.

Additional sources of information

For a discussion of the methodology for computing Producer Price Indexes, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 7.

Additional detailed data and analyses of price changes are provided monthly in *Producer Price Indexes*. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

International price indexes

Description of the series

The BLS **International Price Program** produces quarterly export and import price indexes for nonmilitary goods traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national income accounts: it includes corporations, businesses, and individuals but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents. With publication of an all-import index in February 1983 and an all-export index in February 1984, all U.S. merchandise imports and exports now are represented in these indexes. The reference period for the indexes is 1977 = 100, unless otherwise indicated.

The product universe for both the import and export indexes includes raw materials, agricultural products, semifinished manufactures, and finished manufactures, including both capital and consumer goods. Price data for these items are collected quarterly by mail questionnaire. In nearly all cases, the data are collected directly from the exporter or importer, although in a few cases, prices are obtained from other sources.

To the extent possible, the data gathered refer to prices at the U.S. border for exports and at either the foreign border or the U.S. border for imports. For nearly all products, the prices refer to transactions completed during the first 2 weeks of the third month of each calendar quarter—March, June, September, and December. Survey respondents are asked to indicate all discounts, allowances, and rebates applicable to the reported prices, so that the price used in the calculation of the indexes is the actual price for which the product was bought or sold.

In addition to general indexes of prices for U.S. exports and imports, indexes are also published for detailed product categories of exports and imports. These categories are defined by the 4- and 5-digit level of detail of the Standard Industrial Trade Classification System (SITC). The calculation of indexes by SITC category facilitates the comparison of U.S. price trends and sector production with similar data for other countries. Detailed indexes are also computed and published on a Standard Industrial Classification (SIC-based) basis, as well as by end-use class.

Notes on the data

The export and import price indexes are weighted indexes of the Laspeyeres type. Price relatives are assigned equal importance within each weight category and are then aggregated to the SITC level. The values assigned to each weight category are based on trade value figures compiled

by the Bureau of the Census. The trade weights currently used to compute both indexes relate to 1980.

Because a price index depends on the same items being priced from period to period, it is necessary to recognize when a product's specifications or terms of transaction have been modified. For this reason, the Bureau's quarterly questionnaire requests detailed descriptions of the physical and functional characteristics of the products being priced, as well as information on the number of units bought or sold, discounts, credit terms, packaging, class of buyer or seller, and so forth. When there are changes in either the specifications or terms of transaction of a product, the dollar value of each change is deleted from the total price change to obtain the "pure" change. Once this value is determined, a linking procedure is employed which allows for the continued repricing of the item.

For the export price indexes, the preferred pricing basis is f.a.s. (free alongside ship) U.S. port of exportation. When firms report export prices f.o.b. (free on board), production point information is collected which enables the Bureau to calculate a shipment cost to the port of exportation. An attempt is made to collect two prices for imports. The first is the import price f.o.b. at the foreign port of exportation, which is consistent with the basis for valuation of imports in the national accounts. The second is the import price c.i.f. (cost, insurance, and freight) at the U.S. port of importation, which also includes the other costs associated with bringing the product to the U.S. border. It does not, however, include duty charges.

Additional sources of information

For a discussion of the general method of computing International Price Indexes, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 8.

Additional detailed data and analyses of international price developments are presented in the Bureau's quarterly publication *U.S. Import and Export Price Indexes* and in occasional *Monthly Labor Review* articles prepared by BLS analysts. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

PRODUCTIVITY DATA
(Tables 2; 42–44)

U. S. productivity and related data

Description of the series

The productivity measures relate real physical output to real input. As such, they encompass a family of measures which include single factor input measures, such as output per unit of labor input (output per hour) or output per unit of capital input, as well as measures of multifactor productivity (output per unit of labor and capital inputs combined). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

Corresponding indexes of hourly compensation, unit labor costs, unit nonlabor payments, and prices are also provided.

Definitions

Output per hour of all persons (labor productivity) is the value of goods and services in constant prices produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the value of goods and services in constant dollars produced per unit of capital services input.

Multifactor productivity is the ratio output per unit of labor and capital inputs combined. Changes in this measure reflect changes in a number of factors which affect the production process such as changes in technology, shifts in the composition of the labor force, changes in capacity utilization, research and development, skill and efforts of the work force, management, and so forth. Changes in the output per hour measures reflect the impact of these factors as well as the substitution of capital for labor.

Compensation per hour is the wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, and the wages, salaries, and supplementary payments for the self-employed (except for nonfinancial corporations in which there are no self-employed)—the sum divided by hours paid for. **Real compensation per hour** is compensation per hour deflated by the change in the Consumer Price Index for All Urban Consumers.

Unit labor costs is the labor compensation costs expended in the production of a unit of output and is derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from current dollar value of output and dividing by output. **Unit nonlabor costs** contain all the components of unit nonlabor payments *except* unit profits.

Unit profits include corporate profits and the value of inventory adjustments per unit of output.

Hours of all persons are the total hours paid of payroll workers, self-employed persons, and unpaid family workers.

Capital services is the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories—weighted by rental prices for each type of asset.

Labor and capital inputs combined are derived by combining changes in labor and capital inputs with weights which represent each component's share of total output. The indexes for capital services and combined units of labor and capital are based on changing weights which are averages of the shares in the current and preceding year (the Tornquist index-number formula).

Notes on the data

Output measures for the business sector and the nonfarm businesss sector exclude the constant dollar value of owner-occupied housing, rest of world, households and institutions, and general government output from the constant dollar value of gross national product. The measures are derived from data supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are developed from data of the Bureau of Labor Statistics and the Bureau of Economic Analysis.

The productivity and associated cost measures in tables 42–44 describe the relationship between output in real terms and the labor time and capital services involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input. Although these measures relate output to hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; capital investment; level of output; utilization of capacity, energy, and materials; the organization of production; managerial skill; and the characteristics and efforts of the work force.

Additional sources of information

Descriptions of methodology underlying the measurement of output per hour and multifactor productivity are found in the *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 13. Historical data for selected industries are provided in the Bureau's *Handbook of Labor Statistics*, 1985, Bulletin 2217.

INTERNATIONAL COMPARISONS

(Tables 45–47)

Labor force and unemployment

Description of the series

Tables 45 and 46 present comparative measures of the labor force, employment, and unemployment—approximating U.S. concepts—for the United States, Canada, Australia, Japan, and six European countries. The unemployment statistics (and, to a lesser extent, employment statistics) published by other industrial countries are not, in most cases, comparable to U.S. unemployment statistics. Therefore, the Bureau adjusts the figures for selected countries, where necessary, for all known major definitional differences. Although precise comparability may not be achieved, these adjusted figures provide a better basis for international comparisons than the figures regularly published by each country.

Definitions

For the principal U.S. definitions of the **labor force**, **employment**, and **unemployment**, see the Notes section on EMPLOYMENT DATA: Household Survey Data.

Notes on the data

The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country, rather than to the U.S. standard of 16 years of age and over. Therefore, the adjusted statistics relate to the population age 16 and over in France, Sweden, and from 1973 onward, Great Britain; 15 and over in Canada, Australia, Japan, Germany, the Netherlands, and prior to 1973, Great Britain; and 14 and over in Italy. The institutional population is included in the denominator of the labor force participation rates and employment-population ratios for Japan and Germany; it is excluded for the United States and the other countries.

In the U.S. labor force survey, persons on layoff who are awaiting recall to their job are classified as unemployed. European and Japanese layoff practices are quite different in nature from those in the United States; therefore, strict application of the U.S. definition has not been made on this point. For further information, see *Monthly Labor Review*, December 1981, pp. 8–11.

The figures for one or more recent years for France, Germany, Great Britain, Italy, and the Netherlands are calculated using adjustment factors based on labor force surveys for earlier years and are considered preliminary. The recent-year measures for these countries are, therefore, subject to revision whenever data from more current labor force surveys become available.

Additional sources of information

For further information, see *International Comparisons of Unemployment*, Bulletin 1979 (Bureau of Labor Statistics, 1978), Appendix B and unpublished Supplements to Appendix B available on request. The statistics are also analyzed periodically in the *Monthly Labor Review*. Additional historical data, generally beginning with 1959, are published in the *Handbook of Labor Statistics* and are available in unpublished statistical supplements to Bulletin 1979.

Manufacturing productivity and labor costs

Description of the series

Table 47 presents comparative measures of manufacturing labor productivity, hourly compensation costs, and unit labor costs for the United States, Canada, Japan, and nine European countries. These measures are limited to trend comparisons—that is, intercountry series of changes over time—rather than level comparisons because reliable international comparisons of the levels of manufacturing output are unavailable.

Definitions

Output is constant value output (value added), generally taken from the national accounts of each country. While the national accounting methods for measuring real output differ considerably among the 12 countries, the use of different procedures does not, in itself, connote lack of comparability—rather, it reflects differences among countries in the availability and reliability of underlying data series.

Hours refer to all employed persons including the self-employed in the United States and Canada; to all wage and salary employees in the other countries. The U.S. hours measure is hours paid; the hours measures for the other countries are hours worked.

Compensation (labor cost) includes all payments in cash or kind made directly to employees plus employer expenditures for legally required insurance programs and contractual and private benefit plans. In addition, for some countries, compensation is adjusted for other significant taxes on payrolls or employment (or reduced to reflect subsidies), even if they are not for the direct benefit of workers, because such taxes are regarded as labor costs. However, compensation does not include all items of labor cost. The costs of recruitment, employee training, and plant facilities and services—such as cafeterias and medical clinics—are not covered because data are not available for most countries. Self-employed workers are included in the U.S. and Canadian compensation figures by assuming that their hourly compensation is equal to the average for wage and salary employees.

Notes on the data

For most of the countries, the measures refer to total manufacturing as defined by the International Standard Industrial Classification. However, the measures for France (beginning 1959), Italy (beginning 1970), and the United Kingdom (beginning 1976), refer to manufacturing and mining less energy-related products and the figures for the Netherlands exclude petroleum refining from 1969 to 1976. For all countries, manufacturing includes the activities of government enterprises.

The figures for one or more recent years are generally based on current indicators of manufacturing output, employment, hours, and hourly compensation and are considered preliminary until the national accounts and other statistics used for the long-term measures become available.

Additional sources of information

For additional information, see the *BLS Handbook of Methods*, Bulletin 2134, Vol. 1, Chapter 16 (Bureau of Labor Statistics, 1982) and periodic *Monthly Labor Review* articles. Historical data are provided in the Bureau's *Handbook of Labor Statistics*, Bulletin 2217, 1985. The statistics are issued twice per year—in a news release (generally in May) and in a *Monthly Labor Review* article (generally in December).

OCCUPATIONAL INJURY AND ILLNESS DATA

(Table 48)

Description of the series

The Annual Survey of Occupational Injuries and Illnesses is designed to collect data on injuries and illnesses based on records which employers in the following industries maintain under the Occupational Safety and Health Act of 1970: agriculture, forestry, and fishing; oil and gas extraction; construction; manufacturing; transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. Excluded from the survey are self-employed individuals, farmers with fewer than 11 employees, employers regulated by other Federal safety and health laws, and Federal, State, and local government agencies.

Because the survey is a Federal–State cooperative program and the data must meet the needs of participating State agencies, an independent sample is selected for each State. The sample is selected to represent all private industries in the States and territories. The sample size for the survey is dependent upon (1) the characteristics for which estimates are needed; (2) the industries for which estimates are desired; (3) the characteristics of the population being sampled; (4) the target reliability of the estimates; and (5) the survey design employed.

While there are many characteristics upon which the sample design could be based, the total recorded case incidence rate is used because it is one of the most important characteristics and the least variable; therefore, it requires the smallest sample size.

The survey is based on stratified random sampling with a Neyman allocation and a ratio estimator. The characteristics used to stratify the establishments are the Standard Industrial Classification (SIC) code and size of employment.

Definitions

Recordable occupational injuries and illnesses are: (1) occupational deaths, regardless of the time between injury and death, or the length of the illness; or (2) nonfatal occupational illnesses; or (3) nonfatal occupational injuries which involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment (other than first aid).

Occupational injury is any injury such as a cut, fracture, sprain, amputation, and so forth, which results from a work accident or from exposure involving a single incident in the work environment.

Occupational illness is an abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. It includes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion, or direct contact.

Lost workday cases are cases which involve days away from work, or days of restricted work activity, or both.

Lost workday cases involving restricted work activity are those cases which result in restricted work activity only.

Lost workdays away from work are the number of workdays (consecutive or not) on which the employee would have worked but could not because of occupational injury or illness.

Lost workdays—restricted work activity are the number of workdays (consecutive or not) on which, because of injury or illness: (1) the employee was assigned to another job on a temporary basis; or (2) the employee worked at a permanent job less than full time; or (3) the employee worked at a permanently assigned job but could not perform all duties normally connected with it.

The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked even though able to work.

Incidence rates represent the number of injuries and/or illnesses or lost workdays per 100 full-time workers.

Notes on the data

Estimates are made for industries and employment-size classes and for severity classification: fatalities, lost workday cases, and nonfatal cases without lost workdays. Lost workday cases are separated into those where the employee would have worked but could not and those in which work activity was restricted. Estimates of the number of cases and the number of days lost are made for both categories.

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses, or lost workdays, per 100 full-time employees. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Only a few of the available measures are included in the *Handbook of Labor Statistics*. Full detail is presented in the annual bulletin, *Occupational Injuries and Illnesses in the United States, by Industry*.

Comparable data for individual States are available from the BLS Office of Occupational Safety and Health Statistics.

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration, respectively. Data from these organizations are included in BLS and State publications. Federal employee experience is compiled and published by the Occupational Safety and Health Administration. Data on State and local government employees are collected by about half of the States and territories; these data are not compiled nationally.

Additional sources of information

The Supplementary Data System provides detailed information describing various factors associated with work-related injuries and illnesses. These data are obtained from information reported by *employers* to State workers' compensation agencies. The Work Injury Report program examines selected types of accidents through an employee survey which focuses on the circumstances surrounding the injury. These data are not included in the *Handbook of Labor Statistics* but are available from the BLS Office of Occupational Safety and Health Statistics.

The definitions of occupational injuries and illnesses and lost workdays are from *Recordkeeping Requirements under the Occupational Safety and Health Act of 1970*. For additional data, see *Occupational Injuries and Illnesses in the United States, by Industry*, annual Bureau of Labor Statistics bulletin; BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 17; *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985), pp. 411–14; annual reports in the *Monthly Labor Review*; and annual U.S. Department of Labor press releases.

1. Labor market indicators

Selected indicators	1984	1985	1984				1985			
			I	II	III	IV	I	II	III	IV
Employment data										
Employment status of the civilian noninstitutionalized population (household survey)[1]										
Labor force participation rate	64.4	64.8	64.1	64.5	64.4	64.5	64.8	64.7	64.7	64
Employment-population ratio	59.5	60.1	59.0	59.6	59.7	59.8	60.1	60.0	60.1	60
Unemployment rate	7.5	7.2	7.9	7.5	7.4	7.2	7.3	7.3	7.2	7
Men	7.4	7.0	7.9	7.4	7.3	7.1	7.1	7.1	7.0	6
16 to 24 years	14.4	14.1	15.0	14.3	14.5	13.8	14.1	14.2	14.0	14
25 years and over	5.7	5.3	6.1	5.7	5.5	5.4	5.4	5.4	5.3	5
Women	7.6	7.4	7.9	7.6	7.6	7.5	7.6	7.5	7.4	7.2
16 to 24 years	13.3	13.0	13.9	13.5	13.1	12.9	13.1	13.0	12.7	13.1
25 years and over	6.0	5.9	6.1	5.9	6.0	5.9	6.0	6.0	5.9	5.5
Unemployment rate, 15 weeks and over	2.4	2.0	2.7	2.5	2.3	2.1	2.0	2.0	2.0	1
Employment, nonagricultural (payroll data):[1], [2]										
Total	94,461	97,699	93,035	94,013	94,915	95,849	96,640	97,338	97,967	98,81
Private sector	78,477	81,404	77,153	78,082	78,898	79,745	80,522	81,143	81,568	82,32
Goods-producing	24,730	25,057	24,402	24,680	24,861	24,973	25,077	25,055	24,986	25,09
Manufacturing	19,412	19,426	19,182	19,394	19,509	19,564	19,564	19,430	19,331	19,
Service-producing	69,731	72,643	68,633	69,333	70,055	70,876	71,563	72,283	72,981	73,717
Average hours:										
Private sector	35.3	35.1	35.3	35.3	35.3	35.2	35.1	35.1	35.1	35.1
Manufacturing	40.7	40.5	40.9	40.8	40.5	40.5	40.4	40.3	40.5	40.8
Overtime	3.4	3.3	3.5	3.5	3.3	3.4	3.3	3.2	3.3	3.5
Employment Cost Index										
Percent change in the ECI, compensation:[3]										
All workers (excluding farm, household, and Federal workers)	–	–	1.7	.8	1.3	1.2	1.3	.7	1.6	.6
Private industry workers	–	–	1.7	.9	.8	1.3	1.2	.8	1.3	.6
Goods-producing[4]	–	–	1.8	.9	.9	1.1	1.5	.7	.6	.5
Servicing-producing[4]	–	–	1.9	1.0	.7	1.4	1.6	1.0	1.8	.5
State and local government workers	–	–	1.6	.4	3.5	1.0	1.2	.2	2.4	.7
Workers by bargaining status (private industry)										
Union	–	–	1.5	.9	.7	1.1	.7	.6	.6	.5
Nonunion	–	–	1.8	1.0	.9	1.3	1.6	1.0	1.4	.6

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[1] Quarterly data seasonally adjusted.

[2] Data for 1985 and 4th quarter 1985 are preliminary.

[3] Annual changes are December-to-December change. Quarterly changes calculated using the last month of each quarter.

[4] Goods-producing industries include mining, construction, and manufacturing. Service-producing industries include all other private sector industries.

– Data not available.

2. Annual and quarterly percent changes in compensation, prices, and productivity

Selected measures	1984	1985	1984 I	1984 II	1984 III	1984 IV	1985 I	1985 II	1985 III	1985 IV
Compensation data: [1], [2]										
Employment Cost Index–Compensation (wages, salaries, benefits)										
Civilian nonfarm	–	–	1.7	0.8	1.3	1.2	1.3	0.7	1.6	0.6
Private nonfarm	–	–	1.7	.9	.8	1.3	1.2	.8	1.3	.6
Employment Cost Index–Wages and Salaries										
Civilian nonfarm	–	–	1.2	.8	1.3	1.2	1.2	.9	1.7	.6
Private nonfarm	–	–	1.2	.9	.8	1.2	1.2	1.1	1.3	6
Price data[1]										
Consumer Price Index (All urban consumers): All items	4.0	3.8	1.3	1.1	1.2	.3	1.0	1.1	.7	.9
Producer Price Index										
Finished goods	1.7	1.8	1.5	-.2	-.5	.9	.0	.7	-1.4	2.5
Finished consumer goods	1.6	1.5	1.7	-.3	-.5	.8	-.3	.7	-1.4	2.5
Capital equipment	1.8	2.7	.7	.5	-.5	1.1	1.3	.4	-1.4	2.4
Intermediate materials, supplies, components	1.3	-.3	1.3	.6	-.4	-.1	-.4	.2	-.5	.3
Crude materials	-1.2	-6.4	5.4	-3.6	-2.9	.1	-4.0	-3.8	-7.8	9.9
U.S. Export Price Index	–	–	–	–	–	–	–	–	–	–
U.S. Import Price Index	–	–	–	–	–	–	–	–	–	–
Productivity data[1]										
Output per hour of all persons:										
Business sector	4.0	.2	7.7	4.5	1.0	.0	1.3	.7	2.1	-4.0
Nonfarm business sector	3.0	-.6	6.2	3.9	-.5	-.5	1.1	-.2	.5	-4.7
Nonfinancial corporations [3]	4.2	-.4	8.2	5.0	-.8	-.3	-.2	-1.1	3.2	-2.3

[1] Annual changes are December-to-December change. Quarterly changes are calculated using the last month of each quarter. Compensation and Price data are not seasonally adjusted and the price data are not compounded. Productivity data are seasonally adjusted.

[2] Excludes Federal and private household workers.

[3] Output per hour of all employees.

– Data not available.

3. Alternative measures of wage and compensation changes

Components	Quarterly average 1984 III	Quarterly average 1984 IV	Quarterly average 1985 I	Quarterly average 1985 II	Quarterly average 1985 III	Quarterly average 1985 IV	Four quarters ended in-- 1984 III	Four quarters ended in-- 1984 IV	Four quarters ended in-- 1985 I	Four quarters ended in-- 1985 II	Four quarters ended in-- 1985 III	Four quarters ended in-- 1985 IV
Average hourly compensation:[1]												
All persons, business sector	–	–	–	–	–	–	–	–	–	–	–	–
All employees, nonfarm business sector	–	–	–	–	–	–	–	–	–	–	–	–
Hourly earnings index:[2]												
All private nonfarm	–	–	–	–	–	–	–	–	–	–	–	–
Employment Cost Index–compensation:												
Civilian nonfarm [3]	1.3	1.2	1.3	0.7	1.6	0.6	5.1	5.2	4.8	4.6	4.9	4.3
Private nonfarm	.8	1.3	1.2	.8	1.3	.6	4.8	4.9	4.4	4.2	4.7	3.9
Union	.7	1.1	.7	.6	.8	.5	4.1	4.3	3.5	3.1	3.2	2.6
Nonunion	.9	1.3	1.6	1.0	1.4	.6	5.2	5.2	4.9	4.9	5.4	4.6
State and local governments	3.5	1.0	1.2	.2	3.4	.7	6.6	6.6	6.3	6.1	6.0	5.7
Employment Cost Index–wages and salaries:												
Civilian nonfarm[3]	1.3	1.2	1.2	.9	1.7	.6	4.3	4.5	4.4	4.5	5.0	4.4
Private nonfarm	.8	1.2	1.2	1.1	1.3	.6	4.1	4.1	4.1	4.3	4.8	4.1
Union	.7	.9	.7	1.1	.9	.5	3.3	3.4	3.0	3.4	3.6	3.1
Nonunion	.8	1.3	1.4	1.1	1.5	.6	4.5	4.5	4.6	4.8	5.4	4.6
State and local governments	3.4	.6	1.0	.2	3.5	.8	5.8	5.9	5.6	5.5	5.6	5.6
Total effective wage adjustments[4]	1.2	.7	.8	.8	1.2	.5	4.2	3.7	3.6	3.5	3.5	3.3
From current settlements	.2	.3	.1	.5	.2	.2	1.0	.8	.7	.9	.9	.7
From prior settlements	.7	.2	.6	.5	.6	.2	2.1	2.0	2.2	1.9	1.8	1.8
From cost-of-living provision	.3	.2	.1	.1	.4	.1	1.2	.9	.7	.7	.8	.8
Negotiated wage adjustments from settlements[4]												
First-year adjustments	2.1	2.3	3.3	2.5	2.0	2.1	3.2	2.4	2.4	2.4	2.4	2.3
Annual rate over life of contract	2.6	1.5	3.2	2.6	3.1	1.9	2.8	2.4	2.3	2.4	2.5	2.7
Negotiated wage and benefit adjustments from settlements[5]												
First-year adjustment	2.7	3.7	3.6	3.5	2.0	2.0	4.2	3.6	3.4	3.5	3.1	–
Annual rate over life of contract	3.1	2.8	2.7	3.4	3.0	1.4	3.2	2.8	2.6	2.7	2.7	2.8

[1] Seasonally adjusted.

[2] Production or nonsupervisory workers.

[3] Excludes Federal and household workers.

[4] Limited to major collective bargaining units of 1,000 workers or more. The most recent data are preliminary.

[5] Limited to major collective bargaining units of 5,000 workers or more. The most recent data are preliminary.

– Data not available.

4. Employment status of the total population, by sex, monthly data seasonally adjusted

(Number in thousands)

Employment status	Annual average		1985										1986		
	1984	1985	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
TOTAL															
Noninstitutional population [1], [2]	178,080	179,912	179,368	179,501	179,649	179,798	179,967	180,131	180,304	180,470	180,642	180,810	181,361	181,512	181,67
Labor force[2]	115,241	117,167	117,036	116,958	117,044	116,726	116,976	117,069	117,522	117,814	117,832	117,927	118,477	118,779	118,90
Participation rate [3]	64.7	65.1	65.2	65.2	65.2	64.9	65.0	65.0	65.2	65.3	65.2	65.2	65.3	65.4	65.
Total employed [2]	106,702	108,856	108,652	108,574	108,644	108,303	108,575	108,936	109,251	109,513	109,671	109,904	110,646	110,252	110,48
Employment-population ratio [4]	59.9	60.5	60.6	60.5	60.5	60.2	60.3	60.5	60.6	60.7	60.7	60.8	61.0	60.7	60.
Resident Armed Forces [1]	1,697	1,706	1,701	1,702	1,705	1,702	1,704	1,726	1,732	1,700	1,702	1,698	1,691	1,691	1,6
Civilian employed	105,005	107,150	106,951	106,872	106,939	106,601	106,871	107,210	107,519	107,813	107,969	108,206	108,955	108,561	108,78
Agriculture	3,321	3,179	3,314	3,353	3,284	3,140	3,120	3,095	3,017	3,058	3,070	3,151	3,299	3,096	3,29
Nonagricultural industries	101,685	103,971	103,637	103,519	103,655	103,461	103,751	104,115	104,502	104,755	104,899	105,055	105,655	105,465	105,50
Unemployed	8,539	8,312	8,384	8,384	8,400	8,423	8,401	8,133	8,271	8,301	8,161	8,023	7,831	8,527	8,41
Unemployment rate [5]	7.4	7.1	7.2	7.2	7.2	7.2	7.2	6.9	7.0	7.0	6.9	6.8	6.6	7.2	7.
Not in labor force	62,839	62,744	62,332	62,543	62,605	63,072	62,991	63,062	62,782	62,656	62,810	62,883	62,885	62,733	62,77
Men, 16 years and over															
Noninstitutional population [1], [2]	85,156	86,025	85,764	85,827	85,898	85,970	86,052	86,132	86,217	86,293	86,374	86,459	86,862	86,954	87,03
Labor force[2]	65,386	65,967	65,898	65,929	66,012	65,808	65,884	65,945	66,074	66,227	66,176	66,139	66,679	66,838	66,8
Participation rate [3]	76.8	76.7	76.8	76.8	76.8	76.5	76.6	76.6	76.6	76.7	76.6	76.5	76.7	76.9	76.
Total employed [2]	60,642	61,447	61,381	61,373	61,498	61,175	61,273	61,510	61,629	61,656	61,731	61,793	62,458	62,243	62,2
Employment-population ratio [4]	71.2	71.4	71.6	71.5	71.6	71.2	71.2	71.4	71.5	71.4	71.5	71.5	71.9	71.6	71.
Resident Armed Forces [1]	1,551	1,556	1,553	1,553	1,556	1,552	1,554	1,574	1,580	1,551	1,552	1,549	1,539	1,539	1,540
Civilian employed	59,091	59,891	59,828	59,820	59,942	59,623	59,719	59,936	60,049	60,105	60,179	60,244	60,919	60,704	60,740
Unemployed	4,744	4,521	4,517	4,556	4,514	4,633	4,611	4,435	4,445	4,571	4,445	4,346	4,221	4,595	4,57
Unemployment rate [5]	7.3	6.9	6.9	6.9	6.8	7.0	7.0	6.7	6.7	6.9	6.7	6.6	6.3	6.9	6.
Women, 16 years and over															
Noninstitutional population [1], [2]	92,924	93,886	93,603	93,674	93,751	93,828	93,915	93,999	94,087	94,177	94,266	94,351	94,479	94,558	94,643
Labor force[2]	49,855	51,200	51,138	51,029	51,032	50,918	51,092	51,124	51,448	51,587	51,655	51,788	51,797	51,941	52,036
Participation rate [3]	53.7	54.5	54.6	54.5	54.4	54.3	54.4	54.4	54.7	54.8	54.8	54.9	54.8	54.9	55.0
Total employed[2]	46,061	47,409	47,271	47,201	47,146	47,128	47,302	47,426	47,622	47,857	47,939	48,111	48,187	48,009	48,194
Employment-population ratio [4]	49.6	50.5	50.5	50.4	50.3	50.2	50.4	50.5	50.6	50.8	50.9	51.0	51.0	50.8	50.9
Resident Armed Forces [1]	146	150	148	149	149	150	150	152	152	149	149	149	152	152	153
Civilian employed	45,915	47,259	47,123	47,052	46,997	46,978	47,152	47,274	47,470	47,708	47,790	47,962	48,035	47,857	48,041
Unemployed	3,794	3,791	3,867	3,828	3,886	3,790	3,790	3,698	3,826	3,730	3,716	3,677	3,610	3,932	3,842
Unemployment rate [5]	7.6	7.4	7.6	7.5	7.6	7.4	7.4	7.2	7.4	7.2	7.2	7.1	7.0	7.6	7.4

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[1] The population and Armed Forces figures are not adjusted for seasonal variation.

[2] Includes members of the Armed Forces stationed in the United States.

[3] Labor force as a percent of the noninstitutional population.

[4] Total employed as a percent of the noninstitutional population.

[5] Unemployment as a percent of the labor force (including the resident Armed Forces).

5. Employment status of the civilian population, by sex, age, race and Hispanic origin, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1985										1986		
	1984	1985	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
TOTAL															
Civilian noninstitutional population[1]	176,383	178,206	177,667	177,799	177,944	178,096	178,263	178,405	178,572	178,770	178,940	179,112	179,670	179,821	179,985
Civilian labor force	113,544	115,461	115,335	115,256	115,339	115,024	115,272	115,343	115,790	116,114	116,130	116,229	116,786	117,088	117,207
Participation rate	64.4	64.8	64.9	64.8	64.8	64.6	64.7	64.7	64.8	65.0	64.9	64.9	65.0	65.1	65.1
Employed	105,005	107,150	106,951	106,872	106,939	106,601	106,871	107,210	107,519	107,813	107,969	108,206	108,955	108,561	108,788
Employment-population ratio[2]	59.5	60.1	60.2	60.1	60.1	59.9	60.0	60.1	60.2	60.3	60.3	60.4	60.6	60.4	60.4
Unemployed	8,539	8,312	8,384	8,384	8,400	8,423	8,401	8,133	8,271	8,301	8,161	8,023	7,831	8,527	8,419
Unemployment rate	7.5	7.2	7.3	7.3	7.3	7.3	7.3	7.1	7.1	7.1	7.0	6.9	6.7	7.3	7.2
Not in labor force	62,839	62,744	62,332	62,543	62,605	63,072	62,991	63,062	62,782	62,656	62,810	62,883	62,885	62,733	62,778
Men, 20 years and over															
Civilian noninstitutional population[1]	76,219	77,135	76,904	76,988	77,068	77,135	77,243	77,306	77,369	77,498	77,566	77,651	78,101	78,171	[illegible]236
Civilian labor force	59,701	60,277	60,154	60,165	60,240	60,246	60,158	60,269	60,407	60,526	60,553	60,548	61,212	61,183	61,268
Participation rate	78.3	78.1	78.2	78.1	78.2	78.1	77.9	78.0	78.1	78.1	78.1	78.0	78.4	78.3	78.3
Employed	55,769	56,562	56,411	56,390	56,544	56,384	56,403	56,636	56,751	56,849	56,897	56,982	57,706	57,384	57,459
Employment-population ratio[2]	73.2	73.3	73.4	73.2	73.4	73.1	73.0	73.3	73.3	73.4	73.4	73.4	73.9	73.4	73.4
Agriculture	2,418	2,278	2,329	2,358	2,352	2,260	2,230	2,231	2,171	2,188	2,210	2,278	2,349	2,256	2,411
Nonagricultural industries	53,351	54,284	54,082	54,032	54,192	54,124	54,173	54,405	54,580	54,661	54,687	54,704	55,356	55,127	55,048
Unemployed	3,932	3,715	3,743	3,775	3,696	3,862	3,755	3,633	3,656	3,677	3,656	3,566	3,507	3,799	3,809
Unemployment rate	6.6	6.2	6.2	6.3	6.1	6.4	6.2	6.0	6.1	6.1	6.0	5.9	5.7	6.2	6.2
Women, 20 years and over															
Civilian noninstitutional population[1]	85,429	86,506	86,181	86,274	86,380	86,477	86,575	86,652	86,727	86,810	86,901	86,988	87,112	87,185	87,263
Civilian labor force	45,900	47,283	47,095	47,103	47,082	47,185	47,190	47,340	47,558	47,663	47,713	47,870	47,895	47,921	47,952
Participation rate	53.7	54.7	54.6	54.6	54.5	54.6	54.5	54.6	54.8	54.9	54.9	55.0	55.0	55.0	55.0
Employed	42,793	44,154	43,927	43,925	43,883	44,033	44,070	44,197	44,363	44,609	44,656	44,882	44,980	44,710	44,797
Employment-population ratio[2]	50.1	51.0	51.0	50.9	50.8	50.9	50.9	51.0	51.2	51.4	51.4	51.6	51.6	51.3	51.3
Agriculture	595	596	630	633	600	572	596	581	557	609	591	597	696	593	598
Nonagricultural industries	42,198	43,558	43,297	43,292	43,283	43,461	43,474	43,616	43,806	44,000	44,065	44,285	44,284	44,117	44,199
Unemployed	3,107	3,129	3,168	3,178	3,199	3,152	3,120	3,143	3,195	3,054	3,057	2,988	2,915	3,211	3,155
Unemployment rate	6.8	6.6	6.7	6.7	6.8	6.7	6.6	6.6	6.7	6.4	6.4	6.2	6.1	6.7	6.6
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	14,735	14,506	14,582	14,538	14,496	14,483	14,445	14,448	14,456	14,463	14,472	14,474	14,458	14,465	14,485
Civilian labor force	7,943	7,901	8,086	7,988	8,017	7,593	7,924	7,734	7,825	7,925	7,864	7,811	7,678	7,984	7,987
Participation rate	53.9	54.5	55.5	54.9	55.3	52.4	54.9	53.5	54.1	54.8	54.3	54.0	53.1	55.2	55.1
Employed	6,444	6,434	6,613	6,557	6,512	6,184	6,398	6,377	6,405	6,355	6,416	6,342	6,269	6,467	6,532
Employment-population ratio[2]	43.7	44.4	45.4	45.1	44.9	42.7	44.3	44.1	44.3	43.9	44.3	43.8	43.4	44.7	45.1
Agriculture	309	305	355	362	332	308	294	283	289	261	269	276	254	246	276
Nonagricultural industries	6,135	6,129	6,258	6,195	6,180	5,876	6,104	6,094	6,116	6,094	6,147	6,066	6,015	6,221	6,256
Unemployed	1,499	1,468	1,473	1,431	1,505	1,409	1,526	1,357	1,420	1,570	1,448	1,469	1,409	1,517	1,455
Unemployment rate	18.9	18.6	18.2	17.9	18.8	18.6	19.3	17.5	18.1	19.8	18.4	18.8	18.4	19.0	18.2
White															
Civilian noninstitutional population[1]	152,347	153,679	153,296	153,388	153,489	153,597	153,717	153,819	153,938	154,082	154,203	154,327	154,784	154,889	155,005
Civilian labor force	98,492	99,926	99,862	99,718	99,771	99,527	99,705	99,817	100,179	100,533	100,478	100,533	100,961	101,232	101,248
Participation rate	64.6	65.0	65.1	65.0	65.0	64.8	64.9	64.9	65.1	65.2	65.2	65.1	65.2	65.4	65.3
Employed	92,120	93,736	93,617	93,470	93,574	93,132	93,378	93,684	94,055	94,369	94,507	94,585	95,165	94,803	94,958
Employment-population ratio[2]	60.5	61.0	61.1	60.9	61.0	60.6	60.7	60.9	61.1	61.2	61.3	61.3	61.5	61.2	61.3
Unemployed	6,372	6,191	6,245	6,248	6,197	6,395	6,327	6,133	6,124	6,164	5,971	5,948	5,796	6,429	6,290
Unemployment rate	6.5	6.2	6.3	6.3	6.2	6.4	6.3	6.1	6.1	6.1	5.9	5.9	5.7	6.4	6.2
Black															
Civilian noninstitutional population[1]	19,348	19,664	19,569	19,594	19,620	19,646	19,675	19,700	19,728	19,761	19,790	19,819	19,837	19,863	19,869
Civilian labor force	12,033	12,364	12,294	12,364	12,372	12,317	12,354	12,289	12,378	12,412	12,457	12,522	12,548	12,545	12,656
Participation rate	62.2	62.9	62.8	63.1	63.1	62.7	62.8	62.4	62.7	62.8	62.9	63.2	63.3	63.2	63.7
Employed	10,119	10,501	10,422	10,489	10,466	10,538	10,499	10,560	10,500	10,566	10,518	10,657	10,737	10,690	10,791
Employment-population ratio[2]	52.3	53.4	53.3	53.5	53.3	53.6	53.4	53.6	53.2	53.5	53.1	53.8	54.1	53.8	54.3
Unemployed	1,914	1,864	1,872	1,875	1,906	1,779	1,855	1,729	1,878	1,846	1,939	1,865	1,810	1,855	1,865
Unemployment rate	15.9	15.1	15.2	15.2	15.4	14.4	15.0	14.1	15.2	14.9	15.6	14.9	14.4	14.8	14.7

See footnotes at end of table.

5. Continued— Employment status of the civilian population, by sex, age, race and Hispanic origin, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1985										1986		
	1984	1985	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Hispanic origin															
Civilian noninstitutional population[1]	11,478	11,915	11,789	11,826	11,862	11,897	11,933	11,969	12,004	12,040	12,075	12,111	12,148	12,184	12,219
Civilian labor force	7,451	7,698	7,621	7,607	7,616	7,669	7,713	7,781	7,844	7,854	7,782	7,772	7,787	7,943	7,920
Participation rate	64.9	64.6	64.6	64.3	64.2	64.5	64.6	65.0	65.3	65.2	64.4	64.2	64.1	65.2	64.8
Employed	6,651	6,888	6,838	6,814	6,806	6,856	6,870	6,973	7,026	6,982	6,953	6,962	6,998	6,969	7,105
Employment-population ratio[2]	57.9	57.8	58.0	57.6	57.4	57.6	57.6	58.3	58.5	58.0	57.6	57.5	57.6	57.2	58.2
Unemployed	800	811	783	793	810	813	843	808	818	872	829	810	789	974	815
Unemployment rate	10.7	10.5	10.3	10.4	10.6	10.6	10.9	10.4	10.4	11.1	10.7	10.4	10.1	12.3	10.3

[1] The population figures are not seasonally adjusted.

[2] Civilian employment as a percent of the civilian noninstitutional population.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" groups are not presented and Hispanics are included in both the white and black population groups.

6. Selected employment indicators, monthly data seasonally adjusted

(In thousands)

Selected categories	Annual average		1985										1986		
	1984	1985	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
CHARACTERISTIC															
Civilian employed, 16 years and over	105,005	107,150	106,951	106,872	106,939	106,601	106,871	107,210	107,519	107,813	107,969	108,206	108,955	108,561	108,789
Men	59,091	59,891	59,828	59,820	59,942	59,623	59,719	59,936	60,049	60,105	60,179	60,244	60,919	60,704	60,748
Women	45,915	47,259	47,123	47,052	46,997	46,978	47,152	47,274	47,470	47,708	47,790	47,962	48,035	47,857	48,041
Married men, spouse present	39,056	39,248	39,467	39,362	39,280	38,966	39,096	39,142	39,103	39,272	39,314	39,278	39,615	39,382	39,365
Married women, spouse present	25,636	26,336	26,163	26,087	26,036	26,174	26,316	26,392	26,531	26,702	26,721	26,804	26,958	26,593	26,656
Women who maintain families	5,485	5,597	5,600	5,603	5,626	5,643	5,607	5,627	5,556	5,514	5,605	5,683	5,702	5,733	5,771
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,555	1,535	1,586	1,653	1,582	1,530	1,479	1,456	1,438	1,465	1,537	1,572	1,673	1,519	1,689
Self-employed workers	1,553	1,458	1,502	1,493	1,498	1,451	1,474	1,444	1,414	1,436	1,361	1,409	1,492	1,444	1,453
Unpaid family workers	213	185	223	219	196	159	170	176	179	172	158	164	163	156	172
Nonagricultural industries:															
Wage and salary workers	93,565	95,871	95,606	95,493	95,660	95,391	95,523	95,791	96,546	96,530	96,676	96,921	97,911	97,516	97,689
Government	15,770	16,031	15,969	15,955	15,936	16,000	15,949	16,075	16,145	16,213	16,157	16,194	16,418	16,104	16,085
Private industries	77,794	79,841	79,637	79,538	79,724	79,391	79,574	79,716	80,401	80,317	80,519	80,727	81,494	81,412	81,604
Private households	1,238	1,249	1,225	1,218	1,255	1,228	1,251	1,295	1,266	1,271	1,197	1,131	1,256	1,197	1,213
Other	76,556	78,592	78,412	78,320	78,469	78,163	78,323	78,421	79,135	79,046	79,322	79,596	80,238	80,216	80,390
Self-employed workers	7,785	7,811	7,764	7,717	7,711	7,728	7,724	7,874	7,846	7,991	8,013	7,903	7,655	7,669	7,644
Unpaid family workers	335	299	321	305	290	292	277	303	286	248	249	250	273	270	240
PERSONS AT WORK PART TIME[1]															
All industries:															
Part time for economic reasons	5,744	5,590	5,682	5,690	5,876	5,544	5,596	5,680	5,554	5,475	5,488	5,494	5,543	5,377	5,539
Slack work	2,430	2,430	2,585	2,567	2,607	2,524	2,414	2,480	2,433	2,251	2,306	2,303	2,364	2,389	2,330
Could only find part-time work	2,948	2,819	2,783	2,767	2,871	2,751	2,766	2,835	2,815	2,897	2,883	2,864	2,883	2,703	2,953
Voluntary part time	13,169	13,489	13,517	13,356	13,079	13,439	13,634	13,622	13,496	13,713	13,645	13,556	13,958	13,817	13,754
Nonagricultural industries:															
Part time for economic reasons	5,512	5,334	5,421	5,402	5,550	5,279	5,328	5,413	5,299	5,241	5,285	5,294	5,275	5,159	5,301
Slack work	2,291	2,273	2,397	2,380	2,418	2,334	2,251	2,319	2,292	2,115	2,196	2,195	2,209	2,224	2,159
Could only find part-time work	2,866	2,730	2,670	2,679	2,785	2,675	2,686	2,740	2,730	2,801	2,784	2,780	2,776	2,636	2,861
Voluntary part time	12,704	13,038	13,016	12,926	12,612	12,985	13,235	13,179	13,053	13,277	13,194	13,122	13,441	13,389	13,285

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

7. Selected unemployment indicators, monthly data seasonally adjusted

(Unemployment rates)

Selected categories	Annual average		1985										1986		
	1984	1985	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
CHARACTERISTIC															
Total, all civilian workers	7.5	7.2	7.3	7.3	7.3	7.3	7.3	7.1	7.1	7.1	7.0	6.9	6.7	7.3	7.2
Both sexes, 16 to 19 years	18.9	18.6	18.2	17.9	18.8	18.6	19.3	17.5	18.1	19.8	18.4	18.8	18.4	19.0	18.2
Men, 20 years and over	6.6	6.2	6.2	6.3	6.1	6.4	6.2	6.0	6.1	6.1	6.0	5.9	5.7	6.2	6.2
Women, 20 years and over	6.8	6.6	6.7	6.7	6.8	6.7	6.6	6.6	6.7	6.4	6.4	6.2	6.1	6.7	6.6
White, total	6.5	6.2	6.3	6.3	6.2	6.4	6.3	6.1	6.1	6.1	5.9	5.9	5.7	6.4	6.2
Both sexes, 16 to 19 years	16.0	15.7	15.1	15.2	16.0	16.0	16.1	15.2	15.3	17.0	15.5	15.9	14.9	16.2	14.5
Men, 16 to 19 years	16.8	16.5	15.6	15.7	16.7	16.7	17.1	17.2	16.2	18.5	15.8	16.2	14.7	16.5	15.3
Women, 16 to 19 years	15.2	14.8	14.7	14.5	15.1	15.2	15.0	13.0	14.4	15.3	15.1	15.5	15.1	15.8	13.7
Men, 20 years and over	5.7	5.4	5.4	5.4	5.2	5.7	5.6	5.3	5.2	5.2	5.2	5.1	5.0	5.4	5.5
Women, 20 years and over	5.8	5.7	5.9	5.8	5.8	5.8	5.7	5.7	5.7	5.5	5.4	5.4	5.3	5.9	5.8
Black, total	15.9	15.1	15.2	15.2	15.4	14.4	15.0	14.1	15.2	14.9	15.6	14.9	14.4	14.8	14.7
Both sexes, 16 to 19 years	42.7	40.2	41.5	39.3	40.4	39.5	41.2	35.3	38.8	39.7	40.8	41.6	41.9	39.1	43.7
Men, 16 to 19 years	42.7	41.0	41.1	39.4	39.3	41.0	43.1	34.9	41.1	41.0	45.2	41.0	41.3	38.7	44.1
Women, 16 to 19 years	42.6	39.2	41.9	39.3	41.5	37.8	39.0	35.9	36.1	38.2	36.0	42.3	42.4	39.5	43.4
Men, 20 years and over	14.3	13.2	13.3	13.3	13.4	12.5	12.8	11.9	13.3	13.7	13.7	13.1	12.7	13.3	12.6
Women, 20 years and over	13.5	13.1	13.0	13.2	13.5	12.7	13.1	13.1	13.5	12.1	13.6	12.6	12.0	12.5	12.2
Hispanic origin, total	10.7	10.5	10.3	10.4	10.6	10.6	10.9	10.4	10.4	11.1	10.7	10.4	10.1	12.3	10.3
Married men, spouse present	4.6	4.3	4.3	4.3	4.0	4.6	4.4	4.1	4.3	4.2	4.3	4.3	4.3	4.5	4.5
Married women, spouse present	5.7	5.6	5.8	5.8	5.7	5.8	5.7	5.4	5.6	5.3	5.5	5.3	5.1	5.5	5.6
Women who maintain families	10.3	10.4	10.3	10.7	10.8	9.9	10.3	10.8	11.3	10.4	10.0	9.4	9.9	9.9	10.1
Full-time workers	7.2	6.8	6.9	6.9	6.9	6.9	7.0	6.8	6.8	6.8	6.7	6.6	6.4	6.9	6.9
Part-time workers	9.3	9.3	9.5	9.7	10.0	9.5	9.4	9.0	9.3	9.6	8.8	9.0	8.4	9.4	9.1
Unemployed 15 weeks and over	2.4	2.0	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.8	2.0	1.9
Labor force time lost[1]	8.6	8.1	8.2	8.2	8.3	8.2	8.2	8.1	8.1	7.9	7.9	7.8	7.6	8.1	8.1
INDUSTRY															
Nonagricultural private wage and salary workers	7.4	7.2	7.2	7.3	7.2	7.3	7.3	7.1	7.2	7.1	7.0	6.9	6.7	7.2	7.2
Mining	10.0	9.5	10.9	10.6	7.5	10.9	9.9	8.6	8.9	7.7	7.3	10.3	10.9	9.2	10.4
Construction	14.3	13.1	13.3	13.3	11.0	13.5	13.4	13.1	13.6	13.5	13.4	12.6	12.9	13.2	13.0
Manufacturing	7.5	7.7	7.7	7.9	7.8	7.7	7.9	7.8	7.7	7.5	7.7	7.3	7.0	7.2	7.2
Durable goods	7.2	7.6	7.5	7.7	7.8	7.9	7.9	7.9	7.7	7.3	7.6	7.3	7.0	7.4	6.8
Nondurable goods	7.8	7.8	8.1	8.2	7.8	7.5	7.9	7.6	7.8	7.8	7.8	7.3	7.1	7.0	7.7
Transportation and public utilities	5.5	5.1	4.7	5.4	5.2	5.3	5.7	4.5	5.3	5.1	5.1	5.0	4.3	5.3	6.1
Wholesale and retail trade	8.0	7.6	7.5	7.4	7.8	7.7	7.6	7.7	7.8	7.7	7.5	7.6	7.2	7.8	7.6
Finance and service industries	5.9	5.6	5.7	5.7	6.1	5.7	5.6	5.5	5.5	5.4	5.4	5.3	5.2	5.9	5.7
Government workers	4.5	3.9	4.0	3.9	3.9	3.9	4.0	3.9	3.8	3.9	3.6	3.8	3.4	3.8	4.0
Agricultural wage and salary workers	13.5	13.2	12.5	13.2	11.9	12.5	14.0	14.0	13.3	12.9	12.5	10.6	10.9	14.3	11.9

[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

8. Unemployment rates by sex and age, monthly data seasonally adjusted

(Civilian workers)

Sex and age	Annual average		1985										1986		
	1984	1985	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Total, 16 years and over	7.5	7.2	7.3	7.3	7.3	7.3	7.3	7.1	7.1	7.1	7.0	6.9	6.7	7.3	7.2
16 to 24 years	13.9	13.6	13.5	13.4	14.0	13.6	13.9	13.0	13.3	13.9	13.5	13.3	13.0	13.6	13.2
16 to 19 years	18.9	18.6	18.2	17.9	18.8	18.6	19.3	17.5	18.1	19.8	18.4	18.8	18.4	19.0	18.2
16 to 17 years	21.2	21.0	20.6	20.8	21.2	21.6	21.7	19.1	20.3	22.7	21.4	21.1	20.9	21.8	19.4
18 to 19 years	17.4	17.0	16.5	16.3	17.1	16.4	17.3	16.8	16.7	17.8	16.9	17.5	16.4	17.2	17.1
20 to 24 years	11.5	11.1	11.1	11.1	11.6	11.2	11.2	10.8	10.9	10.9	11.0	10.6	10.4	10.8	10.6
25 years and over	5.8	5.6	5.6	5.7	5.5	5.8	5.6	5.5	5.6	5.4	5.4	5.3	5.1	5.7	5.7
25 to 54 years	6.1	5.8	6.0	6.1	5.8	6.0	5.9	5.8	5.8	5.7	5.6	5.5	5.4	5.9	5.9
55 years and over	4.5	4.1	4.0	4.1	4.3	4.3	4.4	4.1	4.1	3.9	3.8	3.9	3.9	4.4	4.3
Men, 16 years and over	7.4	7.0	7.0	7.1	7.0	7.2	7.2	6.9	6.9	7.1	6.9	6.7	6.5	7.0	7.0
16 to 24 years	14.4	14.1	13.9	13.8	14.7	14.2	14.6	13.8	13.8	14.6	13.9	13.5	12.8	13.6	13.8
16 to 19 years	19.6	19.5	18.5	18.5	19.4	19.2	20.5	19.6	19.3	21.5	19.4	19.3	18.2	19.3	18.9
16 to 17 years	21.9	21.9	21.7	21.4	22.2	23.2	22.1	21.9	20.7	24.0	20.9	21.6	20.9	23.2	20.0
18 to 19 years	18.3	17.9	16.1	16.8	17.6	16.4	18.7	18.1	18.3	19.9	18.7	18.0	16.2	16.6	17.8
20 to 24 years	11.9	11.4	11.7	11.4	12.3	11.7	11.6	10.9	11.0	11.1	11.2	10.6	10.3	10.7	11.0
25 years and over	5.7	5.3	5.3	5.5	5.1	5.6	5.4	5.3	5.3	5.3	5.2	5.1	5.0	5.5	5.5
25 to 54 years	5.9	5.6	5.6	5.8	5.3	5.8	5.6	5.6	5.5	5.5	5.4	5.4	5.3	5.7	5.7
55 years and over	4.6	4.1	3.9	4.0	4.1	4.4	4.6	3.8	4.0	4.1	4.0	3.9	3.9	4.4	4.3
Women, 16 years and over	7.6	7.4	7.6	7.5	7.6	7.5	7.4	7.3	7.5	7.3	7.2	7.1	7.0	7.6	7.4
16 to 24 years	13.3	13.0	13.1	12.9	13.3	12.9	13.1	12.2	12.9	13.1	13.1	13.2	13.2	13.6	12.7
16 to 19 years	18.0	17.6	17.9	17.2	18.1	17.8	17.9	15.3	16.9	17.9	17.4	18.3	18.5	18.6	17.5
16 to 17 years	20.4	20.0	19.3	20.0	20.1	19.9	21.2	15.8	19.8	21.2	22.0	20.6	20.8	20.2	18.7
18 to 19 years	16.6	16.0	16.9	15.7	16.5	16.4	15.7	15.3	14.9	15.5	15.1	16.9	16.5	17.7	16.3
20 to 24 years	10.9	10.7	10.5	10.7	10.8	10.8	10.7	10.7	10.9	10.7	10.8	10.6	10.5	11.0	10.1
25 years and over	6.0	5.9	6.0	6.0	6.1	6.0	5.9	5.8	6.0	5.6	5.6	5.4	5.3	5.9	5.9
25 to 54 years	6.3	6.2	6.4	6.3	6.4	6.3	6.2	6.1	6.2	5.9	5.9	5.7	5.6	6.2	6.3
55 years and over	4.2	4.1	4.2	4.2	4.4	4.1	4.2	4.5	4.2	3.7	3.6	3.9	3.8	4.4	4.4

9. Unemployed persons by reason for unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Reason for unemployment	Annual average		1985										1986		
	1984	1985	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Job losers	4,421	4,139	4,177	4,229	3,994	4,167	4,206	4,144	4,142	4,040	4,081	3,933	3,776	4,162	4,246
On layoff	1,171	1,157	1,155	1,182	1,068	1,135	1,134	1,112	1,167	1,161	1,175	1,132	1,163	1,152	1,164
Other job losers	3,250	2,982	3,022	3,047	2,926	3,032	3,072	3,032	2,975	2,879	2,906	2,801	2,613	3,010	3,082
Job leavers	823	877	861	852	870	983	894	875	852	911	808	876	996	1,001	1,002
Reentrants	2,184	2,256	2,301	2,283	2,378	2,233	2,184	2,191	2,335	2,237	2,226	2,225	2,066	2,292	2,197
New entrants	1,110	1,039	1,074	1,051	1,142	1,018	1,098	941	918	1,045	1,055	1,033	1,025	1,097	1,000
PERCENT OF UNEMPLOYED															
Job losers	51.8	49.8	49.6	50.3	47.6	49.6	50.2	50.8	50.2	49.1	50.0	48.8	48.0	48.7	50.3
On layoff	13.7	13.9	13.7	14.0	12.7	13.5	13.5	13.6	14.2	14.1	14.4	14.0	14.8	13.5	13.8
Other job losers	38.1	35.9	35.9	36.2	34.9	36.1	36.6	37.2	36.1	35.0	35.6	34.7	33.2	35.2	36.5
Job leavers	9.6	10.6	10.2	10.1	10.4	11.7	10.7	10.7	10.3	11.1	9.9	10.9	12.7	11.7	11.9
Reentrants	25.6	27.1	27.4	27.1	28.4	26.6	26.1	26.9	28.3	27.2	27.2	27.6	26.3	26.8	26.0
New entrants	13.0	12.5	12.8	12.5	13.6	12.1	13.1	11.5	11.1	12.7	12.9	12.8	13.0	12.8	11.8
PERCENT OF CIVILIAN LABOR FORCE															
Job losers	3.9	3.6	3.6	3.7	3.5	3.6	3.6	3.6	3.6	3.5	3.5	3.4	3.2	3.6	3.6
Job leavers	.7	.8	.7	.7	.8	.9	.8	.8	.7	.8	.7	.8	.9	.9	.9
Reentrants	1.9	2.0	2.0	2.0	2.1	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.8	2.0	1.9
New entrants	1.0	.9	.9	.9	1.0	.9	1.0	.8	.8	.9	.9	.9	.9	.9	.9

10. Duration of unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Weeks of unemployment	Annual average		1985										1986		
	1984	1985	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Less than 5 weeks	3,350	3,498	3,556	3,528	3,607	3,486	3,525	3,422	3,484	3,430	3,465	3,374	3,311	3,562	3,589
5 to 14 weeks	2,451	2,509	2,487	2,516	2,594	2,536	2,514	2,508	2,505	2,536	2,448	2,480	2,441	2,622	2,640
15 weeks and over	2,737	2,305	2,400	2,374	2,274	2,328	2,329	2,274	2,307	2,277	2,205	2,188	2,056	2,340	2,258
15 to 26 weeks	1,104	1,025	1,061	1,031	1,063	1,033	1,078	1,047	1,035	1,057	894	973	969	1,149	1,099
27 weeks and over	1,634	1,280	1,339	1,343	1,211	1,295	1,251	1,227	1,272	1,220	1,311	1,215	1,087	1,191	1,159
Mean duration in weeks	18.2	15.6	15.9	16.1	15.0	15.5	15.5	15.5	15.5	15.4	15.7	15.4	14.9	15.3	14.4
Median duration in weeks	7.9	6.8	7.0	6.8	6.7	6.8	7.1	7.2	6.9	7.0	6.9	6.9	6.8	6.9	6.8

11. Unemployment rates of civilian workers by State, data not seasonally adjusted

State	Feb. 1985	Feb.ᵖ 1986
Alabama	10.3	9.1
Alaska	11.3	11.5
Arizona	6.1	6.5
Arkansas	10.6	9.5
California	7.4	7.7
Colorado	6.5	.0
Connecticut	5.6	4.3
Delaware	7.2	6.7
District of Columbia	8.6	7.2
Florida	5.8	5.4
Georgia	6.8	5.7
Hawaii	5.5	5.7
Idaho	9.2	10.2
Illinois	9.4	10.1
Indiana	9.9	7.5
Iowa	9.9	9.0
Kansas	5.9	6.5
Kentucky	11.9	12.5
Louisiana	11.5	13.2
Maine	6.8	6.6
Maryland	5.5	5.1
Massachusetts	4.4	4.3
Michigan	10.2	9.3
Minnesota	7.4	7.6
Mississippi	11.6	11.2
Missouri	8.1	7.0
Montana	9.3	9.5
Nebraska	6.1	7.0
Nevada	8.7	8.2
New Hampshire	4.6	3.8
New Jersey	6.6	6.4
New Mexico	9.1	9.2
New York	7.1	7.3
North Carolina	6.7	5.7
North Dakota	7.4	7.9
Ohio	9.3	9.1
Oklahoma	7.8	7.8
Oregon	10.3	9.7
Pennsylvania	9.3	8.2
Rhode Island	6.0	5.3
South Carolina	7.5	7.6
South Dakota	6.1	5.5
Tennessee	9.6	8.7
Texas	7.1	8.8
Utah	7.1	6.2
Vermont	5.8	5.1
Virginia	6.2	6.0
Washington	10.0	8.6
West Virginia	17.0	13.1
Wisconsin	9.3	8.8
Wyoming	8.1	10.3

NOTE: Some data in this table may differ from data published elsewhere because of the continued updating of the database.

ᵖ = preliminary

12. Employment of workers on nonagricultural payrolls by State, data not seasonally adjusted

(In thousands)

State	Feb., 1985	Jan., 1986	Feb., 1986ᵖ
Alabama	1,395.9	1,428.6	1,432.7
Alaska	215.3	217.1	218.4
Arizona	1,248.1	1,304.5	1,320.7
Arkansas	773.2	803.9	809.9
California	10,745.8	11,051.3	11,072.5
Colorado	1,402.5	1,426.0	1,430.3
Connecticut	1,529.7	1,571.1	1,568.5
Delaware	280.7	291.5	287.6
District of Columbia	617.3	629.6	632.1
Florida	4,381.0	4,517.9	4,536.6
Georgia	2,490.9	2,595.6	2,596.2
Hawaii	421.6	425.1	427.9
Idaho	325.6	332.7	331.4
Illinois	4,668.0	4,685.2	4,692.7
Indiana	2,102.2	2,186.3	2,183.9
Iowa	1,048.5	1,062.9	1,063.2
Kansas	952.0	959.5	967.9
Kentucky	1,208.0	1,249.1	1,247.8
Louisiana	1,582.3	1,575.3	1,570.7
Maine	438.9	452.5	455.9
Maryland	1,815.3	1,870.9	1,870.3
Massachusetts	2,859.9	2,911.7	2,917.9
Michigan	3,415.7	3,513.4	3,521.4
Minnesota	1,813.5	1,840.5	1,844.5
Mississippi	818.6	841.9	842.4
Missouri	2,025.2	2,086.5	2,085.9
Montana	268.7	271.8	270.8
Nebraska	637.2	642.1	642.0
Nevada	430.0	447.2	448.9
New Hampshire	444.1	473.5	471.8
New Jersey	3,312.8	3,405.2	3,407.0
New Mexico	507.5	518.9	519.2
New York	7,583.1	7,720.9	7,747.1
North Carolina	2,594.1	2,669.2	2,674.3
North Dakota	244.6	243.7	243.7
Ohio	4,238.9	4,393.4	4,387.1
Oklahoma	1,168.6	1,161.3	1,158.3
Oregon	998.3	1,022.1	1,024.4
Pennsylvania	4,610.0	4,708.7	4,706.9
Rhode Island	416.3	420.7	421.0
South Carolina	1,261.7	1,306.3	1,313.8
South Dakota	241.2	241.2	242.0
Tennessee	1,800.4	1,877.9	1,878.9
Texas	6,582.9	6,704.2	6,709.0
Utah	606.7	628.6	629.4
Vermont	219.1	229.6	229.8
Virginia	2,361.8	2,464.8	2,478.8
Washington	1,649.4	1,710.2	1,715.8
West Virginia	575.5	590.2	583.8
Wisconsin	1,914.4	1,953.4	1,958.9
Wyoming	194.5	196.2	194.9
Puerto Rico	695.6	689.3	696.7
Virgin Islands	37.1	36.4	37.2

ᵖ = preliminary

NOTE: Some data in this table may differ from data published elsewhere because of the continued updating of the database.

13. Employment of workers on nonagricultural payrolls by industry, monthly data seasonally adjusted

[In thousands]

Industry	Annual average		1985										1986		
	1984	1985	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.p	Mar.p
TOTAL	94,461	97,699	96,910	97,120	97,421	97,473	97,707	97,977	98,217	98,559	98,801	99,086	99,496	99,649	99,84
PRIVATE SECTOR	78,477	81,404	80,767	80,962	81,208	81,260	81,366	81,634	81,765	82,073	82,317	82,573	82,992	83,101	83,29
GOODS PRODUCING	24,730	25,057	25,056	25,090	25,066	25,010	24,980	25,015	24,962	25,051	25,089	25,155	25,300	25,237	25,15
Mining	974	969	977	982	982	974	969	965	962	960	954	952	947	928	89
Oil and gas extraction	613	616	618	623	624	619	619	615	615	610	605	603	598	580	55
Construction	4,345	4,662	4,553	4,641	4,656	4,638	4,660	4,686	4,721	4,753	4,754	4,770	4,906	4,875	4,86
General building contractors	1,158	1,240	1,223	1,233	1,234	1,223	1,228	1,242	1,252	1,262	1,269	1,274	1,329	1,320	1,30
Manufacturing	19,412	19,426	19,526	19,467	19,426	19,398	19,351	19,362	19,279	19,338	19,381	19,433	19,447	19,434	19,39
Production workers	13,310	13,214	13,309	13,249	13,203	13,169	13,137	13,145	13,087	13,140	13,169	13,219	13,222	13,216	13,19
Durable goods	11,522	11,566	11,651	11,608	11,586	11,560	11,509	11,519	11,449	11,493	11,512	11,534	11,541	11,523	11,48
Production workers	7,749	7,692	7,776	7,730	7,704	7,671	7,630	7,638	7,586	7,627	7,636	7,651	7,650	7,631	7,60
Lumber and wood products	707	703	701	694	697	694	697	700	701	706	712	715	720	719	71
Furniture and fixtures	487	497	499	497	493	494	494	499	494	496	497	499	499	498	49
Stone, clay, and glass products	595	600	601	600	599	598	599	601	598	600	601	604	607	610	60
Primary metal industries	858	816	832	823	819	815	806	798	795	799	804	810	804	800	79
Blast furnaces and basic steel products	334	303	311	306	305	304	302	289	291	292	299	303	300	299	29
Fabricated metal products	1,464	1,472	1,480	1,475	1,477	1,472	1,467	1,467	1,462	1,465	1,466	1,463	1,462	1,457	1,45
Machinery, except electrical	2,197	2,181	2,220	2,207	2,203	2,191	2,175	2,167	2,143	2,143	2,137	2,133	2,137	2,128	2,11
Electrical and electronic equipment	2,208	2,208	2,243	2,223	2,216	2,205	2,190	2,194	2,175	2,179	2,180	2,186	2,188	2,186	2,18
Transportation equipment	1,906	1,990	1,969	1,982	1,981	1,980	1,985	1,995	1,986	2,008	2,017	2,025	2,023	2,021	2,01
Motor vehicles and equipment	860	872	867	876	873	875	868	868	861	872	868	875	866	861	85
Instruments and related products	714	724	727	726	723	725	724	725	722	722	723	725	725	725	72
Miscellaneous manufacturing industries	384	376	379	377	378	376	372	373	373	373	375	374	376	379	37
Nondurable goods	7,890	7,860	7,875	7,859	7,840	7,838	7,842	7,843	7,830	7,845	7,869	7,899	7,906	7,911	7,90
Production workers	5,561	5,523	5,533	5,519	5,499	5,498	5,507	5,507	5,501	5,513	5,533	5,566	5,572	5,585	5,58
Food and kindred products	1,619	1,637	1,638	1,630	1,634	1,644	1,630	1,638	1,633	1,636	1,638	1,655	1,652	1,666	1,66
Tobacco manufactures	65	65	66	66	66	66	65	64	65	64	65	64	64	64	6
Textile mill products	746	703	706	707	701	699	696	697	695	698	700	700	701	704	70
Apparel and other textile products	1,197	1,162	1,167	1,164	1,153	1,142	1,160	1,152	1,155	1,158	1,160	1,171	1,173	1,159	1,154
Paper and allied products	681	680	682	681	682	684	684	683	681	682	688	686	687	686	68
Printing and publishing	1,372	1,422	1,407	1,411	1,414	1,419	1,426	1,429	1,427	1,431	1,442	1,442	1,447	1,453	1,455
Chemicals and allied products	1,048	1,042	1,052	1,049	1,044	1,042	1,040	1,038	1,040	1,036	1,033	1,033	1,032	1,030	1,030
Petroleum and coal products	189	177	183	182	181	180	178	176	170	170	169	169	168	167	167
Rubber and misc. plastics products	782	795	798	795	791	789	787	792	790	795	800	804	810	809	810
Leather and leather products	192	175	176	174	174	173	176	174	174	175	174	175	172	171	170
SERVICE-PRODUCING	69,731	72,643	71,854	72,030	72,355	72,463	72,727	72,962	73,255	73,508	73,712	73,931	74,196	74,412	74,683
Transportation and public utilities	5,171	5,300	5,269	5,278	5,301	5,295	5,302	5,282	5,317	5,327	5,342	5,350	5,357	5,342	5,352
Transportation	2,929	3,059	3,028	3,037	3,057	3,052	3,060	3,038	3,078	3,087	3,106	3,115	3,123	3,109	3,120
Communication and public utilities	2,242	2,241	2,241	2,241	2,244	2,243	2,242	2,244	2,239	2,240	2,236	2,235	2,234	2,233	2,232
Wholesale trade	5,550	5,769	5,714	5,733	5,748	5,769	5,773	5,791	5,805	5,830	5,833	5,848	5,872	5,887	5,900
Durable goods	3,272	3,417	3,377	3,388	3,402	3,414	3,426	3,434	3,442	3,454	3,464	3,473	3,487	3,501	3,513
Nondurable goods	2,278	2,352	2,337	2,345	2,346	2,354	2,347	2,357	2,363	2,376	2,369	2,375	2,385	2,386	2,387
Retail trade	16,584	17,425	17,248	17,280	17,382	17,425	17,453	17,514	17,539	17,610	17,640	17,702	17,825	17,905	17,982
General merchandise stores	2,278	2,354	2,349	2,348	2,371	2,361	2,344	2,354	2,356	2,365	2,367	2,353	2,359	2,378	2,377
Food stores	2,655	2,827	2,790	2,794	2,823.	2,831	2,842	2,849	2,852	2,869	2,866	2,882	2,920	2,923	2,944
Automotive dealers and service stations	1,802	1,882	1,873	1,884	1,890	1,896	1,895	1,902	1,906	1,912	1,914	1,916	1,930	1,936	1,942
Eating and drinking places	5,403	5,682	5,615	5,642	5,660	5,692	5,728	5,725	5,740	5,758	5,774	5,803	5,821	5,855	5,889
Finance, insurance, and real estate	5,682	5,924	5,835	5,858	5,888	5,906	5,932	5,959	5,987	6,011	6,048	6,068	6,098	6,130	6,151
Finance	2,855	2,978	2,933	2,941	2,956	2,968	2,984	2,998	3,011	3,023	3,038	3,054	3,068	3,085	3,093
Insurance	1,753	1,816	1,792	1,799	1,808	1,814	1,817	1,827	1,831	1,837	1,850	1,852	1,863	1,873	1,882
Real estate	1,074	1,130	1,110	1,118	1,124	1,124	1,131	1,134	1,145	1,151	1,160	1,162	1,167	1,172	1,176
Services	20,761	21,930	21,644	21,723	21,813	21,856	21,926	22,073	22,156	22,244	22,365	22,450	22,540	22,600	22,749
Business services	4,076	4,453	4,377	4,402	4,424	4,441	4,446	4,489	4,504	4,539	4,571	4,607	4,625	4,646	4,688
Health services	6,104	6,267	6,204	6,218	6,240	6,243	6,260	6,291	6,308	6,333	6,363	6,389	6,409	6,436	6,459
Government	15,964	16,295	16,143	16,158	16,213	16,213	16,341	16,343	16,452	16,486	16,484	16,513	16,504	16,548	16,549
Federal	2,807	2,875	2,850	2,858	2,873	2,872	2,878	2,886	2,904	2,892	2,904	2,914	2,918	2,914	2,917
State	3,712	3,780	3,744	3,749	3,759	3,765	3,788	3,789	3,818	3,827	3,833	3,827	3,844	3,854	3,867
Local	9,465	9,640	9,549	9,550	9,581	9,576	9,675	9,668	9,730	9,767	9,747	9,772	9,742	9,780	9,765

p = preliminary

NOTE: See notes on the data for a description of the most recent benchmark revision.

14. Average weekly hours of production or nonsupervisory workers on private nonagricultural payrolls by industry, monthly data seasonally adjusted

Industry	Annual average		1985										1986		
	1984	1985	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.^{p}	Mar.^{p}
PRIVATE SECTOR	35.3	35.1	35.2	35.0	35.1	35.1	35.0	35.1	35.1	35.1	35.0	35.1	35.2	34.9	35.0
CONSTRUCTION	37.7	37.7	38.1	38.0	37.6	37.2	37.6	37.5	37.9	37.9	37.4	37.1	38.5	36.3	36.8
MANUFACTURING	40.7	40.5	40.4	40.2	40.4	40.4	40.3	40.6	40.7	40.7	40.7	41.0	41.0	40.6	40.7
Overtime hours	3.4	3.3	3.2	3.4	3.1	3.2	3.2	3.3	3.3	3.4	3.4	3.6	3.6	3.4	3.5
Durable goods	41.4	41.2	41.1	40.9	41.1	41.2	41.0	41.3	41.3	41.3	41.3	41.7	41.7	41.3	41.3
Overtime hours	3.6	3.5	3.5	3.6	3.2	3.3	3.3	3.4	3.5	3.5	3.6	3.8	3.7	3.5	3.6
Lumber and wood products	39.9	39.8	39.6	39.5	39.8	40.1	39.7	40.0	40.1	40.3	39.9	40.2	40.4	39.9	40.3
Furniture and fixtures	39.7	39.4	39.5	39.3	38.9	38.9	38.8	39.2	39.4	39.4	39.4	40.1	40.4	39.8	39.7
Stone, clay, and glass products	42.0	41.9	42.0	42.0	42.1	41.9	42.0	42.0	42.0	42.1	41.6	41.7	42.8	41.9	41.7
Primary metal industries	41.7	41.5	41.1	41.0	41.2	41.6	41.4	41.7	41.5	41.8	41.8	42.2	41.8	42.1	42.1
Blast furnaces and basic steel products	40.6	41.1	40.5	40.2	40.7	41.2	41.2	41.8	41.0	41.7	42.0	41.9	41.6	41.9	42.0
Fabricated metal products	41.4	41.3	41.1	41.1	41.1	41.3	41.3	41.4	41.6	41.5	41.4	41.6	41.6	41.5	41.3
Machinery except electrical	41.9	41.5	41.6	41.2	41.4	41.6	41.3	41.6	41.6	41.6	41.6	41.8	41.7	41.5	41.4
Electrical and electronic equipment	41.0	40.6	40.7	40.2	40.4	40.6	40.3	40.7	40.5	40.6	41.0	41.4	41.2	40.8	40.8
Transportation equipment	42.7	42.7	42.5	42.3	42.6	42.3	42.5	42.9	42.9	42.8	42.6	43.2	43.0	42.6	42.4
Motor vehicles and equipment	43.8	43.5	43.2	43.3	43.5	42.7	43.3	43.8	43.8	43.8	43.7	44.2	43.6	43.5	43.4
Instruments and related products	41.3	41.0	41.0	40.7	40.9	41.1	40.7	40.7	40.9	40.8	41.1	41.9	41.2	41.1	41.4
Miscellaneous manufacturing	39.4	39.4	39.1	39.0	39.3	39.4	39.0	39.3	39.8	39.9	39.7	40.0	40.4	39.8	39.8
Nondurable goods	39.6	39.5	39.4	39.1	39.4	39.4	39.4	39.6	39.8	39.9	39.8	40.1	40.0	39.6	39.8
Overtime hours	3.1	3.1	2.9	3.0	2.9	3.0	3.0	3.1	3.1	3.2	3.2	3.4	3.4	3.2	3.4
Food and kindred products	39.8	40.0	39.8	39.6	40.1	39.6	40.0	39.9	40.2	40.3	39.9	40.3	40.2	39.7	39.7
Tobacco manufactures	38.9	37.2	38.9	35.4	37.0	36.6	34.6	36.8	36.9	38.2	35.2	38.0	38.7	38.0	38.8
Textile mill products	39.9	39.7	39.1	38.8	38.9	39.4	39.1	40.0	40.7	40.7	41.0	41.3	40.9	40.4	40.6
Apparel and other textile products	36.4	36.3	36.1	35.6	36.2	36.3	36.3	36.4	36.5	36.6	36.8	37.0	37.0	36.1	36.4
Paper and allied products	43.1	43.1	42.9	43.0	43.0	42.9	42.7	43.0	43.1	43.3	43.3	43.6	43.7	43.6	43.7
Printing and publishing	37.9	37.7	37.6	37.6	37.4	37.5	37.5	37.9	38.0	37.9	37.8	38.2	38.0	37.9	38.1
Chemicals and allied products	41.9	41.9	42.1	41.9	41.9	42.0	41.8	41.8	41.6	41.7	41.9	42.0	41.9	41.9	42.2
Petroleum and coal products	43.7	43.0	43.3	42.0	41.7	42.6	42.9	43.3	43.4	44.3	43.1	43.7	43.6	43.3	44.0
Leather and leather products	36.8	37.3	37.1	37.0	37.1	37.0	37.0	37.3	37.8	37.9	37.7	37.8	37.6	36.9	37.3
TRANSPORTATION AND PUBLIC UTILITIES	39.4	39.4	39.5	39.4	39.5	39.5	39.2	39.6	38.5	39.5	39.4	39.5	39.4	39.3	39.2
WHOLESALE TRADE	38.6	38.7	38.7	38.6	38.7	38.6	38.6	38.6	38.7	38.6	38.7	38.7	38.8	38.7	38.7
RETAIL TRADE	30.0	29.7	29.8	29.7	29.9	29.9	29.7	29.6	29.6	29.5	29.5	29.3	29.5	29.4	29.4
SERVICES	32.8	32.8	32.8	32.7	32.8	32.8	32.7	32.8	32.8	32.9	32.8	32.8	32.9	32.8	32.9

^{p} = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark adjustment.

15. Average hourly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1985										1986		
	1984	1985	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.[p]	Mar.[p]
PRIVATE SECTOR	$8.33	$8.58	$8.52	$8.54	$8.53	$8.56	$8.54	$8.54	$8.68	$8.65	$8.68	$8.73	$8.73	$8.74	$8.74
Seasonally adjusted	-	-	8.52	8.54	8.55	8.59	8.57	8.60	8.65	8.64	8.67	8.74	8.67	8.71	8.74
MINING	11.63	11.95	11.91	11.93	11.86	11.99	11.88	11.95	12.00	11.95	12.02	12.22	12.18	12.26	12.24
CONSTRUCTION	12.12	12.26	12.22	12.21	12.19	12.12	12.16	12.22	12.40	12.36	12.22	12.42	12.29	12.30	12.20
MANUFACTURING	9.18	9.52	9.45	9.48	9.48	9.50	9.53	9.48	9.55	9.54	9.61	9.72	9.68	9.68	9.71
Durable goods	9.74	10.09	10.01	10.03	10.04	10.08	10.10	10.05	10.15	10.14	10.21	10.34	10.27	10.28	10.33
Lumber and wood products	8.03	8.20	8.06	8.04	8.12	8.24	8.20	8.26	8.31	8.29	8.28	8.34	8.28	8.34	8.33
Furniture and fixtures	6.85	7.19	7.07	7.08	7.11	7.18	7.22	7.22	7.29	7.31	7.34	7.40	7.38	7.34	7.37
Stone, clay, and glass products	9.57	9.83	9.71	9.80	9.80	9.84	9.89	9.87	9.90	9.86	9.90	9.94	9.95	9.92	9.88
Primary metal industries	11.47	11.68	11.66	11.64	11.64	11.65	11.78	11.63	11.69	11.61	11.76	11.84	11.81	11.94	11.98
Blast furnaces and basic steel products	12.99	13.35	13.27	13.32	13.31	13.29	13.51	13.37	13.45	13.34	13.44	13.46	13.49	13.75	13.76
Fabricated metal products	9.38	9.66	9.62	9.64	9.63	9.65	9.66	9.61	9.70	9.68	9.73	9.88	9.82	9.81	9.83
Machinery, except electrical	9.96	10.29	10.15	10.17	10.22	10.28	10.31	10.27	10.39	10.41	10.48	10.55	10.50	10.52	10.59
Electrical and electronic equipment	9.04	9.47	9.39	9.40	9.39	9.46	9.47	9.50	9.55	9.56	9.61	9.68	9.61	9.59	9.63
Transportation equipment	12.22	12.71	12.59	12.63	12.63	12.66	12.65	12.65	12.78	12.77	12.83	13.06	12.90	12.86	12.89
Motor vehicles and equipment	12.74	13.44	13.29	13.40	13.38	13.39	13.38	13.34	13.51	13.46	13.55	13.84	13.69	13.61	13.69
Instruments and related products	8.85	9.19	9.10	9.11	9.13	9.15	9.20	9.22	9.28	9.27	9.30	9.42	9.35	9.42	9.45
Miscellaneous manufacturing	7.04	7.28	7.20	7.22	7.28	7.28	7.30	7.26	7.30	7.30	7.35	7.47	7.47	7.46	7.48
Nondurable goods	8.37	8.68	8.61	8.67	8.64	8.65	8.72	8.67	8.70	8.69	8.75	8.84	8.83	8.82	8.86
Food and kindred products	8.38	8.54	8.53	8.59	8.58	8.55	8.54	8.47	8.51	8.49	8.58	8.68	8.70	8.67	8.72
Tobacco manufactures	11.27	12.05	12.00	12.16	12.65	12.83	12.91	12.44	11.47	11.45	12.08	11.90	12.01	12.31	12.72
Textile mill products	6.46	6.71	6.64	5.70	6.68	6.69	6.69	6.72	6.75	6.76	6.79	6.83	6.84	6.83	6.86
Apparel and other textile products	5.55	5.73	5.73	5.74	5.69	5.70	5.70	5.68	5.75	5.73	5.75	5.80	5.81	5.79	5.78
Paper and allied products	10.41	10.82	10.64	10.72	10.75	10.79	10.91	10.86	10.90	10.91	10.97	11.07	11.02	11.00	11.06
Printing and publishing	9.40	9.69	9.61	9.60	9.60	9.61	9.67	9.73	9.79	9.75	9.81	9.90	9.83	9.85	9.91
Chemicals and allied products	11.08	11.57	11.37	11.48	11.46	11.52	11.60	11.62	11.67	11.72	11.82	11.87	11.87	11.82	11.79
Petroleum and coal products	13.43	14.04	14.06	14.18	14.00	13.97	14.03	13.99	14.07	13.97	14.06	14.22	14.24	14.16	14.37
Rubber and miscellaneous plastics products	8.29	8.53	8.46	8.48	8.45	8.50	8.54	8.51	8.55	8.53	8.62	8.72	8.68	8.69	8.71
Leather and leather products	5.70	5.82	5.82	5.84	5.83	5.83	5.83	5.80	5.82	5.76	5.83	5.83	5.85	5.84	5.87
TRANSPORTATION AND PUBLIC UTILITIES	11.11	11.38	11.24	11.27	11.24	11.32	11.35	11.40	11.52	11.46	11.57	11.60	11.58	11.60	11.60
WHOLESALE TRADE	8.96	9.26	9.19	9.24	9.24	9.28	9.27	9.25	9.33	9.25	9.32	9.41	9.38	9.41	9.39
RETAIL TRADE	5.88	5.97	5.97	5.96	5.97	5.94	5.93	5.91	5.99	5.97	6.00	6.02	6.05	6.06	6.06
FINANCE, INSURANCE, AND REAL ESTATE	7.62	7.93	7.87	7.85	7.83	7.95	7.87	7.90	8.03	8.00	8.05	8.14	8.13	8.24	8.25
SERVICES	7.64	7.95	7.87	7.89	7.88	7.91	7.86	7.87	8.04	8.04	8.10	8.16	8.17	8.22	8.21

- Data not available.
[p] = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

16. Average weekly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1985										1986		
	1984	1985	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.p	Mar.p
PRIVATE SECTOR															
Current dollars	$294.05	$301.16	$298.20	$296.05	$298.55	$303.02	$301.46	$302.32	$305.54	$303.62	$302.93	$308.17	$303.80	$301.53	$304.15
Seasonally adjusted	-	-	299.90	298.90	300.11	301.51	299.95	301.86	303.62	303.26	303.45	306.77	305.16	303.98	305.90
Constant (1977) dollars	173.48	171.80	171.68	170.80	170.50	172.58	171.48	171.88	173.01	171.54	170.47	172.93	170.01	169.30	-
MINING	503.58	518.63	519.29	516.57	515.91	523.96	509.65	517.44	524.40	516.24	520.47	535.24	540.79	518.60	515.30
CONSTRUCTION	456.92	462.20	460.69	461.54	464.44	461.77	469.36	478.03	477.40	472.15	446.47	458.30	457.19	431.73	444.08
MANUFACTURING															
Current dollars	373.63	385.56	381.78	380.15	382.04	385.70	382.15	382.99	389.64	388.28	393.05	404.35	393.96	389.14	394.23
Constant (1977) dollars	220.43	219.69	219.79	217.85	218.18	219.65	217.38	217.48	220.63	219.37	221.19	226.91	220.47	218.50	-
Durable goods	403.24	415.71	412.41	410.23	411.64	417.31	410.06	412.05	420.21	418.79	423.72	439.45	425.18	421.46	426.42
Lumber and wood products	320.40	326.36	317.56	317.58	325.61	336.19	325.54	333.70	337.39	334.92	327.06	335.27	328.72	327.76	334.03
Furniture and fixtures	271.95	283.29	277.85	276.83	275.16	281.46	276.53	285.19	290.14	292.40	292.13	304.14	290.77	286.26	291.12
Stone, clay, and glass products	401.94	411.88	404.91	411.60	415.52	418.20	418.35	418.49	420.75	418.06	413.82	414.50	413.92	403.74	409.03
Primary metal industries	478.30	484.72	481.56	480.73	479.57	486.97	485.34	480.32	487.47	480.65	491.57	504.38	493.66	502.67	506.75
Blast furnaces and basic steel products	527.39	548.69	540.09	547.45	543.05	552.86	559.31	550.84	554.14	545.61	557.76	565.32	557.14	578.88	580.67
Fabricated metal products	388.33	398.96	396.34	395.24	395.79	400.46	394.13	395.93	403.52	401.72	404.77	420.89	408.55	402.21	405.98
Machinery, except electrical	417.32	427.04	424.27	417.99	421.08	427.65	420.65	422.10	432.22	430.97	438.06	451.54	437.86	435.53	440.54
Electrical and electronic equipment	370.64	384.48	383.11	376.00	377.48	385.02	376.91	383.80	387.73	388.14	396.89	408.50	394.97	389.35	393.87
Transportation equipment	521.79	542.72	537.59	538.04	539.30	539.32	531.30	531.30	544.43	545.28	550.41	578.56	554.70	542.69	549.11
Motor vehicles and equipment	558.01	584.64	576.79	586.92	587.38	579.79	574.00	586.95	586.33	586.86	580.78	626.95	596.86	583.87	598.25
Instruments and related products	365.51	376.79	374.01	368.96	372.50	376.07	370.76	373.41	381.41	377.29	384.09	400.35	384.29	386.22	392.18
Miscellaneous manufacturing	277.38	286.83	282.24	280.86	285.38	286.10	281.78	284.59	292.00	294.19	295.47	303.28	297.31	293.18	298.45
Nondurable goods	331.45	342.86	338.37	337.26	339.55	342.54	341.82	344.20	348.00	346.73	350.00	358.02	350.55	345.74	351.74
Food and kindred products	333.52	341.60	335.23	336.73	343.20	340.29	341.60	341.34	347.21	343.00	344.92	353.28	347.13	338.13	341.82
Tobacco manufactures	438.40	448.26	452.40	424.38	469.32	483.69	437.65	461.52	438.15	448.84	439.71	452.20	452.78	446.85	479.27
Textile mill products	257.75	266.39	256.96	257.28	260.52	266.93	258.23	270.14	275.40	276.48	279.75	283.45	278.39	273.89	278.52
Apparel and other textile products	202.02	208.00	206.85	203.20	205.98	209.19	206.34	207.32	209.88	210.86	212.18	215.18	212.65	206.70	210.39
Paper and allied products	448.67	466.34	454.33	458.82	460.10	463.97	465.86	465.89	473.06	472.40	477.20	490.40	479.37	474.10	481.11
Printing and publishing	356.26	365.31	362.30	360.00	358.08	358.45	360.69	369.74	373.98	369.53	373.76	384.12	370.50	370.36	378.56
Chemicals and allied products	464.25	484.78	478.68	481.01	480.17	484.99	482.56	483.39	487.81	486.38	496.44	504.48	496.17	494.08	497.54
Petroleum and coal products	586.89	603.72	601.77	595.56	583.80	596.52	606.10	605.77	620.49	620.27	610.20	621.41	615.17	604.63	625.10
Rubber and miscellaneous plastics products	345.69	350.58	347.71	346.83	345.61	350.20	346.72	346.36	351.41	350.58	356.01	366.24	359.35	356.29	360.59
Leather and leather products	209.76	217.09	212.43	215.50	218.04	221.54	218.63	216.92	219.41	216.58	219.79	221.54	217.04	211.99	215.43
TRANSPORTATION AND PUBLIC UTILITIES	437.73	448.37	441.73	441.78	441.73	449.40	448.33	454.86	457.34	452.67	457.02	460.52	451.62	451.24	452.40
WHOLESALE TRADE	345.86	358.36	353.82	354.82	357.59	360.98	359.68	358.90	362.00	357.98	361.62	366.99	362.07	360.40	361.52
RETAIL TRADE	176.40	177.31	175.52	175.22	177.91	179.38	180.27	179.07	177.90	175.52	175.80	180.00	174.24	173.92	175.45
FINANCE, INSURANCE, AND REAL ESTATE	278.13	288.65	286.47	285.74	284.23	291.77	285.68	286.77	292.29	290.40	291.41	296.74	295.90	303.23	303.60
SERVICES	250.59	260.76	256.56	257.21	257.68	261.03	260.17	260.50	263.71	263.71	264.87	267.65	267.16	267.97	266.47

- Data not available.

p = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

17. The Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Not seasonally adjusted				Seasonally adjusted					
	Mar. 1985	Jan. 1986	Feb. 1986p	Mar. 1986p	Mar. 1985	Nov. 1985	Dec. 1985	Jan. 1986	Feb. 1986p	Mar. 1986p
PRIVATE SECTOR (in current dollars)	164.3	168.2	168.7	168.7	164.4	167.1	168.4	167.4	168.4	168.9
Mining[1]	177.8	180.8	180.5	179.6	-	-	-	-	-	-
Construction	148.8	149.3	149.2	148.1	149.9	148.9	150.5	149.2	150.1	149.1
Manufacturing	167.3	171.4	171.5	171.9	167.4	170.1	170.8	170.8	171.4	172.0
Transportation and public utilities	164.8	169.1	169.6	169.4	165.4	168.1	169.2	169.3	169.1	170.1
Wholesale trade[1]	169.9	173.1	173.6	173.3	-	-	-	-	-	-
Retail trade	155.8	157.8	158.2	158.3	155.5	157.4	158.9	157.1	157.7	158.2
Finance, insurance, and real estate[1]	170.3	175.6	178.1	178.3	-	-	-	-	-	-
Services	167.4	173.5	174.6	174.6	167.2	172.1	173.4	171.8	173.5	174.5
PRIVATE SECTOR (in constant dollars)	94.6	94.1	94.7	-	94.5	94.1	94.4	93.5	94.5	-

[1] This series is not seasonally adjusted because the seasonal component is small relative to the trend-cycle, irregular components, or both, and consequently cannot be seperated with sufficient precision.

- Data not available.

p = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

18. Indexes of diffusion: industries in which employment increased, data seasonally adjusted

(In percent)

Time span and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Over 1-month span												
1984	67.3	72.7	66.8	67.3	60.5	64.3	65.7	58.1	48.4	66.5	55.1	63.5
1985	57.6	50.3	55.9	44.6	50.3	47.0	54.9	56.8	45.7	63.5	61.6	63.2
1986	63.0	49.5	52.4	–	–	–	–	–	–	–	–	–
Over 3-month span												
1984	78.1	75.9	77.6	68.9	69.7	67.0	65.4	60.3	60.0	56.5	67.0	60.0
1985	58.6	54.1	46.8	45.9	44.1	49.7	50.5	49.2	53.8	52.7	65.1	67.8
1986	63.0	55.4	–	–	–	–	–	–	–	–	–	–
Over 6-month span												
1984	79.2	77.8	77.3	75.4	69.2	64.9	63.2	64.1	67.0	59.7	57.6	60.3
1985	52.2	49.5	44.3	44.6	44.3	42.4	46.8	50.0	56.8	61.6	58.1	–
1986	–	–	–	–	–	–	–	–	–	–	–	–
Over 12-month span												
1984	81.9	78.4	76.8	75.1	72.7	73.0	70.0	65.7	63.5	60.5	56.2	51.9
1985	50.8	48.4	49.5	47.3	46.2	47.3	48.6	48.4	–	–	–	–
1986	–	–	–	–	–	–	–	–	–	–	–	–

– Data not available.

NOTE: Figures are the percent of industries with employment rising. (Half of the unchanged components are counted as rising.) Data are centered within the spans. See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

19. Annual data: Employment status of the noninstitutional population

(Numbers in thousands)

Employment status	1977	1978	1979	1980	1981	1982	1983	1984	1985
Noninstitutional population	160,689	163,541	166,460	169,349	171,775	173,939	175,891	178,080	179,912
Labor force									
Total (number)	100,665	103,882	106,559	108,544	110,315	111,872	113,226	115,241	117,167
Percent of population	62.6	63.5	64.0	64.1	64.2	64.3	64.4	64.7	65.1
Employed									
Total (number)	93,673	97,679	100,421	100,907	102,042	101,194	102,510	106,702	108,856
Percent of population	58.3	59.7	60.3	59.6	59.4	58.2	58.3	59.9	60.5
Resident Armed Forces	1,656	1,631	1,597	1,604	1,645	1,668	1,676	1,697	1,706
Civilian									
Total	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005	107,150
Agriculture	3,283	3,387	3,347	3,364	3,368	3,401	3,383	3,321	3,179
Nonagricultural industries	88,734	92,661	95,477	95,938	97,030	96,125	97,450	101,685	103,971
Unemployed									
Total (number)	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539	8,312
Percent of labor force	6.9	6.0	5.8	7.0	7.5	9.5	9.5	7.4	7.1
Not in labor force (number)	60,025	59,659	59,900	60,806	61,460	62,067	62,665	62,839	62,744

20. Annual data: Employment levels by industry

(Numbers in thousands)

Industry	1977	1978	1979	1980	1981	1982	1983	1984	1985
Total employment	82,471	86,697	89,823	90,406	91,156	89,566	90,196	94,461	97,699
Private sector	67,344	71,026	73,876	74,166	75,126	73,729	74,330	78,477	81,404
Goods-producing	24,346	25,585	26,461	25,658	25,497	23,813	23,334	24,730	25,057
Mining	813	851	958	1,027	1,139	1,128	952	974	969
Construction	3,851	4,229	4,463	4,346	4,188	3,905	3,948	4,345	4,662
Manufacturing	19,682	20,505	21,040	20,285	20,170	18,781	18,434	19,412	19,426
Service-producing	58,125	61,113	63,363	64,748	65,659	65,753	66,862	69,731	72,643
Transportation and public utilities	4,713	4,923	5,136	5,146	5,165	5,082	4,954	5,171	5,300
Wholesale trade	4,708	4,969	5,204	5,275	5,358	5,278	5,268	5,550	5,769
Retail trade	13,808	14,573	14,989	15,035	15,189	15,179	15,613	16,584	17,425
Finance, insurance, and real estate	4,467	4,724	4,975	5,160	5,298	5,341	5,468	5,682	5,924
Services	15,303	16,252	17,112	17,890	18,619	19,036	19,694	20,761	21,930
Government	15,127	15,672	15,947	16,241	16,031	15,837	15,869	15,984	16,295
Federal	2,727	2,753	2,773	2,866	2,772	2,739	2,774	2,807	2,875
State	3,377	3,474	3,541	3,610	3,640	3,640	3,662	3,712	3,780
Local	9,023	9,446	9,633	9,765	9,619	9,458	9,434	9,465	9,640

NOTE: Data include Alaska and Hawaii beginning in 1959. See "Notes on the data" for a description of the most recent benchmark revision.

21. Annual data: Average hours and earnings of production or nonsupervisory workers on nonagricultural payrolls, by industry

Industry	1977	1978	1979	1980	1981	1982	1983	1984	1985
Private sector									
Average weekly hours	36.0	35.8	35.7	35.3	35.2	34.8	35.0	35.3	35.1
Average hourly earnings	5.25	5.69	6.16	6.66	7.25	7.68	8.02	8.33	8.58
Average weekly earnings	189.00	203.70	219.91	235.10	255.20	267.26	280.70	294.05	301.16
Mining									
Average weekly hours	43.4	43.4	43.0	43.3	43.7	42.7	42.5	43.3	43.4
Average hourly earnings	6.94	7.67	8.49	9.17	10.04	10.77	11.28	11.63	11.95
Average weekly earnings	301.20	332.88	365.07	397.06	438.75	459.88	479.40	503.58	518.63
Construction									
Average weekly hours	36.5	36.8	37.0	37.0	36.9	36.7	37.1	37.7	37.7
Average hourly earnings	8.10	8.66	9.27	9.94	10.82	11.63	11.94	12.12	12.26
Average weekly earnings	295.65	318.69	342.99	367.78	399.26	426.82	442.97	456.92	462.20
Manufacturing									
Average weekly hours	40.3	40.4	40.2	39.7	39.8	38.9	40.1	40.7	40.5
Average hourly earnings	5.68	6.17	6.70	7.27	7.99	8.49	8.83	9.18	9.52
Average weekly earnings	228.90	249.27	269.34	288.62	318.00	330.26	354.08	373.63	385.56
Transportation and public utilities									
Average weekly hours	39.9	40.0	39.9	39.6	39.4	39.0	39.0	39.4	39.4
Average hourly earnings	6.99	7.57	8.16	8.87	9.70	10.32	10.79	11.11	11.38
Average weekly earnings	278.90	302.80	325.58	351.25	382.18	402.48	420.81	437.73	448.37
Wholesale trade									
Average weekly hours	38.8	38.8	38.8	38.5	38.5	38.3	38.5	38.6	38.7
Average hourly earnings	5.39	5.88	6.39	6.96	7.56	8.09	8.55	8.96	9.26
Average weekly earnings	209.13	228.14	247.93	267.96	291.06	309.85	329.18	345.86	358.36
Retail trade									
Average weekly hours	31.6	31.0	30.6	30.2	30.1	29.9	29.8	30.0	29.7
Average hourly earnings	3.85	4.20	4.53	4.88	5.25	5.48	5.74	5.88	5.97
Average weekly earnings	121.66	130.20	138.62	147.38	158.03	163.85	171.05	176.40	177.31
Finance, insurance, and real estate									
Average weekly hours	36.4	36.4	36.2	36.2	36.3	36.2	36.2	36.5	36.4
Average hourly earnings	4.54	4.89	5.27	5.79	6.31	6.78	7.29	7.62	7.93
Average weekly earnings	165.26	178.00	190.77	209.60	229.05	245.44	263.90	278.13	288.65
Services									
Average weekly hours	33.0	32.8	32.7	32.5	32.6	32.6	32.7	32.8	32.8
Average hourly earnings	4.65	4.99	5.36	5.85	6.41	6.92	7.31	7.64	7.95
Average weekly earnings	153.45	163.67	175.27	190.71	208.97	225.59	239.04	250.59	260.78

22. Employment Cost Index, compensation,[1] by occupation and industry group

(June 1981 = 100)

Series	1983	1984				1985				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 1985	
Civilian workers [2]	117.8	119.8	120.8	122.4	123.9	125.5	126.4	128.4	129.2	0.6	4.3
Workers, by occupational group:											
White-collar workers	118.9	120.9	122.1	124.0	125.5	127.3	128.3	130.7	131.6	.7	4.9
Blue-collar workers	115.8	117.7	118.6	119.6	120.9	122.2	123.1	124.4	124.9	.4	3.3
Service workers	119.1	122.0	122.1	124.6	126.8	127.8	128.0	130.9	131.8	.7	3.9
Workers, by industry division:											
Manufacturing	116.0	117.9	119.1	120.4	122.0	123.9	124.6	125.5	126.0	.4	3.3
Nonmanufacturing	118.6	120.7	121.6	123.3	124.8	126.2	127.2	129.7	130.6	.7	4.6
Services	122.6	125.0	125.5	128.8	130.9	131.9	132.6	136.4	137.1	.5	4.7
Public administration [3]	121.4	122.9	123.7	126.9	128.6	130.1	130.3	134.2	134.8	.4	4.8
Private industry workers	117.0	119.0	120.1	121.1	122.7	124.2	125.2	126.8	127.5	.6	3.9
Workers, by occupational group:											
White-collar workers	117.9	119.9	121.4	122.4	123.9	125.8	127.1	128.8	129.8	.8	4.9
Blue-collar workers	115.7	117.5	118.4	119.3	120.6	121.9	122.8	124.0	124.4	.3	3.2
Service workers	117.9	121.5	121.2	123.2	125.7	126.3	126.5	128.8	129.5	.5	3.0
Workers, by industry division:											
Manufacturing	116.0	117.9	119.1	120.4	122.0	123.9	124.6	125.5	126.0	.4	3.3
Nonmanufacturing	117.5	119.6	120.7	121.6	123.1	124.4	125.6	127.6	128.4	.6	4.3
State and local government workers	122.0	123.9	124.4	128.8	130.1	131.7	132.0	136.5	137.5	.7	5.7
Workers, by occupational group:											
White-collar workers	122.6	124.5	125.0	129.7	131.1	132.5	132.9	137.6	138.6	.7	5.7
Blue-collar workers	119.2	121.9	122.3	125.0	125.9	128.1	128.5	131.9	132.7	.6	5.4
Workers, by industry division:											
Services	122.6	124.5	125.0	129.9	131.3	132.8	133.2	137.9	139.1	.9	5.9
Schools	122.6	124.5	124.7	130.6	132.0	133.4	133.7	139.1	140.3	.9	6.3
Elementary and secondary	123.9	125.4	125.7	132.1	133.5	134.4	134.6	140.9	142.0	.8	6.4
Hospitals and other services[4]	122.6	124.4	125.7	127.9	129.2	131.1	131.5	134.1	135.2	.8	4.6
Public administration[3]	121.4	122.9	123.7	126.9	128.6	130.1	130.3	134.2	134.8	.4	4.8

[1] Cost (cents-per-hour worked) measured in the Employment Cost Index consists of wages, salaries and employer cost of employee benefits.

[2] Consist of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[3] Consists of legislative, judicial, administrative, and regulatory activities.

[4] Includes, for example, library, social, and health services.

23. Employment Cost Index, wages and salaries, by occupation and industry group

(June 1981 = 100)

Series	1983	1984				1985				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 1985	
Civilian workers [1]	116.5	117.9	118.8	120.3	121.7	123.1	124.2	126.3	127.0	0.6	4.4
Workers, by occupational group:											
White-collar workers	117.9	119.3	120.4	122.2	123.5	125.2	126.4	128.8	129.8	.8	5.1
Blue-collar workers	114.0	115.3	116.1	117.6	118.2	119.3	120.5	122.0	122.3	.2	3.5
Service workers	117.4	120.0	119.8	122.3	124.3	124.8	125.3	128.0	128.6	.5	3.5
Workers, by industry division											
Manufacturing	114.5	115.7	116.8	118.0	119.5	121.0	122.3	123.2	123.8	.5	3.6
Nonmanufacturing	117.4	118.9	119.7	121.3	122.6	123.9	125.0	127.6	128.4	.6	4.7
Services	121.3	123.3	123.8	127.2	128.9	129.7	130.5	134.2	134.8	.4	4.6
Public administration [2]	118.4	120.4	121.3	124.4	125.7	127.0	127.2	131.4	132.0	.5	5.0
Private industry workers	115.8	117.2	118.2	119.2	120.6	122.0	123.3	124.9	125.6	.6	4.1
Workers, by occupational group:											
White-collar workers	117.2	118.5	119.9	120.9	122.3	124.0	125.5	127.3	128.3	.8	4.9
Professional and technical	120.4	122.2	123.8	125.2	127.3	127.7	128.7	131.2	131.5	.2	3.3
Managers and administrators	115.7	118.0	119.2	121.0	122.2	123.8	126.5	127.7	128.4	.5	5.1
Salesworkers	111.2	110.2	111.9	110.5	111.6	116.3	117.4	119.3	122.5	2.7	9.8
Clerical workers	118.3	119.8	120.7	122.0	122.9	124.7	125.6	127.1	127.9	.6	4.1
Blue-collar workers	113.8	115.1	115.9	116.7	118.0	119.1	120.3	121.7	122.0	.2	3.4
Craft and kindred workers	115.4	116.5	117.3	118.6	119.4	120.8	122.0	123.7	123.8	.1	3.7
Operatives, except transport	113.6	114.8	115.8	116.8	117.9	118.9	120.1	121.1	121.6	.4	3.1
Transport equipment operatives	110.2	111.7	112.7	113.4	114.0	114.5	115.7	117.7	117.8	.1	3.3
Nonfarm laborers	112.1	112.9	114.1	114.7	115.9	116.7	118.5	118.6	119.8	1.0	3.4
Service workers	118.5	119.8	119.3	121.2	123.7	123.8	124.4	126.3	126.6	.2	2.3
Workers, by industry division:											
Manufacturing	114.5	115.7	116.8	118.0	119.5	121.0	122.3	123.2	123.8	.5	3.6
Durables	114.4	115.7	116.6	117.7	119.1	120.6	122.0	122.7	123.4	.6	3.6
Nondurables	114.6	115.8	117.1	118.6	120.2	121.6	122.6	124.0	124.6	.5	3.7
Nonmanufacturing	116.5	118.0	119.0	119.9	121.2	122.6	123.9	125.9	126.6	.6	4.5
Construction	112.9	113.3	114.0	114.3	114.4	115.5	116.6	117.3	117.9	.5	3.1
Transportation and public utilities	116.8	118.5	119.3	119.9	120.7	121.7	122.8	124.8	125.2	.3	3.7
Wholesale and retail trade	112.3	114.3	116.0	116.5	118.1	118.8	121.1	122.7	123.7	.8	4.7
Wholesale trade	116.5	118.2	120.0	120.7	122.9	123.7	126.8	127.7	128.3	.5	4.4
Retail trade	110.6	112.8	114.4	114.9	116.2	116.9	118.9	120.8	121.9	.9	4.9
Finance, insurance, and real estate	116.9	116.1	116.9	115.3	115.8	122.0	121.7	124.1	126.5	1.9	9.2
Services	121.9	124.2	124.7	127.1	129.5	129.9	131.0	133.9	134.1	.1	3.6
State and local government workers	120.0	121.6	122.0	126.1	127.1	128.4	128.7	133.2	134.2	.8	5.6
Workers, by occupational group											
White-collar workers	120.6	122.2	122.5	127.1	128.0	129.3	129.6	134.3	135.3	.7	5.7
Blue-collar workers	116.9	118.1	118.6	121.9	122.5	124.2	124.5	127.9	128.4	.4	4.8
Workers, by industry division											
Services	120.6	122.2	122.5	127.2	128.1	129.4	129.7	134.5	135.6	.8	5.9
Schools	120.6	122.2	122.3	127.8	128.7	129.9	130.2	135.8	137.0	.9	6.4
Elementary and secondary	121.7	122.9	123.0	128.3	130.2	130.8	131.1	137.5	138.5	.7	6.4
Hospitals and other services [3]	120.6	121.9	123.1	125.1	125.9	127.7	128.0	130.2	130.9	.5	4.0
Public administration [2]	118.4	120.4	121.3	124.4	125.7	127.0	127.2	131.4	132.0	.5	5.0

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[1] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[2] Consists of legislative, judicial, administrative, and regulatory activities.

[3] Includes, for example, library, social and health services.

24. Employment Cost Index, private nonfarm workers, by bargaining status, region, and area size

(June 1981 = 100)

Series	1983	1984				1985				Percent change	
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	3 months ended	12 months ended
										Dec. 1985	
COMPENSATION											
Workers, by bargaining status[1]											
Union	118.8	120.6	121.7	122.6	123.9	124.8	125.5	126.5	127.1	0.5	2.6
Manufacturing	117.2	119.3	120.5	121.6	123.2	124.2	124.2	125.0	125.5	.4	1.9
Nonmanufacturing	120.4	121.9	122.8	123.6	124.5	125.3	126.6	127.8	128.6	.6	3.3
Nonunion	115.9	118.0	119.2	120.3	121.9	123.8	125.0	126.8	127.5	.6	4.6
Manufacturing	114.9	116.6	117.9	119.3	120.8	123.6	124.8	125.7	126.3	.5	4.6
Nonmanufacturing	116.4	118.6	119.8	120.7	122.4	123.9	125.1	127.3	128.1	.6	4.7
Workers, by region[1]											
Northeast	117.5	118.9	120.7	122.4	123.8	125.1	126.4	128.8	129.9	.9	4.9
South	117.1	119.7	120.7	120.7	122.2	124.2	125.2	126.5	127.2	.6	4.1
Midwest (formerly North Central)	114.7	117.2	117.9	119.7	120.8	122.0	122.7	124.2	124.6	.3	3.1
West	120.0	121.0	122.2	122.5	124.9	126.8	127.9	129.1	129.8	.5	3.9
Workers, by area size[1]											
Metropolitan areas	117.4	119.4	120.6	121.5	123.2	124.7	125.7	127.3	128.1	.6	4.0
Other areas	114.5	116.7	117.4	119.0	119.8	121.4	122.5	123.9	123.9	.0	3.4
WAGES AND SALARIES											
Workers, by bargaining status[1]											
Union	116.9	118.1	119.0	119.8	120.9	121.7	123.0	124.1	124.7	.5	3.1
Manufacturing	114.8	116.1	117.1	118.1	119.5	120.4	121.7	122.8	123.3	.4	3.2
Nonmanufacturing	118.9	120.1	120.7	121.3	122.1	122.8	124.1	125.3	125.9	.5	3.1
Nonunion	115.2	116.7	117.8	118.8	120.4	122.1	123.4	125.2	125.9	.6	4.6
Manufacturing	114.2	115.4	116.5	117.9	119.5	121.5	122.8	123.7	124.4	.6	4.1
Nonmanufacturing	115.6	117.2	118.3	119.2	120.7	122.3	123.6	125.9	126.6	.6	4.9
Workers, by region[1]											
Northeast	116.6	117.4	118.9	120.5	121.9	123.0	124.6	126.8	128.1	1.0	5.1
South	115.7	117.9	119.0	119.0	120.2	122.3	123.4	124.8	125.4	.5	4.3
Midwest (formerly North Central)	113.6	115.5	116.0	117.8	118.7	119.6	121.1	122.5	122.9	.3	3.5
West	118.5	118.8	119.6	120.0	122.5	124.0	125.1	126.6	127.1	.4	3.8
Workers, by area size[1]											
Metropolitan areas	116.2	117.6	118.6	119.5	121.0	122.4	123.8	125.5	126.3	.6	4.4
Other areas	113.4	115.1	116.0	117.5	118.3	119.6	120.6	121.9	122.0	.1	3.1

[1] The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the *Monthly Labor Review* Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

25. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		Quarterly average							
			1984				1985			
	1984	1985	I	II	III	IV	I	II^p	III^p	IV^p
Specified adjustments:										
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:										
First year of contract	3.6	2.6	5.1	3.5	2.7	3.7	3.6	3.5	2.0	2.0
Annual rate over life of contract	2.8	2.7	4.7	3.2	3.1	2.0	2.7	3.4	3.0	1.4
Wage adjustments, settlements covering 1,000 workers or more:										
First year of contract	2.4	2.3	2.8	2.6	2.1	2.3	3.3	2.5	2.0	2.1
Annual rate over life of contract	2.4	2.7	3.3	2.7	2.6	1.5	3.2	2.8	3.1	1.9
Effective adjustments:										
Total effective wage adjustment [3]	3.7	3.3	.9	.9	1.2	.7	.8	.8	1.2	.5
From settlements reached in period	.8	.7	.1	.1	.2	.3	.1	.2	.2	.2
Deferred from settlements reached in earlier periods	2.0	1.8	.4	.7	.7	.2	.6	.5	.6	.2
From cost-of-living-adjustments clauses	.9	.8	.3	.2	.3	.2	.1	.1	.4	.1

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[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases and no changes in compensation or wages.

[3] Because of rounding total may not equal sum of parts.

^{p} = preliminary.

26. Average specified compensation and wage adjustments, major collective bargaining settlements in private industry situations covering 1,000 workers or more during 4-quarter periods (in percent)

Measure	Average for four quarters ending–							
	1984				1985			
	I	II	III	IV	I	II^p	III^p	IV^p
Specified total compensation adjustments, settlements covering 5,000 workers or more, all industries:								
First year of contract	4.8	4.7	4.2	3.6	3.4	3.5	3.1	(1)
Annual rate over life of contract	3.6	3.5	3.2	2.8	2.6	2.7	2.7	2.8
Specified wage adjustments, settlements covering 1,000 workers or more:								
All industries								
First year of contract	3.5	3.5	3.2	2.4	2.4	2.4	2.4	2.3
Contracts with COLA clauses	4.0	4.6	4.5	2.9	2.5	2.3	1.9	1.6
Contracts without COLA clauses	3.0	2.7	2.3	2.1	2.4	2.4	2.7	2.7
Annual rate over life of contract	3.0	3.1	2.8	2.4	2.3	2.4	2.5	2.7
Contracts with COLA clauses	2.6	2.9	2.8	1.8	1.3	1.5	1.8	2.5
Contracts without COLA clauses	3.4	3.2	2.8	2.7	2.8	2.8	3.0	2.8
Manufacturing								
First year of contract	2.6	3.0	2.6	2.3	2.1	2.0	1.5	.8
Contracts with COLA clauses	2.4	3.2	1.5	2.1	2.0	1.9	1.5	.8
Contracts without COLA clauses	2.9	2.8	3.7	2.9	2.5	2.2	1.5	.9
Annual rate over life of contract	2.8	3.1	2.8	1.5	1.4	1.5	1.6	1.8
Contracts with COLA clauses	2.2	2.8	1.8	1.0	.9	1.0	1.4	2.1
Contracts without COLA clauses	3.7	3.6	3.8	3.3	3.2	3.0	2.4	1.6
Nonmanufacturing								
First year of contract	3.8	3.7	3.3	2.5	2.6	2.7	3.2	3.3
Contracts with COLA clauses	4.9	5.2	5.4	5.5	5.1	4.3	4.0	3.6
Contracts without COLA clauses	3.0	2.6	2.1	2.0	2.4	2.5	3.0	3.3
Annual rate over life of contract	3.1	3.0	2.8	2.9	2.8	2.9	3.3	3.3
Contracts with COLA clauses	2.9	3.0	3.1	4.8	4.0	3.8	3.9	3.6
Contracts without COLA clauses	3.3	3.0	2.6	2.6	2.7	2.8	3.2	3.3
Construction								
First year of contract	1.2	.8	.9	.5	.9	1.1	1.0	1.5
Contracts with COLA clauses	.1	-.4	4.0	4.0	4.6	9.2	(1)	(1)
Contracts without COLA clauses	1.4	.9	.9	.4	.8	1.0	(1)	(1)
Annual rate over life of contract	2.0	1.7	1.4	1.0	1.4	1.7	1.7	2.1
Contracts with COLA clauses	.7	.0	1.4	1.4	1.7	4.6	(1)	(1)
Contracts without COLA clauses	2.2	1.8	1.4	1.0	1.4	1.7	(1)	(1)

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[1] Data do not meet publication standards.

^{p} = preliminary.

27. Average effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more during 4-quarter periods (in percent)

Effective wage adjustment	Average for four quarters ending—						
	1984			1985			
	II	III	IV	I	II^p	III^p	IV^p
For all workers:[1]							
Total	4.3	4.2	3.7	3.6	3.5	3.5	3.3
From settlements reached in period	1.0	1.0	.8	.7	.9	.9	.7
Deferred from settlements reached in earlier period	2.2	2.1	2.0	2.2	1.9	1.8	1.8
From cost-of-living-adjustments clauses	1.1	1.2	.9	.7	.7	.8	.8
For workers receiving changes:							
Total	5.3	5.0	4.4	4.5	4.2	4.3	4.1
From settlements reached in period	3.6	3.7	3.0	2.9	2.9	2.8	3.4
Deferred from settlements reached in earlier period	4.9	4.2	4.0	4.2	3.9	3.7	3.7
From cost-of-living-adjustments clauses	4.0	3.2	2.7	2.3	2.3	2.8	2.2

[1] Because of rounding total may not equal sum of parts.

p = preliminary.

28. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, State and local government collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		Second 6 months 1985^p
	1984	1985	
Specified adjustments:			
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:			
First year of contract	5.2	4.2	3.8
Annual rate over life of contract	5.4	5.2	5.3
Wage adjustments, settlements covering 1,000 workers or more:			
First year of contract	4.8	4.6	4.4
Annual rate over life of contract	5.1	5.4	5.6
Effective adjustments:			
Total effective wage adjustment [3]	5.0	5.8	4.1
From settlements reached in period	1.9	4.1	3.2
Deferred from settlements reached in earlier periods	3.1	1.6	.9
From cost-of-living-adjustment clauses	(4)	(4)	(4)

[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases, and no change in compensation or wages.

[3] Because of rounding total may not equal sum of parts.

[4] Less than 0.05 percent.

p = preliminary.

29. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1985										1986		
	1984	1985	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.^{p}	Feb.^{p}	Mar.^{p}
Number of stoppages:															
Beginning in period	62	54	4	3	2	2	9	6	11	4	7	2	4	3	–
In effect during period	68	61	12	8	6	8	13	18	20	18	11	8	7	7	–
Workers involved:															
Beginning in period (in thousands)	376.0	323.9	15.2	6.2	6.9	15.7	52.3	15.3	69.5	74.6	25.0	8.2	7.6	24.0	–
In effect during period (in thousands)	391.0	584.1	48.2	14.1	14.8	29.5	60.2	66.8	93.9	117.3	64.6	38.1	12.0	28.4	–
Days idle:															
Number (in thousands)	8,499.0	7,079.1	698.5	229.5	203.3	454.3	500.2	869.7	931.4	1,433.0	651.2	685.4	17.0	309.5	–
Percent of estimated working time[1]	.04	.03	.03	.01	.01	.02	.02	.03	.04	.06	.03	.03	.01	.02	–

[1] Agricultural and government employees are included in the total employed and total working time; private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time worked is found in "Total economy' measure of strike idleness," *Monthly Labor Review*, October 1968, pp. 54-56.

– Data not available.

p = preliminary

30. Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967 = 100, unless otherwise indicated)

Series	Annual average		1985										1986		
	1984	1985	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS:															
All items	311.1	322.2	318.8	320.1	321.3	322.3	322.8	323.5	324.5	325.5	326.6	327.4	328.4	327.5	326.0
All items (1957-59 = 100)	361.9	374.7	370.7	372.3	373.7	374.8	375.5	376.2	377.4	378.5	379.9	380.6	381.9	380.8	379.1
Food and beverages	295.1	302.0	301.6	301.6	301.0	301.4	301.6	301.8	302.1	302.5	303.6	305.6	307.9	307.7	307.8
Food	302.9	309.8	309.7	309.6	308.9	309.3	309.5	309.7	309.9	309.8	311.0	313.2	315.6	315.3	315.4
Food at home	292.6	296.8	298.4	297.7	296.2	296.0	296.2	295.9	295.6	295.3	296.6	299.3	302.5	301.5	301.2
Cereals and bakery products	305.3	317.0	314.4	314.8	315.9	317.3	317.3	318.5	319.2	318.9	319.9	321.9	322.0	322.5	322.7
Meats, poultry, fish, and eggs	266.6	263.4	266.1	263.6	259.8	259.8	260.5	259.7	260.6	261.1	266.1	269.9	271.5	268.4	267.7
Dairy products	253.2	258.0	258.9	258.3	258.4	257.8	257.8	257.4	258.0	257.1	257.1	258.9	257.2	257.3	256.8
Fruits and vegetables	317.4	325.7	332.1	333.2	330.3	329.0	328.9	326.3	319.9	317.1	314.3	323.9	334.4	320.7	319.2
Other foods at home	352.2	361.1	360.5	360.8	361.3	360.8	360.6	361.7	362.6	363.0	362.2	361.3	365.7	375.1	375.7
Sugar and sweets	389.1	398.8	394.8	396.1	397.6	398.3	400.2	401.8	401.1	402.6	401.4	402.2	405.1	408.6	408.4
Fats and oils	288.0	294.4	294.9	294.0	294.0	296.0	297.8	297.1	294.8	291.2	292.1	290.3	292.1	291.4	290.2
Nonalcoholic beverages	443.0	451.7	454.0	454.0	454.1	451.5	448.2	449.6	452.8	454.1	451.7	448.8	459.7	485.3	488.0
Other prepared foods	284.9	294.2	292.2	292.8	293.4	293.4	294.5	295.8	296.3	296.8	296.8	297.3	298.0	299.5	299.3
Food away from home	333.4	346.6	342.6	343.9	345.1	346.9	347.3	348.4	349.9	350.3	351.3	352.1	353.1	354.2	355.5
Alcoholic beverages	222.1	229.5	226.5	226.7	227.7	227.8	227.8	228.9	229.3	236.4	236.2	236.2	237.5	238.3	238.8
Housing	336.5	349.9	344.7	345.9	348.5	350.4	351.6	352.9	353.8	354.4	355.0	355.8	356.8	356.5	357.0
Shelter	361.7	382.0	374.3	375.9	379.5	381.0	383.2	385.9	386.9	389.1	391.3	392.3	393.8	394.8	397.0
Renters' costs (12/82 = 100)	108.6	115.4	112.9	113.5	114.5	115.1	115.8	116.6	117.0	117.9	118.4	118.3	118.8	119.0	119.6
Rent, residential	249.3	264.6	259.2	260.4	262.6	263.6	265.0	266.6	267.7	269.9	271.7	272.4	273.4	273.7	275.0
Other renters' costs	373.4	398.4	386.1	390.9	396.5	401.6	405.1	409.9	410.7	412.5	408.7	398.1	401.1	404.1	405.5
Homeowners' costs (12/82 = 100)	107.3	113.1	110.8	111.3	112.4	112.8	113.5	114.3	114.6	115.1	115.8	116.3	116.7	117.0	117.9
Owners' equivalent rent (12/82 = 100)	107.3	113.2	110.9	111.3	112.5	112.8	113.5	114.3	114.6	115.1	115.9	116.3	116.7	117.0	117.9
Household insurance (12/82 = 100)	107.5	112.4	110.4	111.4	112.0	112.7	112.7	113.0	113.7	114.6	114.5	115.0	115.7	117.4	118.0
Maintenance and repairs	359.2	368.9	370.0	368.0	366.2	367.6	367.8	370.6	368.7	368.5	372.7	373.7	379.1	379.6	387.5
Maintenance and repair services	409.7	421.1	422.2	418.2	416.0	423.2	421.1	425.1	421.9	422.2	426.4	426.2	432.6	432.8	422.4
Maintenance and repair commodities	262.7	269.6	270.6	270.4	269.2	265.7	267.8	269.2	268.6	268.0	271.5	273.3	277.1	277.8	286.1
Fuel and other utilities	387.3	393.6	388.2	388.7	393.0	399.4	399.9	398.9	400.5	395.6	392.1	393.3	394.6	390.0	385.5
Fuels	485.5	488.1	482.2	483.0	490.0	497.7	497.3	494.4	496.8	488.4	481.5	483.6	484.7	476.3	467.6
Fuel oil, coal, and bottled gas	641.8	619.5	620.8	623.5	620.8	612.0	601.9	594.6	601.7	615.3	641.6	657.3	650.3	591.2	549.9
Gas (piped) and electricity	445.2	452.7	445.5	445.9	454.7	465.6	467.1	465.1	466.5	453.9	440.5	439.9	442.6	444.5	442.3
Other utilities and public services	230.2	240.7	236.3	236.4	236.8	241.1	242.8	244.2	244.6	244.7	245.9	245.8	247.3	247.9	249.0
Household furnishings and operations	242.5	247.2	246.9	247.9	247.6	247.1	246.5	247.0	247.1	248.4	248.9	248.8	248.8	249.0	249.8
Housefurnishings	199.1	200.1	200.6	201.7	201.2	200.0	198.8	199.1	199.0	200.3	200.8	200.1	199.8	199.7	201.0
Housekeeping supplies	303.2	313.6	311.8	312.6	312.9	313.6	313.1	313.5	313.9	315.7	316.4	317.7	318.3	318.8	317.9
Housekeeping services	327.5	338.9	337.4	337.9	338.0	338.3	339.8	340.7	341.5	342.2	342.7	343.2	343.9	344.5	345.1
Apparel and upkeep	200.2	206.0	205.3	205.9	205.3	204.6	202.8	205.3	209.6	211.1	211.2	209.0	205.0	204.1	206.3
Apparel commodities	187.0	191.6	191.3	191.8	191.0	190.2	188.0	190.6	195.3	196.7	196.8	194.2	189.5	188.5	190.8
Men's and boys' apparel	192.4	197.9	195.2	197.4	197.8	196.4	194.5	197.2	201.5	203.2	203.6	202.0	198.6	196.8	198.3
Women's and girls' apparel	163.6	169.5	169.9	170.0	168.0	166.5	163.4	167.7	176.1	177.9	176.5	172.6	164.4	163.4	167.6
Infants' and toddlers' apparel	287.0	299.7	302.1	295.3	298.3	300.7	294.5	300.6	302.0	302.1	307.0	304.1	313.9	311.6	313.1
Footwear	209.5	212.1	213.1	213.2	213.2	213.9	211.4	210.3	210.9	212.3	215.5	213.1	209.1	207.9	210.1
Other apparel commodities	216.4	215.5	215.9	215.8	215.1	216.3	216.7	217.5	215.2	214.9	214.9	214.6	215.5	216.1	214.6
Apparel services	305.0	320.9	317.1	318.4	319.4	319.9	321.4	322.9	324.1	325.7	326.3	326.9	329.8	330.7	331.5
Transportation	311.7	319.9	316.7	320.0	321.4	321.8	321.8	320.7	319.7	320.9	323.2	324.0	323.9	319.2	309.6
Private transportation	306.6	314.2	311.0	314.6	316.0	316.3	316.1	314.9	313.6	314.7	317.3	317.8	317.3	312.2	302.1
New vehicles	208.0	214.9	213.8	213.9	214.2	214.3	214.3	214.2	214.2	215.9	218.2	219.2	219.7	220.2	220.1
New cars	208.5	215.2	214.1	214.1	214.5	214.7	214.7	214.6	214.5	216.2	218.4	219.4	219.9	220.4	220.3
Used cars	375.7	379.7	386.1	386.4	384.2	380.3	376.7	374.0	374.3	375.3	376.4	375.6	374.1	370.7	367.2
Motor fuel	370.7	373.8	360.6	374.2	381.6	384.7	385.5	381.9	377.7	374.6	376.7	377.5	373.3	351.5	308.5
Gasoline	370.2	373.3	360.0	373.8	381.4	384.5	385.3	381.8	377.4	374.2	376.1	376.8	372.5	350.8	307.7
Maintenance and repair	341.5	351.4	348.5	348.2	349.6	350.4	351.1	351.9	353.5	355.7	355.8	357.5	357.9	358.9	359.3
Other private transportation	273.3	287.6	284.5	285.8	285.6	286.6	287.6	287.7	285.8	289.6	293.9	295.2	297.7	299.2	301.5
Other private transportation commodities	201.5	202.6	201.9	202.8	201.3	203.9	202.2	202.8	203.4	202.8	201.6	202.1	203.4	202.9	203.6
Other private transportation services	295.0	312.8	309.1	310.5	310.7	311.3	313.0	313.0	310.4	315.4	321.2	322.7	325.5	327.6	330.3
Public transportation	385.2	402.8	397.3	398.0	398.4	399.3	402.4	403.7	408.0	411.5	412.8	412.9	419.6	422.2	421.2
Medical care	379.5	403.1	396.5	398.0	399.5	401.7	404.0	406.6	408.3	410.5	413.0	414.7	418.2	422.3	425.8
Medical care commodities	239.7	256.7	251.9	253.9	255.2	257.0	257.8	259.3	260.2	261.3	262.7	262.9	264.5	267.4	269.4
Medical care services	410.3	435.1	428.1	429.4	430.9	433.0	435.8	438.6	440.5	443.0	445.8	448.0	451.9	456.2	460.1
Professional services	346.1	367.3	361.9	363.0	364.5	366.4	368.1	370.0	371.7	373.2	375.5	377.1	378.9	381.6	385.0
Other medical care services	488.0	517.0	508.0	509.6	511.2	513.6	517.6	521.6	523.9	527.4	530.8	533.6	540.3	546.4	550.8
Entertainment	255.1	265.0	262.2	263.3	263.6	264.8	265.7	265.7	266.8	268.4	269.0	268.3	270.8	272.0	271.9
Entertainment commodities	253.3	260.6	258.7	259.5	259.5	260.1	260.8	260.5	262.5	264.0	264.0	262.5	264.7	265.2	265.0
Entertainment services	258.3	271.8	267.6	269.2	269.9	272.0	273.3	273.6	273.3	275.2	276.6	277.1	279.9	282.1	282.2
Other goods and services	307.7	326.6	321.1	321.8	322.3	323.0	325.0	326.0	333.3	334.9	335.3	336.5	339.1	340.3	341.1
Tobacco products	310.0	328.5	323.7	324.0	324.1	324.8	330.0	331.5	332.8	334.4	334.7	337.4	342.7	344.7	345.6
Personal care	271.4	281.9	278.7	279.8	280.9	281.7	282.3	283.3	284.1	285.0	285.4	286.3	288.1	289.1	290.3
Toilet goods and personal care appliances	269.6	278.5	276.0	277.1	277.5	277.9	278.9	279.4	280.6	281.4	281.1	282.5	285.3	286.0	287.3
Personal care services	274.1	286.0	282.0	283.3	285.0	286.1	286.3	287.7	288.2	289.2	290.2	290.6	291.8	293.0	294.0
Personal and educational expenses	365.7	397.1	387.6	388.3	388.5	389.1	390.1	390.7	412.5	414.7	415.4	415.5	416.8	417.7	417.9
School books and supplies	322.8	350.8	343.9	344.5	344.5	344.9	345.5	346.1	362.1	364.5	364.7	364.7	371.0	373.8	374.3
Personal and educational services	375.6	407.7	397.8	398.5	398.8	399.4	400.4	401.1	423.9	426.2	426.9	427.0	427.6	428.1	428.3

See footnotes at end of table.

30. Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967 = 100, unless otherwise indicated)

Series	Annual average		1985										1986		
	1984	1985	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
All items	311.1	322.2	318.8	320.1	321.3	322.3	322.8	323.5	324.5	325.5	326.6	327.4	328.4	327.5	326.0
Commodities	280.7	286.7	285.3	286.8	287.0	286.9	286.5	286.5	287.1	287.9	289.2	289.9	290.1	287.4	283.7
Food and beverages	295.1	302.0	301.6	301.6	301.0	301.4	301.6	301.8	302.1	302.5	303.6	305.6	307.9	307.7	307.8
Commodities less food and beverages	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nondurables less food and beverages	275.7	282.1	277.9	281.5	283.1	283.5	282.9	283.1	284.6	285.3	286.8	286.8	284.9	278.6	268.9
Apparel commodities	187.0	191.6	191.3	191.8	191.0	190.2	188.0	190.6	195.3	196.7	196.8	194.2	189.5	188.5	190.8
Nondurables less food, beverages, and apparel	325.8	333.3	327.1	332.3	335.1	336.2	336.4	335.4	335.3	335.6	337.8	339.1	338.7	329.5	313.6
Durables	266.5	270.7	271.9	272.6	271.6	270.4	269.3	268.6	268.7	270.2	271.5	271.4	271.4	270.5	269.7
Services	363.0	381.5	375.0	376.2	378.9	381.3	383.3	384.9	386.5	387.7	388.7	389.5	391.7	393.3	394.9
Rent of shelter	107.7	113.9	111.5	112.0	113.2	113.6	114.3	115.1	115.4	116.1	116.7	117.0	117.4	117.7	118.5
Household services less rent of shelter	108.1	111.2	109.7	109.8	110.9	112.7	113.2	113.2	113.5	112.1	110.8	110.8	111.4	111.8	111.6
Transportation services	321.1	337.0	333.2	334.1	334.5	335.3	337.0	337.4	337.1	341.1	344.7	346.1	349.0	351.0	352.4
Medical care services	410.3	435.1	428.1	429.4	430.9	433.0	435.8	438.6	440.5	443.0	445.8	448.0	451.9	456.2	460.1
Other services	296.0	314.1	308.6	309.9	310.7	312.0	313.0	313.8	319.7	321.4	322.5	322.9	324.8	326.1	326.6
Special indexes:															
All items less food	311.3	323.3	319.1	320.8	322.4	323.6	324.2	325.0	326.2	327.4	328.5	328.9	329.5	328.5	326.6
All items less shelter	295.1	303.9	301.5	302.8	303.4	304.3	304.4	304.6	305.7	306.3	307.2	307.9	308.8	307.4	305.2
All items less homeowners' costs	106.3	109.7	108.7	109.2	109.5	109.8	109.9	110.1	110.4	110.7	111.1	111.3	111.6	111.2	110.5
All items less medical care	307.3	317.7	314.5	315.8	317.0	317.9	318.4	318.9	319.9	320.8	321.9	322.6	323.4	322.2	320.5
Commodities less food	267.0	272.5	270.6	272.8	273.4	273.1	272.4	272.3	273.1	274.4	275.7	275.7	274.7	270.9	265.2
Nondurables less food	270.8	277.2	273.2	276.5	278.0	278.4	277.9	278.1	279.6	280.7	282.0	282.0	280.4	274.5	265.6
Nondurables less food and apparel	311.9	319.2	313.5	318.1	320.7	321.7	321.9	321.1	321.0	322.0	324.0	325.1	324.9	316.8	302.7
Nondurables	286.6	293.2	291.0	292.7	293.3	293.7	293.5	293.7	294.6	295.1	296.4	297.4	297.7	294.3	289.5
Services less rent of shelter	108.5	113.5	111.9	112.2	112.8	113.7	114.2	114.5	115.0	115.1	115.2	115.4	116.2	116.8	117.1
Services less medical care	355.6	373.3	366.9	368.1	370.9	373.3	375.2	376.7	378.3	379.3	380.1	380.8	382.7	384.0	385.4
Energy	423.6	426.5	416.6	424.4	431.7	436.8	437.1	433.8	432.6	427.1	425.1	426.5	424.7	408.9	381.3
All items less energy	302.9	314.8	312.0	312.7	313.3	313.9	314.5	315.6	316.8	318.4	319.8	320.5	321.8	322.3	323.3
All items less food and energy	301.2	314.4	310.8	311.8	312.8	313.4	314.1	315.3	316.9	318.9	320.4	320.7	321.6	322.3	323.6
Commodities less food and energy	•253.1	259.7	259.3	260.0	259.6	259.0	258.2	258.8	260.2	262.0	262.7	262.2	261.8	261.6	262.0
Energy commodities	409.8	409.9	398.3	410.8	417.0	418.7	418.1	414.0	411.2	410.1	415.2	417.9	413.2	386.5	343.0
Services less energy	356.4	375.9	369.4	370.7	372.9	374.6	376.6	378.6	380.2	382.5	384.8	385.8	387.9	389.4	391.5
Purchasing power of the consumer dollar:															
1967 = $1.00	32.1	31.0	31.4	31.2	31.1	31.0	31.0	30.9	30.8	30.7	30.6	30.5	30.5	30.5	30.7
1957-59 = $1.00	27.6	26.7	27.0	26.9	26.8	26.7	26.6	26.6	26.5	26.4	26.3	26.3	26.2	26.3	26.4
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS:															
All items	307.6	318.5	315.3	316.7	317.8	318.7	319.1	319.6	320.5	321.3	322.6	323.4	324.3	323.2	321.4
All items (1957-59 = 100)	357.7	370.4	366.7	368.3	369.6	370.6	371.2	371.8	372.7	373.7	375.1	376.1	377.1	375.8	373.7
Food and beverages	295.2	301.8	301.6	301.4	300.9	301.2	301.4	301.6	301.8	302.2	303.4	305.4	307.7	307.5	307.6
Food	302.7	309.3	309.3	309.2	308.4	308.8	309.0	309.1	309.3	309.3	310.6	312.8	315.1	314.9	315.0
Food at home	291.2	295.3	296.9	296.1	294.6	294.5	294.6	294.3	294.0	293.7	295.2	297.9	300.9	300.1	299.7
Cereals and bakery products	303.7	315.4	312.7	313.1	314.1	315.7	315.7	316.8	317.6	317.3	318.2	320.4	320.4	320.9	321.1
Meats, poultry, fish, and eggs	266.0	262.7	265.6	262.9	259.2	259.3	259.7	259.0	259.9	260.4	265.4	269.2	270.7	267.7	267.2
Dairy products	252.2	256.9	257.8	257.2	257.3	256.7	256.6	256.3	256.8	255.9	255.9	255.7	256.0	256.0	255.5
Fruits and vegetables	312.5	320.3	326.8	328.1	324.8	323.5	323.9	320.6	313.6	311.2	309.4	319.3	329.7	316.0	314.6
Other foods at home	352.7	361.5	361.0	361.3	361.6	361.3	361.1	362.2	362.9	363.4	362.5	361.6	366.1	375.2	375.6
Sugar and sweets	388.6	398.3	394.2	395.5	396.9	398.0	399.8	401.4	400.8	402.2	400.9	401.8	404.7	408.1	407.8
Fats and oils	287.5	293.9	294.3	293.7	293.6	295.6	297.3	296.5	294.1	290.6	291.8	289.6	291.6	290.8	289.7
Nonalcoholic beverages	444.4	453.2	455.5	455.6	455.4	453.0	449.8	451.2	454.1	455.6	453.1	450.4	461.0	485.5	487.4
Other prepared foods	286.4	295.7	293.7	294.2	294.9	295.0	296.1	297.3	297.7	298.3	298.3	298.7	299.4	300.9	300.7
Food away from home	336.7	349.7	345.8	347.1	348.4	350.1	350.4	351.5	353.0	353.4	354.4	355.2	356.2	357.3	358.6
Alcoholic beverages	225.3	232.6	229.9	229.9	230.8	231.0	231.0	232.2	232.6	239.1	238.8	239.1	240.1	240.9	241.4
Housing	329.2	343.3	338.2	339.5	342.1	344.0	345.0	346.2	347.2	347.5	348.3	349.1	350.1	349.7	350.1
Shelter	350.0	370.4	363.0	364.7	368.1	369.5	371.5	374.0	375.0	377.1	379.3	380.4	381.8	382.9	385.0
Renters' costs (12/84 = 100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rent, residential	248.6	263.7	258.4	259.6	261.8	262.7	264.1	265.7	266.8	268.9	270.7	271.5	272.5	272.8	274.1
Other renters' costs	372.4	397.9	385.3	391.0	396.7	401.0	405.2	409.6	409.8	411.6	408.0	397.5	400.8	403.5	405.4
Homeowners' costs (12/84 = 100)	-	103.1	101.0	101.4	102.5	102.8	103.4	104.1	104.3	104.8	105.5	105.9	106.3	106.6	107.4
Owners' equivalent rent (12/84 = 100)	-	103.0	100.9	101.4	102.4	102.8	103.4	104.1	104.3	104.8	105.5	105.9	106.3	106.6	107.3
Household insurance (12/84 = 100)	-	103.2	101.4	102.4	102.8	103.4	103.5	103.7	104.3	105.2	105.2	105.7	106.3	107.8	108.2
Maintenance and repairs	356.3	364.1	364.3	363.1	361.8	362.9	363.4	365.6	364.4	364.6	367.7	368.5	373.2	374.0	364.7
Maintenance and repair services	403.5	415.0	414.8	411.7	410.1	417.0	415.3	419.6	416.8	417.4	420.9	420.1	426.2	426.5	416.6
Maintenance and repair commodities	257.2	261.1	261.6	261.6	260.7	258.4	260.0	260.6	260.5	260.5	262.7	264.2	267.2	268.1	261.1
Fuel and other utilities	388.6	394.7	389.2	389.7	393.8	400.9	401.2	400.1	401.9	396.3	393.2	394.3	395.6	390.9	386.3
Fuels	485.0	487.5	481.6	482.3	488.9	497.7	497.0	494.0	496.7	487.2	481.0	483.1	484.1	475.7	467.1
Fuel oil, coal, and bottled gas	644.3	622.0	623.1	625.9	623.2	614.3	604.2	596.9	604.3	618.1	644.3	659.9	652.7	593.6	552.8
Gas (piped) and electricity	444.1	451.6	444.4	444.6	453.0	465.1	466.3	464.2	465.9	452.0	439.5	438.8	441.4	443.2	441.2
Other utilities and public services	231.2	241.6	237.2	237.3	237.7	242.0	243.7	245.1	245.6	245.7	246.8	246.7	248.3	248.8	249.9
Household furnishings and operations	239.1	243.4	243.2	244.1	244.0	243.3	242.6	243.1	243.2	244.5	245.1	245.2	245.1	245.3	246.0
Housefurnishings	197.0	197.6	198.2	199.2	198.9	197.6	196.2	196.6	196.5	197.7	198.3	197.8	197.3	197.2	198.5
Housekeeping supplies	300.2	310.7	308.9	309.8	310.0	310.8	310.3	310.4	311.0	312.7	313.5	315.0	315.8	316.4	315.5
Housekeeping services	328.0	340.2	338.5	339.0	339.2	339.5	341.0	342.2	342.9	343.9	344.5	345.0	345.6	346.3	346.6
Apparel and upkeep	199.1	205.0	204.2	204.9	204.2	203.7	201.8	204.3	208.7	210.2	210.2	208.1	204.1	203.1	205.2

See footnotes at end of table.

30. Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967 = 100, unless otherwise indicated)

Series	Annual average		1985										1986		
	1984	1985	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Apparel commodities	186.6	191.3	190.9	191.5	190.7	190.0	187.8	190.4	195.1	196.6	196.5	194.1	189.4	188.2	190.4
Men's and boys' apparel	192.9	198.2	195.7	197.8	198.2	196.6	194.8	197.3	201.8	203.5	203.7	202.2	198.8	196.8	196.0
Women's and girls' apparel	165.0	171.3	171.5	172.0	169.7	168.4	165.5	169.9	178.2	180.0	178.3	174.5	166.1	165.2	169.0
Infants' and toddlers' apparel	297.6	311.7	314.5	306.4	310.6	313.5	306.4	311.2	314.9	314.8	320.7	317.3	332.7	328.6	329.6
Footwear	210.0	212.5	213.4	213.3	213.3	214.1	211.6	210.5	211.0	212.6	215.9	213.6	209.9	208.4	210.7
Other apparel commodities	204.5	203.1	204.2	203.3	202.7	204.0	204.5	205.2	202.5	202.4	202.5	202.4	203.5	204.2	203.5
Apparel services	302.9	318.5	314.7	316.1	317.0	317.6	319.0	320.5	321.6	323.2	323.8	324.4	327.2	328.1	329.0
Transportation	313.9	321.6	318.7	322.0	323.3	323.6	323.5	322.3	321.1	322.2	324.6	325.3	325.1	320.1	310.3
Private transportation	310.1	317.4	314.6	318.0	319.4	319.6	319.3	318.0	316.6	317.6	320.1	320.8	320.2	314.8	304.5
New vehicles	207.3	214.2	213.2	213.2	213.5	213.6	213.6	213.5	213.5	215.3	217.5	218.6	219.0	219.4	219.4
New cars	207.9	214.5	213.4	213.4	213.8	214.0	214.0	213.9	213.8	215.5	217.8	218.8	219.2	219.7	219.5
Used cars	375.7	379.7	386.2	386.4	384.2	380.3	376.7	374.0	374.3	375.3	376.4	375.6	374.1	370.7	367.2
Motor fuel	372.2	375.4	362.2	375.7	383.0	386.2	387.2	383.8	379.5	376.3	378.7	379.6	375.3	353.0	309.6
Gasoline	371.8	375.0	361.6	375.3	382.7	386.0	387.0	383.7	379.2	375.8	378.1	378.9	374.6	352.3	308.8
Maintenance and repair	342.2	352.6	349.6	349.3	350.6	351.5	352.2	352.9	354.5	356.9	357.2	359.0	359.4	360.4	360.9
Other private transportation	274.2	287.7	285.1	286.3	285.9	286.9	287.7	287.6	285.2	289.2	293.7	294.7	296.9	298.4	300.6
Other private transportation commodities	203.9	204.7	204.2	205.1	203.5	205.9	204.3	204.9	205.6	205.0	203.7	204.3	205.6	205.4	206.0
Other private transportation services	295.4	312.3	309.2	310.4	310.4	310.9	312.4	312.1	308.9	314.1	320.2	321.3	323.7	325.7	328.3
Public transportation	376.8	391.7	386.7	387.4	387.6	388.4	392.1	393.5	396.8	399.3	400.1	400.2	408.6	412.6	412.0
Medical care	377.7	401.2	394.6	396.1	397.7	399.8	402.0	404.5	406.3	408.5	410.9	412.6	416.0	420.0	423.5
Medical care commodities	239.7	256.3	251.5	253.5	254.8	256.7	257.4	259.0	259.8	260.9	262.2	262.3	264.1	267.0	268.8
Medical care services	407.9	432.7	425.7	427.1	428.7	430.7	433.3	436.1	438.1	440.6	443.2	445.4	449.2	453.5	457.3
Professional services	346.5	367.7	362.4	363.6	365.0	366.8	368.5	370.4	372.1	373.7	375.8	377.6	379.3	382.2	385.6
Other medical care services	484.7	513.9	505.0	506.6	508.2	510.5	514.4	518.4	520.7	524.4	527.5	530.4	536.9	543.0	547.3
Entertainment	251.2	260.1	257.3	258.6	258.9	260.1	260.9	260.8	261.6	263.0	263.7	263.0	265.4	266.5	266.5
Entertainment commodities	247.7	254.2	252.2	253.2	253.1	253.9	254.5	254.3	256.0	257.1	257.2	255.7	257.8	258.3	258.3
Entertainment services	258.5	271.6	267.4	269.2	270.0	272.0	273.2	273.3	272.6	274.6	276.3	276.8	280.0	282.0	282.1
Other goods and services	304.9	322.7	317.6	318.3	318.8	319.5	321.8	322.9	328.7	330.1	330.5	331.9	334.9	336.1	337.0
Tobacco products	309.7	328.1	323.4	323.6	323.6	324.4	329.7	331.1	332.4	334.0	334.3	337.1	342.4	344.4	345.2
Personal care	269.4	279.6	276.3	277.5	278.6	279.2	279.9	280.9	281.8	282.7	283.1	284.0	285.9	286.8	288.0
Toilet goods and personal care appliances	270.3	279.0	276.5	277.5	277.8	278.2	279.2	280.0	281.1	282.0	281.9	283.3	285.9	286.7	288.1
Personal care services	268.8	280.5	276.5	278.0	279.7	280.7	280.9	282.2	282.8	283.7	284.8	285.2	286.4	287.4	288.4
Personal and educational expenses	368.2	399.3	390.1	390.7	390.9	391.6	392.5	393.2	414.5	416.5	417.3	417.4	418.9	419.9	420.1
School books and supplies	327.5	355.7	348.8	349.4	349.5	349.9	350.6	351.2	366.9	369.2	369.3	369.4	375.6	378.4	379.0
Personal and educational services	378.2	410.1	400.3	401.0	401.2	401.9	402.9	403.6	426.1	428.1	428.9	429.1	429.7	430.3	430.5
All items	307.6	318.5	315.3	316.7	317.8	318.7	319.1	319.6	320.5	321.3	322.6	323.4	324.3	323.2	321.4
Commodities	280.4	286.5	285.2	286.7	286.8	286.8	286.4	286.3	286.8	287.6	288.9	289.7	289.8	287.0	283.1
Food and beverages	295.2	301.8	301.6	301.4	300.8	301.2	301.4	301.6	301.8	302.2	303.4	305.4	307.7	307.5	307.6
Commodities less food and beverages	269.3	-	273.6	276.3	277.5	277.7	-	-	-	-	-	-	-	-	-
Nondurables less food and beverages	277.5	283.8	279.4	283.2	284.9	285.4	285.0	285.1	286.5	287.0	288.5	288.7	286.9	280.1	269.6
Apparel commodities	186.6	191.3	190.9	191.5	190.7	190.0	187.8	190.4	195.1	196.6	196.5	194.1	189.4	188.2	190.4
Nondurables less food, beverages, and apparel	327.0	334.2	327.8	333.1	336.0	337.2	337.6	336.6	336.4	336.5	338.8	340.1	339.6	330.1	313.2
Durables	261.1	265.2	266.7	267.3	266.3	265.1	263.8	263.1	263.1	264.5	265.7	265.7	265.6	264.6	262.7
Services	358.0	377.3	371.0	372.2	374.9	377.4	379.2	380.7	382.0	383.0	384.2	385.1	387.2	388.8	390.5
Rent of shelter (12/84 = 100)	-	103.2	101.1	101.6	102.6	102.9	103.5	104.3	104.5	105.1	105.8	106.1	106.4	106.7	107.4
Household services less rent of shelter (12/84 = 100)	-	102.6	101.1	101.2	102.2	104.2	104.5	104.6	104.8	103.3	102.1	102.0	102.6	103.0	102.8
Transportation services	317.2	332.2	328.8	329.6	329.9	330.6	332.2	332.4	331.4	335.5	339.3	340.5	343.3	345.4	347.0
Medical care services	407.9	432.7	425.7	427.1	428.7	430.7	433.3	436.1	438.1	440.6	443.2	445.4	449.2	453.5	457.3
Other services	292.9	310.1	304.9	306.2	307.2	308.4	309.3	310.1	315.0	316.7	317.8	318.3	320.4	321.6	322.1
Special indexes:															
All items less food	307.5	319.4	315.4	317.2	318.7	319.8	320.3	320.9	321.9	322.9	324.2	324.6	325.1	323.8	321.5
All items less shelter	295.1	303.4	301.1	302.4	303.0	303.9	304.0	304.0	304.8	305.4	306.4	307.2	307.9	306.4	303.8
All items less homeowners' costs (12/84 = 100)	-	101.8	101.0	101.4	101.7	102.0	102.0	102.1	102.4	102.6	103.0	103.2	103.5	103.0	102.3
All items less medical care	304.0	314.3	311.3	312.6	313.7	314.6	314.9	315.3	316.1	316.9	318.1	318.9	319.6	318.3	316.2
Commodities less food	267.1	272.8	271.0	273.3	273.8	273.6	272.8	272.7	273.4	274.5	275.9	275.9	275.0	270.9	264.9
Nondurables less food	272.6	279.0	274.7	278.2	279.8	280.4	280.0	280.2	281.5	282.4	283.8	283.9	282.3	276.1	266.4
Nondurables less food and apparel	313.2	320.3	314.4	319.1	321.8	322.9	323.2	322.4	322.3	323.1	325.0	326.3	325.9	317.5	302.6
Nondurables	287.4	293.9	291.6	293.4	294.0	294.4	294.3	294.5	295.2	295.7	297.1	298.2	298.4	295.0	289.8
Services less rent of shelter (12/84 = 100)	-	102.6	101.2	101.4	101.9	102.8	103.3	103.5	103.8	103.9	103.9	104.2	104.9	105.5	105.7
Services less medical care	350.5	369.0	362.8	364.1	366.8	369.3	371.1	372.5	373.6	374.5	375.5	376.2	378.2	379.5	381.0
Energy	423.3	426.3	416.0	424.2	431.3	436.9	437.2	433.9	432.5	426.6	425.4	426.8	424.7	408.1	379.0
All items less energy	298.3	309.9	307.4	308.1	308.6	309.1	309.5	310.4	311.5	313.0	314.5	315.3	316.5	316.9	317.8
All items less food and energy	295.8	308.7	305.5	306.4	307.3	307.8	308.3	309.4	310.7	312.7	314.2	314.6	315.4	316.1	317.2
Commodities less food and energy	250.5	256.8	256.6	257.2	256.8	256.2	255.3	255.8	257.2	258.8	259.5	259.2	258.8	258.5	258.7
Energy commodities	410.5	410.9	399.0	411.6	418.0	419.9	419.6	415.7	412.6	411.2	416.3	418.9	414.1	387.3	343.3
Services less energy	350.8	371.1	364.9	366.2	368.4	369.9	371.9	373.7	374.9	377.3	379.8	380.8	382.9	384.5	386.5
Purchasing power of the consumer dollar:															
1967 = $1.00	32.5	31.4	31.7	31.6	31.5	31.4	31.3	31.3	31.2	31.1	31.0	30.9	30.8	30.9	31.1
1957-59 = $1.00	28.0	27.0	27.3	27.2	27.1	27.0	26.9	26.9	26.8	26.8	26.7	26.6	26.5	26.6	26.8

- Data not available.

31. Consumer Price Index: U.S. city average and available local area data: all items

(1967 = 100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1985				1986			1985				1986		
			Mar	Apr	Nov	Dec	Jan	Feb	Mar	Mar	Apr	Nov	Dec	Jan	Feb	Mar
U.S. city average		-	318.8	320.1	326.6	327.4	328.4	327.5	326.0	315.3	316.7	322.6	323.4	324.3	323.2	321.4
Chicago, Ill.-Northwestern Ind.	M	-	317.4	319.1	324.2	325.9	326.3	326.4	323.9	304.7	306.2	310.9	312.6	312.9	312.8	309.7
Detroit, Mich.	M	-	315.5	315.8	323.1	323.1	323.1	322.9	320.0	306.0	306.3	313.2	313.1	313.4	312.3	309.3
Los Angeles-Long Beach, Anaheim, Calif.	M	-	314.7	315.9	325.0	326.1	326.8	326.6	326.2	309.6	311.2	319.1	320.1	320.9	320.4	321.6
New York, N.Y.-Northeastern N.J.	M	-	310.9	311.8	319.9	320.8	323.1	322.3	322.4	304.2	305.1	312.5	313.5	315.8	314.7	314.5
Philadelphia, Pa.-N.J.	M	-	310.4	312.4	318.8	319.7	320.3	320.1	319.1	313.5	315.3	321.5	322.5	323.0	322.8	321.4
Anchorage, Alaska (10/67 = 100)	1	10/67	280.0	-	286.9	-	287.1	-	291.2	273.1	-	280.1	-	280.2	-	284.4
Baltimore, Md.	1	-	320.7	-	327.3	-	332.0	-	331.1	320.2	-	326.3	-	331.1	-	329.5
Boston, Mass.	1	-	314.4	-	325.4	-	327.1	-	324.9	312.3	-	323.0	-	324.5	-	322.3
Cincinnati, Ohio-Ky.-Ind.	1	-	328.4	-	333.4	-	333.2	-	329.4	322.2	-	326.2	-	326.0	-	321.8
Denver-Boulder, Colo.	1	-	355.1	-	359.4	-	364.4	-	356.7	350.7	-	354.1	-	359.1	-	350.1
Miami, Fla. (11/77 = 100)	1	11/77	170.1	-	173.9	-	174.6	-	174.5	171.3	-	174.9	-	175.7	-	175.1
Milwaukee, Wis.	1	-	327.8	-	333.9	-	335.9	-	329.1	346.9	-	353.2	-	353.0	-	347.2
Northeast, Pa.	1	-	304.9	-	310.6	-	311.6	-	309.3	304.2	-	309.6	-	310.6	-	308.3
Portland, Oreg.-Wash.	1	-	309.0	-	317.1	-	321.3	-	315.0	299.8	-	307.3	-	311.0	-	304.3
St. Louis, Mo.-Ill.	1	-	314.3	-	321.6	-	322.4	-	319.2	311.0	-	318.5	-	319.1	-	315.0
San Diego, Calif.	1	-	369.2	-	379.0	-	381.9	-	379.2	333.7	-	341.9	-	344.7	-	341.9
Seattle-Everett, Wash.	1	-	321.4	-	324.0	-	327.0	-	325.0	309.0	-	310.8	-	313.5	-	311.4
Washington, D.C.-Md.-Va.	1	-	319.2	-	326.9	-	331.1	-	329.1	322.3	-	330.5	-	332.6	-	330.5
Atlanta, Ga.	2	-	-	324.6	-	335.3	-	336.9	-	-	322.3	-	332.6	-	334.3	-
Buffalo, N.Y.	2	-	-	305.4	-	308.8	-	310.1	-	-	291.9	-	295.9	-	295.8	-
Cleveland, Ohio	2	-	-	342.4	-	348.8	-	350.2	-	-	321.8	-	327.5	-	328.3	-
Dallas-Ft. Worth, Tex.	2	-	-	335.6	-	344.5	-	347.0	-	-	329.6	-	336.3	-	340.4	-
Honolulu, Hawaii	2	-	-	292.7	-	298.5	-	301.2	-	-	300.1	-	305.8	-	308.5	-
Houston, Tex.	2	-	-	335.3	-	336.8	-	337.2	-	-	332.8	-	334.1	-	334.3	-
Kansas City, Mo.-Kansas	2	-	-	319.8	-	321.8	-	321.1	-	-	309.7	-	311.7	-	310.1	-
Minneapolis-St. Paul, Minn.-Wis.	2	-	-	333.6	-	340.4	-	339.9	-	-	329.2	-	336.0	-	334.9	-
Pittsburgh, Pa.	2	-	-	324.3	-	331.5	-	330.1	-	-	306.8	-	312.8	-	311.4	-
San Francisco-Oakland, Calif.	2	-	-	330.4	-	336.4	-	341.1	-	-	326.1	-	331.3	-	336.0	-
Region[3]																
Northeast	2	12/77	-	169.8	-	174.3	-	174.5	-	-	167.9	-	172.1	-	172.3	-
North Central	2	12/77	-	172.8	-	176.0	-	175.4	-	-	169.7	-	172.6	-	171.8	-
South	2	12/77	-	172.6	-	176.3	-	176.6	-	-	172.5	-	176.0	-	176.1	-
West	2	12/77	-	173.0	-	177.2	-	177.5	-	-	171.4	-	175.2	-	175.4	-
Population size class[3]																
A-1	2	12/77	-	169.6	-	174.2	-	174.7	-	-	166.0	-	170.2	-	170.5	-
A-2	2	12/77	-	174.7	-	178.4	-	178.7	-	-	172.0	-	175.4	-	175.5	-
B	2	12/77	-	173.5	-	177.2	-	176.9	-	-	171.2	-	174.6	-	174.2	-
C	2	12/77	-	171.4	-	174.9	-	174.7	-	-	172.0	-	175.3	-	175.0	-
D	2	12/77	-	171.0	-	174.7	-	174.0	-	-	172.8	-	176.0	-	175.2	-
Region/population size class cross classification[3]																
Class A:																
Northeast	2	12/77	-	166.7	-	171.2	-	171.8	-	-	163.5	-	167.7	-	168.1	-
North Central	2	12/77	-	175.9	-	179.4	-	179.2	-	-	171.1	-	174.5	-	174.0	-
South	2	12/77	-	172.4	-	176.5	-	177.3	-	-	172.6	-	176.5	-	177.0	-
West	2	11/77	-	174.6	-	179.3	-	179.8	-	-	170.9	-	175.0	-	175.5	-
Class B:																
Northeast	2	12/77	-	173.5	-	176.7	-	176.4	-	-	170.5	-	173.5	-	173.4	-
North Central	2	12/77	-	171.7	-	174.2	-	173.7	-	-	168.4	-	170.5	-	169.7	-
South	2	12/77	-	173.7	-	176.0	-	176.2	-	-	170.7	-	174.7	-	174.6	-
West	2	12/77	-	174.4	-	176.4	-	177.6	-	-	175.1	-	176.9	-	176.2	-

See footnotes at end of table.

31. Continued— Consumer Price Index: U.S. city average and available local area data: all items

(1967 = 100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1985				1986			1985				1986		
			Mar	Apr	Nov	Dec	Jan	Feb	Mar	Mar	Apr	Nov	Dec	Jan	Feb	Mar
Class C:																
Northeast	2	12/77	-	177.8	-	184.1	-	183.1	-	-	182.5	-	188.8	-	187.8	-
North Central	2	12/77	-	168.6	-	171.5	-	170.4	-	-	165.7	-	168.2	-	167.1	-
South	2	12/77	-	172.2	-	175.3	-	175.3	-	-	173.9	-	176.7	-	176.6	-
West	2	12/77	-	166.9	-	169.1	-	171.1	-	-	165.9	-	167.8	-	169.6	-
Class D:																
Northeast	2	12/77	-	174.2	-	176.1	-	178.9	-	-	174.2	-	177.7	-	178.6	-
North Central	2	12/77	-	169.1	-	172.6	-	170.7	-	-	171.4	-	174.2	-	172.4	-
South	2	12/77	-	171.6	-	174.5	-	174.7	-	-	173.7	-	176.1	-	176.0	-
West	2	12/77	-	170.8	-	176.2	-	174.8	-	-	172.4	-	177.7	-	176.3	-

[1] Area is generally the Standard Metropolitan Statistical Area (SMSA), exclusive of farms. L.A.-Long Beach, Anaheim, Calif. is a combination of two SMSA's, and N.Y., N.Y.-Northeastern N.J. and Chicago, Ill.-Northwestern Ind. are the more extensive Standard Consolidated Areas. Area definitions are those established by the Office of Management and Budget in 1973, except for Denver-Boulder, Colo. which does not include Douglas County. Definitions do not include revisions made since 1973.

[2] Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated.

M - Every month.
1 - January, March, May, July, September, and November
2 - February, April, June, August, October, and December

[3] Regions are defined as the four Census regions.

The population size classes are aggregations of areas which have urban population as defined:

A-1 - More than 4,000,000
A-2 - 1,250,000 to 4,000,000
B - 385,000 to 1,250,000
C - 75,000 to 385,000
D - Less than 75,000

Population size class A is the aggregation of population size classes A-1 and A-2.

- Data not available.

NOTE: Local area CPI indexes are byproducts of the national CPI program. Because each local index is a small subset of the national index, it has a smaller sample size and is, therefore, subject to substantially more sampling and other measurement error than the national index. As a result, local area indexes show greater volatility than the national index, although their long-term trends are quite similar. Therefore, the Bureau of Labor Statistics strongly urges users to consider adopting the national average CPI for use in escalator clauses.

32. Annual data: Consumer Price Index all items and major groups

Series	1977	1978	1979	1980	1981	1982	1983	1984	1985
Consumer Price Index for All Urban Consumers:									
All items:									
Index	181.5	195.4	217.4	246.8	272.4	289.1	298.4	311.1	322.2
Percent change	6.5	7.7	11.3	13.5	10.4	6.1	3.2	4.3	3.6
Food and beverages:									
Index	188.0	206.3	228.5	248.0	267.3	278.2	284.4	295.1	302.0
Percent change	6.0	9.7	10.8	8.5	7.8	4.1	2.2	3.8	2.3
Housing:									
Index	186.5	202.8	227.6	263.3	293.5	314.7	323.1	336.5	349.9
Percent change	6.8	8.7	12.2	15.7	11.5	7.2	2.7	4.1	4.0
Apparel and upkeep:									
Index	154.2	159.6	166.6	178.4	186.9	191.8	196.5	200.2	206.0
Percent change	4.5	3.5	4.4	7.1	4.8	2.6	2.5	1.9	2.9
Transportation:									
Index	177.2	185.5	212.0	249.7	280.0	291.5	298.4	311.7	319.9
Percent change	7.1	4.7	14.3	17.8	12.1	4.1	2.4	4.5	2.6
Medical care:									
Index	202.4	219.4	239.7	265.9	294.5	328.7	357.3	379.5	403.1
Percent change	9.6	8.4	9.3	10.9	10.8	11.6	8.7	6.2	6.2
Entertainment:									
Index	167.7	176.6	188.5	205.3	221.4	235.8	246.0	255.1	265.0
Percent change	4.9	5.3	6.7	8.9	7.8	6.5	4.3	3.7	3.9
Other goods and services:									
Index	172.2	183.3	196.7	214.5	235.7	259.9	288.3	307.7	326.6
Percent change	5.8	6.4	7.3	9.0	9.9	10.3	10.9	6.7	6.1
Consumer Price Index for Urban Wage Earners and Clerical Workers:									
All items:									
Index	181.5	195.3	217.7	247.0	272.3	288.6	297.4	307.6	318.5
Percent change	6.5	7.6	11.5	13.5	10.2	6.0	3.0	3.4	3.5

33. Producer Price Indexes, by stage of processing

(1967 = 100)

Grouping	Annual average		1985									1986		
	1984	1985	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Finished goods	291.1	293.8	293.1	294.1	294.0	294.8	293.5	290.0	294.7	296.4	297.2	296.2	292.3	288.1
Finished consumer goods	290.3	291.9	291.2	292.4	292.2	293.1	291.4	288.2	292.3	294.4	295.4	294.1	288.9	283.5
Finished consumer foods	273.3	271.2	272.2	269.5	268.7	271.2	268.7	265.7	268.2	271.8	274.4	274.9	272.3	272.2
Finished consumer goods excluding foods	294.1	297.4	295.9	299.0	299.0	299.2	297.8	294.7	299.4	300.7	301.1	298.8	292.5	284.4
Nondurable goods less food	337.3	339.4	337.4	342.4	342.1	342.4	340.0	340.3	340.3	342.6	343.7	340.3	329.3	315.0
Durable goods	236.8	241.5	240.7	241.4	241.9	241.9	241.8	234.5	244.9	245.0	244.4	243.6	243.6	243.9
Capital equipment	294.0	300.5	299.9	300.3	300.5	300.8	301.0	296.3	303.5	303.8	303.5	304.0	304.2	304.3
Intermediate materials, supplies, and components	320.0	318.7	319.3	319.9	319.3	318.6	317.9	317.7	317.6	318.1	318.8	317.2	313.5	309.4
Materials and components for manufacturing	301.8	299.4	300.6	300.5	300.3	299.8	299.1	298.4	298.0	297.7	297.6	297.0	296.5	296.4
Materials for food manufacturing	271.1	258.7	263.9	261.9	262.0	260.3	253.0	249.9	252.3	254.0	253.0	252.4	248.9	246.3
Materials for nondurable manufacturing	290.5	285.8	287.1	286.7	286.4	285.8	285.8	285.1	283.3	282.8	282.5	283.2	283.0	281.9
Materials for durable manufacturing	325.1	320.2	322.1	323.0	322.3	320.9	320.3	319.2	318.6	317.5	317.6	313.9	313.0	313.6
Components for manufacturing	287.5	291.5	291.1	291.1	291.3	291.6	291.9	292.1	292.3	292.3	292.4	292.9	293.3	294.2
Materials and components for construction	310.3	315.2	314.0	315.9	317.3	316.9	316.5	315.6	315.5	315.0	315.4	316.3	316.6	316.8
Processed fuels and lubricants	566.2	549.4	552.3	558.0	549.1	544.0	539.8	542.4	542.6	550.5	557.3	539.8	500.7	453.9
Containers	302.3	311.2	312.4	311.7	312.0	311.4	310.3	309.9	310.4	309.8	310.7	310.7	310.6	311.2
Supplies	283.4	284.2	283.7	283.4	283.3	283.6	284.1	284.5	285.1	285.6	285.9	286.7	286.3	286.7
Crude materials for further processing	330.8	306.2	311.0	309.1	305.6	303.9	295.3	291.8	297.8	304.7	304.7	301.3	290.5	280.9
Foodstuffs and feedstuffs	259.5	235.0	239.9	236.3	233.7	231.6	221.0	215.4	224.6	236.6	236.8	231.4	226.9	224.0
Nonfood materials[1]	380.5	355.4	360.2	357.7	354.0	353.5	351.2	352.2	352.8	352.0	351.1	351.2	321.7	293.2
Special groupings														
Finished goods, excluding foods	294.8	299.1	297.8	300.1	300.2	300.5	299.5	295.9	301.3	302.4	302.5	301.1	296.7	291.1
Finished energy goods	750.3	721.4	714.9	746.1	741.4	733.8	719.9	718.2	716.5	729.5	736.1	704.8	636.8	551.1
Finished goods less energy	265.1	269.2	268.8	268.4	268.4	269.7	269.0	265.5	270.5	271.6	272.1	272.7	272.2	272.3
Finished consumer goods less energy	257.8	261.3	260.9	260.3	260.3	261.9	260.9	257.7	262.1	263.4	264.1	264.8	264.1	264.2
Finished goods less food and energy	262.3	268.7	267.7	268.2	268.6	269.4	269.4	265.7	271.6	271.8	271.4	272.1	272.4	272.6
Finished consumer goods less food and energy	245.9	252.1	251.1	251.5	252.0	252.9	252.9	249.6	254.9	255.0	254.7	255.5	255.9	256.1
Consumer nondurable goods less food and energy	239.0	246.2	245.0	245.2	245.6	247.4	247.3	247.9	248.3	248.5	248.5	250.6	251.1	251.3
Intermediate materials less foods and feeds	325.0	325.0	325.5	326.4	325.7	325.0	324.5	324.4	324.1	324.5	325.2	323.5	319.7	315.5
Intermediate foods and feeds	253.1	232.7	235.4	232.6	232.2	231.7	227.1	225.4	228.6	231.4	231.7	232.4	228.6	227.6
Intermediate energy goods	545.0	528.8	531.5	536.7	528.6	523.8	519.8	522.3	522.2	529.3	536.3	519.1	481.9	437.4
Intermediate goods less energy	303.8	303.9	304.3	304.5	304.6	304.3	303.9	303.4	303.4	303.2	303.3	303.4	303.0	303.2
Intermediate materials less foods and energy	303.6	305.2	305.6	305.9	306.0	305.6	305.5	305.0	304.6	304.2	304.2	304.2	304.2	304.4
Crude energy materials	785.2	740.1	749.1	760.7	754.5	752.6	742.9	743.2	743.1	737.1	739.5	739.9	679.0	618.4
Crude materials less energy	255.5	233.2	238.6	234.8	231.7	230.1	221.8	217.9	224.7	233.2	232.9	229.1	225.9	224.0
Crude nonfood materials less energy	266.1	249.7	257.3	252.3	247.4	247.2	245.8	246.7	246.5	244.6	242.6	243.7	244.6	245.6

[1] Crude nonfood materials except fuel.

34. Producer Price indexes, by durability of product

(1967 = 100)

Grouping	Annual average		1985									1986		
	1984	1985	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Total durable goods	293.6	297.3	297.1	297.6	297.8	297.8	297.8	295.2	298.8	298.5	298.5	298.2	298.3	298.7
Total nondurable goods	323.3	317.3	318.4	319.9	317.5	317.3	314.1	313.0	314.3	317.6	318.7	316.9	309.0	300.6
Total manufactures	302.9	304.3	304.2	305.2	304.8	304.6	303.8	302.2	304.4	305.4	305.7	304.7	301.0	297.3
Durable	293.9	298.1	297.6	298.4	298.7	298.7	298.6	298.0	299.7	299.5	299.5	299.1	299.2	299.5
Nondurable	312.3	310.5	310.8	312.1	311.0	310.8	309.0	308.4	309.2	311.4	312.6	310.3	302.7	294.7
Total raw or slightly processed goods	346.6	328.2	332.1	329.8	327.3	327.5	320.2	317.6	320.6	326.2	328.8	326.9	319.0	310.4
Durable	266.7	252.2	262.1	255.4	247.3	247.6	249.7	249.7	248.1	245.2	243.8	247.6	250.6	251.5
Nondurable	351.4	332.8	336.2	334.3	332.1	332.3	324.4	321.6	324.9	331.2	334.0	331.7	323.1	313.8

35. Annual data: Producer Price indexes, by stage of processing

(1967 = 100)

Index	1977	1978	1979	1980	1981	1982	1983	1984	1985
Finished goods:									
Total	181.7	195.9	217.7	247.0	269.8	280.7	285.2	291.1	293.8
Consumer goods	180.7	194.9	217.9	248.9	271.3	281.0	284.6	290.3	291.9
Capital equipment	184.6	199.2	216.5	239.8	264.3	279.4	287.2	294.0	300.5
Intermediate materials, supplies, and components:									
Total	201.5	215.6	243.2	280.3	306.0	310.4	312.3	320.0	318.7
Materials and components for manufacturing	195.4	208.7	234.4	265.7	286.1	289.8	293.4	301.8	299.4
Materials and components for construction	203.4	224.7	247.4	268.3	287.6	293.7	301.8	310.3	315.2
Processed fuels and lubricants	282.5	295.3	364.8	503.0	595.4	591.7	564.8	566.2	549.4
Containers	188.3	202.8	226.8	254.5	276.1	285.6	286.6	302.3	311.2
Supplies	188.7	198.5	218.2	244.5	263.8	272.1	277.1	283.4	284.2
Crude materials for further processing:									
Total	209.2	234.4	274.3	304.6	329.0	319.5	323.6	330.8	306.2
Foodstuffs and feedstuffs	192.1	216.2	247.9	259.2	257.4	247.8	252.2	259.5	235.0
Nonfood materials except fuel	212.2	233.1	284.5	346.1	413.7	376.8	372.2	380.5	355.4
Fuel	372.1	426.8	507.6	615.0	751.2	886.1	931.5	931.3	912.3

36. U.S. export price indexes by Standard International Trade Classification

(June 1977=100, unless otherwise indicated)

Category	1974 SITC	1983			1984				1985			
		June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
ALL COMMODITIES (9/83=100)		-	100.0	99.5	100.2	101.5	99.3	98.1	97.5	97.5	96.5	96.8
Food (3/83=100)	0	105.1	113.1	108.8	106.2	109.6	103.5	96.5	95.8	94.0	90.2	93.6
Meat (3/83=100)	01	100.5	100.8	101.2	108.9	108.7	105.6	104.4	103.9	104.7	106.1	112.3
Fish (3/83=100)	03	96.5	97.7	100.4	89.8	98.7	98.0	98.7	101.0	103.6	102.6	101.8
Grain and grain preparations (3/80=100)	04	103.5	111.5	105.6	102.7	107.4	101.2	92.9	92.4	90.3	82.6	87.1
Vegetables and fruit (3/83=100)	05	105.8	114.8	116.1	116.2	126.8	125.5	114.6	119.4	120.1	126.8	118.8
Feedstuffs for animals (3/83=100)	08	100.6	121.4	117.4	106.9	98.8	83.5	82.4	72.8	68.6	75.7	83.4
Misc. food products (3/83=100)	09	101.1	102.8	101.7	104.9	110.6	109.5	108.4	110.6	109.2	108.1	107.7
Beverages and tobacco (6/83=100)	1	100.0	100.0	101.5	101.6	101.9	102.8	101.3	99.9	100.1	99.7	98.6
Beverages (9/83=100)	11	-	100.0	103.3	102.3	102.9	103.3	103.7	104.0	105.3	101.8	100.9
Tobacco and tobacco products (6/83=100)	12	100.0	100.0	101.4	101.6	101.8	102.7	101.1	99.5	99.6	99.5	96.4
Crude materials (6/83=100)	2	100.0	114.6	112.2	112.5	118.3	105.2	101.4	97.5	96.8	93.3	93.2
Raw hides and skins (6/80=100)	21	118.2	129.2	135.2	145.6	154.7	153.7	133.6	121.0	126.2	129.0	139.9
Oilseeds and oleaginous fruit (9/77=100)	22	75.0	105.6	96.8	93.9	104.3	79.9	74.8	71.0	71.2	64.2	63.9
Crude rubber (including synthetic and reclaimed) (9/83=100)	23	-	100.0	102.2	103.3	106.0	104.1	104.0	106.4	106.3	107.1	106.0
Wood	24	127.1	128.7	129.8	131.1	129.4	123.8	125.4	128.7	125.7	124.5	128.1
Pulp and waste paper (6/83=100)	25	100.0	103.5	106.0	112.5	122.1	120.8	114.2	100.5	96.1	93.8	92.7
Textile fibers	26	111.3	117.3	123.1	120.5	125.6	109.4	106.7	102.4	105.8	103.6	102.6
Crude fertilizers and minerals	27	145.0	144.8	144.8	146.6	147.7	163.0	163.2	165.6	167.9	169.4	165.5
Metalliferous ores and metal scrap	28	-	100.0	96.7	100.2	98.5	93.2	92.4	89.2	82.0	80.1	78.0
Mineral fuels	3	-	100.0	99.2	99.1	99.7	99.7	99.7	100.1	99.2	97.6	96.6
Animal and vegetables oils, fats, and waxes	4	100.0	125.6	122.0	129.8	164.5	145.7	147.9	142.0	144.5	114.5	101.4
Fixed vegetable oils and fats (6/83=100)	42	100.0	138.2	129.3	133.2	176.4	159.0	156.7	152.9	164.8	128.8	108.7
Chemicals (3/83=100)	5	96.4	97.0	98.6	101.4	99.7	98.3	97.7	97.0	96.8	97.1	96.6
Organic chemicals (12/83=100)	51	-	-	100.0	100.2	101.0	97.4	94.7	93.8	96.5	97.1	95.4
Fertilizers, manufactured (3/83=100)	56	88.9	89.8	96.8	108.3	96.9	97.4	94.8	92.5	87.9	89.8	90.0
Intermediate manufactured products (9/81=100)	-	100.4	100.8	100.0	101.0	101.3	102.0	100.4	99.4	99.2	99.2	99.2
Leather and furskins (9/79=100)	6	67.2	70.1	75.8	83.5	81.2	80.8	79.0	82.5	79.2	75.9	78.5
Rubber manufactures	61	144.8	145.0	145.0	146.7	147.5	148.9	148.5	150.2	149.0	148.3	148.7
Paper and paperboard products (6/78=100)	62	135.8	139.7	145.5	150.2	154.7	160.0	159.5	155.0	151.6	149.6	148.1
Iron and steel (3/82=100)	64	95.9	96.6	96.3	95.9	96.1	96.8	96.5	95.5	95.3	95.9	98.3
Nonferrous metals (9/81=100)	-	102.8	102.3	93.8	94.2	92.9	90.4	82.5	79.7	79.6	79.8	78.2
Metal manufactures, n.e.s. (3/82=100)	-	101.5	101.9	102.1	103.1	104.5	105.1	105.0	105.4	105.2	105.4	104.4
Machinery and transport equipment, excluding military and commercial aircraft (12/78=100)	67	135.3	135.9	137.0	138.5	139.4	140.1	141.5	142.3	143.0	143.1	143.3
Power generating machinery and equipment (12/78=100)	68	152.5	152.3	154.4	158.4	156.9	160.6	167.5	165.3	167.4	167.1	167.6
Machinery specialized for particular industries (9/78=100)	69	148.9	149.1	151.1	152.3	152.8	153.7	153.4	155.0	155.7	156.0	156.1
Metalworking machinery (6/78=100)	7	148.4	148.3	148.7	150.8	151.2	151.7	151.9	153.4	155.1	156.3	158.4
General industrial machines and parts n.e.s. 9/78=100)	71	145.0	145.4	145.9	148.6	149.0	149.3	150.2	152.4	152.0	152.4	152.2
Office machines and automatic data processing equipment	72	103.6	103.2	102.5	101.4	101.5	99.8	101.4	100.9	100.0	99.9	99.4
Telecommunications, sound recording and reproducing equipment	73	131.1	132.2	132.1	133.0	132.3	134.4	134.3	133.3	133.3	134.1	134.5
Electrical machinery and equipment	74	108.5	109.4	109.8	110.2	112.6	113.8	114.6	114.9	116.1	115.3	113.8
Road vehicles and parts (3/80=100)	75	125.6	127.5	128.8	130.2	131.2	131.0	131.8	133.1	133.9	133.8	135.0
Other transport equipment, excl. military and commercial aviation	76	175.8	176.4	179.3	183.1	187.7	189.6	191.7	195.5	196.9	199.6	201.0
Other manufactured articles	77	-	100.0	100.2	100.6	100.4	100.7	99.3	99.5	100.4	100.3	100.3
Apparel (9/83=100)	78	-	100.0	100.8	101.9	102.1	103.9	103.4	104.7	104.7	105.0	105.3
Professional, scientific, and controlling instruments and apparatus	79	169.8	169.0	171.5	171.8	172.0	175.8	171.7	175.5	178.3	178.7	178.8
Photographic apparatus and supplies, optical goods, watches and clocks (12/77=100)	8	129.8	130.0	132.0	132.0	131.3	132.7	130.3	128.0	129.1	127.5	128.5
Miscellaneous manufactured articles, n.e.s.	84	100.0	100.0	98.2	98.5	97.9	95.2	94.1	92.4	93.1	93.1	92.4
Gold, non-monetary (6/83=100)	971	-	-	-	-	-	-	-	-	-	-	-

- Data not available.

37. U.S. import price indexes by Standard International Trade Classification

(June 1977 = 100, unless otherwise indicated)

Category	1974 SITC	1983	1984				1985			
		Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
ALL COMMODITIES (9/82 = 100)		97.3	98.0	98.3	96.7	95.7	93.5	93.0	92.9	94.6
Food (9/77 = 100)	0	100.4	102.5	103.5	102.0	98.1	98.5	96.8	94.9	102.8
Meat	01	134.1	133.4	133.8	135.4	132.3	130.4	118.2	120.6	131.2
Dairy products and eggs (6/81 = 100)	02	99.6	100.8	99.8	98.9	98.4	98.3	97.9	99.1	100.5
Fish	03	136.0	132.7	134.2	134.2	133.9	132.9	129.4	129.7	132.7
Bakery goods, pasta products, grain and grain preparations (9/77 = 100)	04	132.7	136.5	134.8	132.9	132.8	131.8	132.3	136.3	141.9
Fruits and vegetables	05	125.0	136.1	135.8	135.4	117.2	127.1	129.4	120.2	131.2
Sugar, sugar preparations, and honey (3/82 = 100)	06	117.9	117.1	120.3	119.0	118.5	118.4	122.6	123.1	111.9
Coffee, tea, cocoa	07	59.6	61.4	62.4	60.3	58.4	57.0	56.0	54.4	64.6
Beverages and tobacco	1	155.4	155.3	156.3	157.1	156.5	156.2	157.1	158.0	161.6
Beverages	11	152.7	152.6	153.6	153.5	152.8	154.2	154.3	156.0	159.1
Crude materials	2	98.6	103.2	102.6	100.6	98.9	94.0	93.6	91.5	91.2
Crude rubber (inc. synthetic & reclaimed) (3/84 = 100)	23	-	100.0	93.7	90.7	83.8	77.6	76.4	68.9	73.2
Wood (9/81 = 100)	24	107.2	114.8	103.2	99.6	104.0	100.7	106.9	101.6	99.4
Pulp and waste paper (12/81 = 100)	25	80.9	87.6	96.1	96.3	93.2	84.0	80.4	76.8	75.8
Crude fertilizers and crude minerals (12/83 = 100)	27	100.0	100.0	96.2	98.0	98.6	100.3	101.7	102.7	102.1
Metalliferous ores and metal scrap (3/84 = 100)	28	-	100.0	102.8	100.1	95.6	90.4	87.6	89.5	90.1
Crude vegetable and animal materials, n.e.s.	29	-	100.0	100.8	101.1	106.4	104.3	104.9	102.5	102.5
Fuels and related products (6/82 = 100)	3	87.6	88.3	88.0	86.9	85.2	82.9	80.9	79.8	80.1
Petroleum and petroleum products (6/82 = 100)	33	87.6	88.2	88.1	87.0	85.2	83.8	81.6	80.3	81.1
Fats and oils (9/83 = 100)	4	100.4	117.4	141.8	124.4	114.9	89.9	76.7	57.6	50.6
Vegetable oils (9/83 = 100)	42	100.5	118.1	143.1	125.3	115.3	89.5	75.9	56.2	48.9
Chemicals (6/82 = 100)	5	99.5	101.1	100.6	98.8	97.1	95.7	94.9	94.5	94.2
Medicinal and pharmaceutical products (3/84 = 100)	54	-	100.0	98.5	96.4	94.6	91.6	95.1	95.3	96.7
Manufactured fertilizers (3/84 = 100)	56	-	100.0	101.7	98.5	92.9	94.2	82.0	80.8	78.5
Chemical materials and products, n.e.s. (9/84 = 100)	59	-	-	-	100.0	97.5	96.1	95.6	96.9	97.8
Intermediate manufactured products (12/77 = 100)	6	137.3	137.6	139.6	137.2	136.8	133.1	132.4	133.6	133.4
Leather and furskins	61	137.6	141.6	145.3	144.0	140.4	135.3	133.3	137.0	141.3
Rubber manufactures, n.e.s.	62	141.1	141.8	140.8	139.6	140.5	139.5	138.6	137.3	138.1
Cork and wood manufactures	63	134.7	130.1	131.0	126.4	126.1	121.3	121.2	123.4	124.0
Paper and paperboard products	64	147.0	148.0	150.4	156.1	157.5	157.6	157.2	157.8	156.5
Textiles	65	128.5	130.8	130.1	131.6	132.9	130.4	127.5	126.5	128.1
Nonmetallic mineral manufactures, n.e.s.	66	166.4	168.4	166.6	156.6	159.4	154.3	151.8	157.6	162.3
Iron and steel (9/78 = 100)	67	119.5	118.5	123.8	124.7	123.7	121.0	120.1	119.1	118.3
Nonferrous metals (12/81 = 100)	68	94.8	95.0	96.3	90.2	87.3	81.9	82.3	83.7	80.4
Metal manufactures, n.e.s.	69	118.9	119.7	120.5	119.3	119.3	117.4	117.8	119.5	121.6
Machinery and transport equipment (6/81 = 100)	7	104.1	104.0	104.1	102.6	102.9	101.6	102.6	103.5	107.2
Machinery specialized for particular industries (9/78 = 100)	72	100.8	100.4	100.0	98.8	98.0	96.2	97.0	101.4	104.7
Metalworking machinery (3/80 = 100)	73	95.7	94.3	93.8	92.1	89.9	86.3	90.5	94.2	98.1
General industrial machinery and parts, n.e.s. (6/81 = 100)	74	93.5	93.7	94.4	92.4	91.3	89.2	91.1	94.3	96.0
Office machines and automatic data processing equipment (3/80 = 100)	75	96.9	97.8	96.7	94.1	92.2	89.6	89.4	90.3	93.7
Telecommunications, sound recording and reproducing apparatus (3/80 = 100)	76	94.9	94.2	94.8	93.6	91.3	90.0	88.8	88.3	88.6
Electrical machinery and equipment (12/81 = 100)	77	95.9	94.2	91.2	87.0	86.4	82.1	83.9	81.4	83.3
Road vehicles and parts (6/81 = 100)	78	109.5	109.0	110.4	109.8	111.3	111.5	112.1	112.7	117.8
Misc. manufactured articles (3/80 = 100)	8	100.0	100.6	101.5	99.7	100.0	97.0	98.0	99.6	100.8
Plumbing, heating, and lighting fixtures (6/80 = 100)	81	108.2	109.5	112.0	110.7	111.6	113.9	114.1	117.8	115.0
Furniture and parts (6/80 = 100)	82	136.0	136.8	140.8	138.4	142.5	137.4	136.7	142.1	142.7
Clothing (9/77 = 100)	84	128.5	130.2	132.5	135.4	138.5	136.7	133.9	134.5	134.5
Footwear	85	136.0	136.8	140.8	138.4	142.5	137.4	136.7	142.1	142.7
Professional, scientific, and controlling instruments and apparatus (12/79 = 100)	87	97.6	98.7	97.8	95.6	92.9	89.2	92.3	98.8	102.4
Photographic apparatus and supplies, optical goods, watches, and clocks (3/80 = 100)	88	90.6	89.6	92.8	91.2	91.3	88.9	89.5	91.1	94.9
Misc. manufactured articles, n.e.s. (6/82 = 100)	89	104.9	105.2	104.0	98.3	96.3	91.2	95.2	96.4	97.9
Gold, non-monetary (6/82 = 100)	971	-	-	-	-	-	-	-	-	-

- Data not available.

38. U.S. export price indexes by end-use category

(September 1983 = 100 unless otherwise indicated)

Category	Percentage of 1980 trade value	1983	1984				1985			
		Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Foods, feeds, and beverages	16.294	95.0	92.8	98.5	88.8	83.0	81.5	80.9	76.2	77.5
Raw materials	30.696	100.7	102.2	102.5	100.5	99.1	97.6	97.2	96.5	96.2
Raw materials, nondurable	21.327	101.9	103.6	104.4	102.8	101.4	99.6	99.5	98.7	98.3
Raw materials, durable	9.368	97.7	98.8	97.7	95.0	93.3	92.6	91.8	91.1	91.0
Capital goods (12/82=100)	30.186	102.0	103.2	103.9	104.6	105.6	106.2	106.6	106.6	106.6
Automotive vehicles, parts and engines (12/82=100)	7.483	103.9	104.5	105.3	105.3	105.7	106.7	108.0	108.1	109.2
Consumer goods	7.467	99.6	100.9	100.9	101.3	100.8	100.9	101.1	101.9	101.7
Durables	3.965	98.9	100.1	99.6	99.4	99.3	99.1	99.2	100.4	100.0
Nondurables	3.501	100.3	101.8	102.1	103.0	102.3	102.7	103.0	103.3	103.3

39. U.S. import price indexes by end-use category

(December 1982=100)

Category	Percentage of 1980 trade value	1983	1984				1985			
		Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Foods, feeds, and beverages	7.477	104.0	106.0	107.2	105.6	101.8	102.1	100.4	99.0	106.0
Petroleum and petroleum products, excl. natural gas	31.108	88.1	88.8	88.5	87.5	85.7	84.4	82.1	80.9	81.5
Raw materials, excluding petroleum	19.205	101.8	103.5	104.3	102.5	101.1	96.3	95.8	95.4	93.9
Raw materials, nondurable	9.391	99.0	100.7	102.1	101.7	100.7	95.0	93.9	93.5	91.8
Raw materials, durable	9.814	104.7	106.5	106.7	103.3	101.6	97.7	97.6	97.4	96.2
Capital goods	13.164	101.3	100.8	99.8	98.0	97.8	94.8	96.3	97.6	100.0
Automotive vehicles, parts and engines	11.750	103.8	103.6	104.9	104.0	105.2	105.4	105.9	106.4	111.4
Consumer goods	14.250	100.4	101.0	101.9	100.6	101.1	98.5	99.4	101.0	102.5
Durable	5.507	101.1	101.1	101.4	98.8	98.5	97.0	97.0	98.9	100.8
Nondurable	8.743	99.5	100.9	102.5	103.0	104.6	103.0	102.5	103.9	104.7

40. U.S. export price indexes by Standard Industrial Classification [1]

Industry group	1983	1984				1985			
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Manufacturing:									
Food and kindred products (6/83=100)	108.3	109.0	112.7	105.6	103.3	99.5	99.5	98.7	98.1
Tobacco manufactures	-	-	-	-	-	-	-	-	-
Textile mill products	-	-	-	-	-	-	-	-	-
Apparel and related products	-	-	-	-	-	-	-	-	-
Lumber and wood products, except furniture (6/83=100)	101.0	101.5	100.1	97.0	97.9	99.9	99.5	98.3	101.2
Furniture and fixtures (9/83=100)	100.9	101.8	103.1	103.5	104.9	105.2	106.5	107.1	108.4
Paper and allied products (3/81=100)	94.7	98.6	104.3	106.2	103.6	97.1	94.7	93.2	92.1
Printing, publishing, and allied products	-	-	-	-	-	-	-	-	-
Chemicals and allied products (12/84=100)	101.4	103.	102.3	101.3	100.7	100.3	99.6	99.7	99.2
Petroleum and coal products (12/83=100)	100.0	101.6	102.1	100.7	100.4	101.3	102.7	102.0	99.1
Rubber and miscellaneous plastic products	-	-	-	-	-	-	-	-	-
Leather and leather products	-	-	-	-	-	-	-	-	-
Stone, clay, glass, and concrete products	-	-	-	-	-	-	-	-	-
Primary metal products (3/82=100)	105.0	105.1	104.0	100.0	95.8	91.2	92.7	93.6	93.6
Fabricated metal products	-	-	-	-	-	-	-	-	-
Machinery, except electrical (9/78=100)	135.8	137.4	137.9	138.0	139.9	140.4	140.5	140.6	140.5
Electrical machinery (12/80=100)	107.6	108.0	109.5	110.7	111.1	111.3	112.4	111.9	111.2
Transportation equipment (12/78=100)	153.6	155.7	157.2	157.8	158.9	160.5	162.0	162.8	164.4
Scientific instruments; optical goods; clocks (6/77=100)	152.8	153.1	153.2	156.0	153.0	154.9	158.6	158.2	158.7
Miscellaneous manufactured commodities	-	-	-	-	-	-	-	-	-

[1] SIC - based classification.

- Data not available.

41. U.S. import price indexes by Standard Industrial Classification [1]

Industry group	1983	1984				1985			
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Manufacturing:									
Food and kindred products (6/77 = 100)	120.8	122.3	126.6	124.1	122.6	118.8	115.0	114.2	115.1
Tobacco manufactures	–	–	–	–	–	–	–	–	–
Textile mill products (9/82 = 100)	103.3	104.4	103.8	104.3	104.7	102.8	101.0	100.4	101.8
Apparel and related products (6/77 = 100)	126.5	128.1	129.6	133.9	138.2	135.6	133.0	133.9	134.4
Lumber and wood products, except furniture (6/77 = 100)	125.0	129.4	121.1	117.3	120.0	116.3	120.6	117.5	115.8
Furniture and fixtures (6/80 = 100)	96.5	95.7	96.9	96.2	95.6	93.9	96.1	97.7	98.2
Paper and allied products (6/77 = 100)	132.9	138.5	141.9	146.0	145.5	141.5	139.8	138.7	137.4
Printing, publishing, and allied products	–	–	–	–	–	–	–	–	–
Chemicals and allied products (9/82 = 100)	99.5	101.8	101.8	99.8	96.2	95.3	93.9	93.3	95.8
Petroleum and coal products	–	–	–	–	–	–	–	–	–
Rubber and miscellaneous plastic products (12/80 = 100)	97.4	98.1	98.5	97.8	98.0	96.9	96.7	96.6	97.5
Leather and leather products	139.1	140.3	143.7	141.6	144.2	139.1	138.9	142.3	144.0
Stone, clay, glass, concrete products	–	–	–	–	–	–	–	–	–
Primary metal products (6/81 = 100)	90.5	90.1	91.9	88.3	86.6	82.2	83.0	83.4	81.9
Fabricated metal products (12/84 = 100)	–	–	–	–	100.0	99.0	99.1	101.0	102.6
Machinery, except electrical (3/80 = 100)	98.0	97.8	97.1	95.5	94.1	91.8	93.4	96.6	100.0
Electrical machinery (9/84 = 100)	–	–	–	100.0	98.6	95.1	95.8	94.5	95.9
Transportation equipment (6/81 = 100)	110.3	110.6	111.6	110.7	112.9	113.1	114.2	114.8	119.6
Scientific instruments; optical goods; clocks (12/79 = 100)	94.3	94.0	95.5	94.4	93.2	90.7	91.7	94.6	99.0
Miscellaneous manufactured commodities (9/82 = 100)	99.7	99.8	99.1	95.8	96.4	95.1	95.1	96.6	98.7

[1] SIC - based classification.

– Data not available.

42. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

(1977 = 100)

Item	Annual average	Quarterly indexes										
	1984	1983			1984				1985			
		II	III	IV	I	II	III	IV	I	II	III	IV
Business:												
Output per hour of all persons	105.2	103.5	103.5	103.6	104.9	105.5	105.3	105.0	105.3	105.5	105.9	104.9
Compensation per hour	168.2	161.5	162.1	164.1	166.1	167.5	169.1	170.4	172.4	174.3	176.1	177.6
Real compensation per hour	98.2	98.7	98.1	98.3	98.3	98.2	98.2	98.1	98.5	98.5	98.9	98.7
Unit labor costs	159.9	156.0	156.6	158.4	158.4	158.7	160.6	162.3	163.8	165.2	166.3	169.3
Unit nonlabor payments	156.5	144.9	146.8	148.6	153.4	156.8	157.3	158.0	157.6	158.2	158.6	156.2
Implicit price deflator	158.7	152.0	153.1	154.9	156.6	158.0	159.4	160.8	161.6	162.7	163.5	164.6
Nonfarm business:												
Output per hour of all persons	104.1	102.8	103.3	103.0	104.0	104.5	104.2	103.8	104.1	104.2	104.3	103.2
Compensation per hour	168.0	161.6	162.3	164.0	165.9	167.4	168.8	170.1	172.1	173.7	175.0	176.4
Real compensation per hour	98.0	98.8	98.2	98.2	98.1	98.1	98.0	97.9	98.3	98.2	98.3	98.0
Unit labor costs	161.4	157.2	157.1	159.1	159.6	160.1	162.0	163.9	165.3	166.8	167.8	170.9
Unit nonlabor payments	156.3	146.9	148.9	150.7	152.5	156.3	157.6	158.4	158.8	160.2	161.4	157.7
Implicit price deflator	159.6	153.6	154.2	156.1	157.1	158.8	160.5	161.9	163.0	164.5	165.5	166.3
Nonfinancial corporations:												
Output per hour of all employees	106.2	103.7	104.6	105.0	106.2	106.7	106.1	105.8	105.8	105.8	106.5	105.9
Compensation per hour	166.1	160.1	160.8	162.4	164.2	165.6	166.8	167.9	169.4	170.8	172.0	173.3
Real compensation per hour	96.9	97.9	97.3	97.3	97.1	97.1	96.9	96.7	96.7	96.6	96.6	96.3
Total unit costs	161.2	160.1	159.6	159.5	159.1	159.9	162.2	163.6	164.4	165.8	165.5	167.2
Unit labor costs	156.4	154.4	153.8	154.8	154.7	155.1	157.2	158.7	160.0	161.5	161.5	163.7
Unit nonlabor costs	175.3	176.9	176.7	173.7	172.3	174.0	177.0	177.9	177.6	178.6	177.2	177.8
Unit profits	135.6	103.1	114.4	124.0	132.9	139.1	134.3	135.9	138.3	139.1	150.2	143.1
Unit nonlabor payments	161.4	151.0	154.9	156.3	158.5	161.8	162.1	163.2	163.8	164.8	167.7	165.7
Implicit price deflator	158.1	153.2	154.2	155.3	156.0	157.4	158.9	160.3	161.3	162.6	163.6	164.4
Manufacturing:												
Output per hour of all persons	118.5	111.9	114.5	114.7	116.7	117.8	119.8	119.5	119.9	121.7	122.7	122.3
Compensation per hour	169.1	162.6	163.3	164.4	166.7	168.1	169.9	171.8	174.3	176.1	177.3	178.8
Real compensation per hour	98.7	99.4	98.8	98.5	98.6	98.6	98.7	98.9	99.5	99.5	99.6	99.4
Unit labor costs	142.8	145.4	142.6	143.4	142.8	142.7	141.9	143.7	145.4	144.7	144.5	146.2

43. Annual indexes of multifactor productivity and related measures, selected years

(1977 = 100)

Item	1960	1970	1973	1974	1976	1977	1979	1980	1981	1982	1983	1984
Private business												
Productivity:												
Output per hour of all persons	64.8	86.1	94.8	92.5	97.6	100.0	99.3	98.7	100.6	100.8	103.7	107.1
Output per unit of capital services	98.4	98.5	103.0	96.5	96.1	100.0	100.3	95.6	94.1	89.5	92.3	97.4
Multifactor productivity	75.4	90.2	97.5	93.8	97.1	100.0	99.7	97.6	98.3	96.8	99.6	103.7
Output	53.3	78.3	91.8	89.9	93.7	100.0	107.9	106.4	109.2	106.3	111.1	121.0
Inputs:												
Hours of all persons	82.2	90.8	96.8	97.2	95.9	100.0	108.6	107.8	108.5	105.4	107.2	113.0
Capital services	54.1	79.4	89.1	93.1	97.5	100.0	107.5	111.4	116.0	118.8	120.4	124.3
Combined units of labor and capital input	70.7	86.7	94.1	95.8	96.5	100.0	108.2	109.0	111.0	109.9	111.6	116.8
Capital per hour of all persons	65.9	87.4	92.0	95.9	101.6	100.0	98.9	103.3	106.9	112.7	112.3	109.9
Private nonfarm business												
Productivity:												
Output per hour of all persons	68.0	86.8	95.3	92.9	97.8	100.0	99.0	98.2	99.6	99.9	103.5	106.3
Output per unit of capital services	98.4	98.6	103.2	96.5	96.1	100.0	100.1	95.2	93.2	88.7	91.9	96.6
Multifactor productivity	77.6	90.7	97.9	94.1	97.2	100.0	99.4	97.2	97.4	95.9	99.4	102.9
Output	52.3	77.8	91.7	89.7	93.6	100.0	108.0	106.4	108.7	105.9	111.3	121.0
Inputs:												
Hours of all persons	77.0	89.7	96.2	96.5	95.7	100.0	109.1	108.4	109.1	106.0	107.6	113.8
Capital services	53.2	78.9	88.8	93.0	97.4	100.0	107.9	111.7	116.6	119.4	121.1	125.2
Combined units of labor and capital input	67.4	85.9	93.6	95.3	96.3	100.0	108.7	109.5	111.6	110.4	112.0	117.5
Capital per hour of all persons	69.1	88.0	92.4	96.3	101.8	100.0	98.9	103.1	106.8	112.6	112.6	110.1
Manufacturing												
Productivity:												
Output per hour of all persons	60.0	79.2	93.0	90.8	97.6	100.0	101.6	101.7	104.9	107.1	111.6	115.6
Output per unit of capital services	87.9	91.8	108.2	99.6	96.1	100.0	99.5	90.7	89.9	82.9	87.6	96.0
Multifactor productivity	67.0	82.3	96.8	93.1	97.1	100.0	101.0	98.8	100.8	100.3	104.9	110.4
Output	50.7	77.0	95.9	91.9	93.6	100.0	108.2	103.5	106.1	99.3	104.4	115.3
Inputs:												
Hours of all persons	84.4	97.3	103.1	101.2	95.9	100.0	106.5	101.7	101.1	92.7	93.5	99.8
Capital services	57.6	83.9	88.6	92.2	97.4	100.0	108.8	114.1	118.0	119.8	119.2	120.2
Combined units of labor and capital inputs	75.6	93.5	99.0	98.7	96.3	100.0	107.1	104.8	105.2	99.0	99.5	104.5
Capital per hour of all persons	68.3	86.2	85.9	91.1	101.6	100.0	102.1	112.2	116.7	129.2	127.5	120.4

44. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years

(1977 = 100)

Item	1960	1970	1973	1974	1976	1977	1979	1980	1981	1982	1983	1984	1985
Business:													
Output per hour of all persons	67.5	88.3	95.9	93.9	98.3	100.0	99.6	99.2	100.7	100.3	103.2	105.2	105.3
Compensation per hour	33.6	57.7	70.9	77.6	92.8	100.0	119.1	131.5	143.7	154.9	161.9	168.2	175.0
Real compensation per hour	68.8	90.1	96.7	95.4	98.7	100.0	99.4	96.7	95.7	97.3	98.5	98.2	98.6
Unit labor costs	49.8	65.4	73.9	82.7	94.3	100.0	119.6	132.6	142.7	154.5	157.0	159.9	166.2
Unit nonlabor payments	46.3	59.4	72.5	76.4	93.4	100.0	112.5	118.8	134.7	136.8	145.4	156.5	157.7
Implicit price deflator	48.5	63.2	73.4	80.5	94.0	100.0	117.0	127.6	139.8	148.1	152.8	158.7	163.1
Nonfarm business:													
Output per hour of all persons	70.9	89.1	96.4	94.3	98.5	100.0	99.2	98.8	99.8	99.2	102.6	104.1	103.9
Compensation per hour	35.3	58.1	71.2	78.0	92.8	100.0	118.9	131.3	143.6	154.8	162.1	168.0	174.2
Real compensation per hour	72.2	90.7	97.1	95.9	98.8	100.0	99.2	96.6	95.7	97.2	98.6	98.0	98.1
Unit labor costs	49.8	65.2	73.9	82.7	94.2	100.0	119.8	132.9	144.0	156.0	158.0	161.4	167.7
Unit nonlabor payments	46.2	60.0	69.4	74.0	93.1	100.0	110.5	118.5	133.5	136.6	147.0	156.3	159.5
Implicit price deflator	48.5	63.4	72.3	79.7	93.8	100.0	116.5	127.8	140.3	149.2	154.1	159.6	164.8
Nonfinancial corporations:													
Output per hour of all employees	73.4	91.1	97.5	94.6	98.4	100.0	99.8	99.1	99.6	100.4	104.0	106.2	105.9
Compensation per hour	36.9	59.2	71.6	78.2	92.9	100.0	118.7	131.1	143.3	154.3	160.6	166.1	171.3
Real compensation per hour	75.5	92.4	97.6	96.1	98.9	100.0	99.1	96.4	95.5	96.9	97.7	96.9	96.5
Unit labor costs	50.2	65.0	73.4	82.6	94.3	100.0	119.0	132.3	143.8	153.8	154.5	156.4	161.7
Unit nonlabor payments	51.5	60.1	68.9	73.1	93.8	100.0	108.4	118.6	137.8	142.1	152.2	161.4	165.5
Implicit price deflator	50.7	63.3	71.9	79.4	94.2	100.0	115.4	127.6	141.7	149.8	153.7	158.1	163.0
Manufacturing:													
Output per hour of all persons	62.2	80.8	93.4	90.6	97.1	100.0	101.4	101.4	103.6	105.9	112.9	118.5	121.6
Compensation per hour	36.5	57.3	68.8	76.2	92.1	100.0	118.6	132.4	145.2	157.5	163.2	169.1	176.6
Real compensation per hour	74.7	89.4	93.8	93.6	98.1	100.0	99.1	97.4	96.7	98.9	99.3	98.7	99.5
Unit labor costs	58.7	70.9	73.7	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.8	145.2
Unit nonlabor payments	60.2	64.3	70.7	67.7	93.5	100.0	98.9	97.8	111.8	114.0	132.4	140.5	–
Implicit price deflator	59.1	69.0	72.8	79.3	94.5	100.0	111.7	121.0	131.8	138.6	141.0	142.1	–

– Data not available.

45. Unemployment rates in nine countries, quarterly data seasonally adjusted

Country	Annual average		1984			1985			
	1984	1985	II	III	IV	I	II	III	IV
Total labor force basis									
United States	7.4	7.1	15.7	15.3	14.6	15.1	14.9	14.5	13.9
Canada	11.2	10.4	11.3	11.2	11.1	11.0	10.5	10.2	10.1
Australia	8.9	8.2	9.1	8.8	8.5	8.5	8.4	8.1	7.7
Japan	2.7	-	2.7	2.8	2.7	2.6	2.6	2.6	2.8
France	9.7	10.1	9.7	9.9	10.0	10.2	10.1	10.1	9.9
Germany	7.7	7.7	7.7	7.8	7.7	7.8	7.8	7.7	7.7
Great Britain	12.8	13.1	12.7	13.0	12.8	13.0	13.1	13.3	12.9
Italy [1], [2]	5.8	6.0	5.9	5.7	5.7	5.8	5.8	6.0	6.2
Sweden	3.1	2.8	3.1	3.0	3.0	3.0	2.9	2.7	2.7
Civilian labor force basis									
United States	7.5	7.2	15.9	15.5	14.8	15.3	15.1	14.7	14.1
Canada	11.3	10.5	11.4	11.3	11.1	11.1	10.6	10.2	10.1
Australia	9.0	8.3	9.2	8.8	8.6	8.5	8.5	8.2	7.8
Japan	2.8	-	2.7	2.8	2.7	2.6	2.6	2.7	2.9
France	10.0	10.3	9.9	10.1	10.3	10.4	10.3	10.4	10.1
Germany	7.8	7.9	7.9	7.9	7.8	7.9	8.0	7.9	7.8
Great Britain	13.0	13.3	12.9	13.2	13.0	13.1	13.3	13.4	13.1
Italy	5.9	6.1	6.0	5.8	5.8	5.9	5.9	6.2	6.3
Sweden	3.1	2.8	3.1	3.1	3.0	3.0	2.9	2.8	2.7

[1] Quarterly rates are for the first month of the quarter.

[2] Major changes in the Italian labor force survey, introduced in 1977, resulted in a large increase in persons enumerated as unemployed. However, many persons reported that they had not actively sought work in the past 30 days, and they have been provisionally excluded for comparability with U.S. concepts. Inclusion of such persons would more than double the Italian unemployment rate shown.

- Data not available.

NOTE: Quarterly figures for France, Germany, and Great Britain are calculated by applying annual adjustment factors to current published data and therefore should be viewed as less precise indicators of unemployment under U.S. concepts than the annual figures.

46. Annual data: Employment status of the civilian working-age population, ten countries

(Numbers in thousands)

Employment status and country	1976	1977	1978	1979	1980	1981	1982	1983	1984
Labor force									
United States	96,158	99,009	102,251	104,962	106,940	108,670	110,204	111,550	113,544
Canada	10,203	10,500	10,895	11,231	11,573	11,904	11,958	12,183	12,399
Australia	6,244	6,358	6,443	6,519	6,693	6,810	6,910	6,997	7,133
Japan	53,100	53,820	54,610	55,210	55,740	56,320	56,980	58,110	58,480
France	22,010	22,320	22,490	22,680	22,810	22,950	23,170	23,110	23,260
Germany	25,900	25,870	26,000	26,240	26,500	26,610	26,640	26,640	26,700
Great Britain	25,290	25,430	25,620	25,710	25,870	25,870	25,880	25,980	26,390
Italy	20,300	20,530	20,630	20,910	21,210	21,410	21,450	21,610	21,600
Netherlands	4,890	4,950	5,010	5,100	5,290	5,500	5,580	5,720	5,740
Sweden	4,149	4,168	4,203	4,262	4,312	4,326	4,350	4,369	4,385
Participation rate									
United States	61.6	62.3	63.2	63.7	63.8	63.9	64.0	64.0	64.4
Canada	61.1	61.6	62.7	63.4	64.1	64.8	64.1	64.4	64.8
Australia	62.7	62.7	62.0	61.7	62.2	62.0	61.8	61.5	61.5
Japan	62.4	62.5	62.8	62.7	62.6	62.6	62.7	63.1	62.7
France	57.4	57.6	57.6	57.5	57.2	57.1	57.1	56.5	56.6
Germany	53.8	53.4	53.3	53.3	53.2	52.9	52.5	52.8	53.1
Great Britain	63.2	63.2	63.3	63.2	63.2	62.2	61.9	62.2	62.7
Italy	47.8	48.0	47.7	47.8	48.0	48.0	47.4	47.2	47.5
Netherlands	49.1	49.0	48.8	49.0	50.0	51.3	51.2	52.4	52.3
Sweden	66.0	65.9	66.1	66.6	67.0	66.8	66.8	66.9	67.0
Employed									
United States	88,752	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005
Canada	9,477	9,651	9,987	10,395	10,708	11,006	10,644	10,734	11,000
Australia	5,946	6,000	6,038	6,111	6,284	6,416	6,415	6,300	6,490
Japan	52,020	52,720	53,370	54,040	54,600	55,060	55,620	56,550	56,870
France	21,020	21,200	21,280	21,310	21,340	21,220	21,250	21,150	20,940
Germany	25,010	24,970	25,130	25,460	25,730	25,520	25,060	24,650	24,610
Great Britain	23,810	23,840	24,040	24,360	24,100	23,190	22,820	22,650	22,960
Italy	19,600	19,800	19,870	20,100	20,380	20,480	20,430	20,470	20,400
Netherlands	4,630	4,700	4,750	4,830	4,960	4,990	4,930	4,890	4,880
Sweden	4,083	4,093	4,109	4,174	4,226	4,218	4,213	4,218	4,249
Employment-population ratio									
United States	56.8	57.9	59.3	59.9	59.2	59.0	57.8	57.9	59.5
Canada	56.7	56.6	57.5	58.7	59.3	59.9	57.0	56.7	57.4
Australia	59.7	59.2	58.1	57.9	58.4	58.4	57.3	55.4	56.0
Japan	61.1	61.2	61.3	61.4	61.3	61.2	61.2	61.4	61.0
France	54.8	54.7	54.5	54.0	53.5	52.8	52.4	51.7	50.9
Germany	52.0	51.6	51.5	51.7	51.6	50.7	49.4	48.8	48.9
Great Britain	59.5	59.3	59.4	59.8	58.9	55.8	54.6	54.2	54.6
Italy	46.1	46.3	45.9	45.9	46.1	45.9	45.2	44.7	44.8
Netherlands	46.5	46.5	46.3	46.4	46.9	46.5	45.4	44.8	44.5
Sweden	64.9	64.8	64.6	65.3	65.6	65.1	64.7	64.4	64.7
Unemployed									
United States	7,406	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539
Canada	726	849	908	836	865	898	1,314	1,448	1,399
Australia	298	358	405	408	409	394	495	697	642
Japan	1,080	1,100	1,240	1,170	1,140	1,260	1,360	1,560	1,610
France	990	1,120	1,210	1,370	1,470	1,730	1,920	1,960	2,320
Germany	890	900	870	780	770	1,090	1,580	1,990	2,090
Great Britain	1,480	1,590	1,580	1,350	1,770	2,680	3,060	3,330	3,430
Italy	700	740	760	810	830	920	1,020	1,140	1,200
Netherlands	260	250	260	270	330	510	630	830	860
Sweden	66	75	94	88	86	108	137	151	136
Unemployment rate									
United States	7.7	7.1	6.1	5.8	7.1	7.6	9.7	9.6	7.5
Canada	7.1	8.1	8.3	7.4	7.5	7.5	11.0	11.9	11.3
Australia	4.8	5.6	6.3	6.3	6.1	5.8	7.2	10.0	9.0
Japan	2.0	2.0	2.3	2.1	2.0	2.2	2.4	2.7	2.8
France	4.5	5.0	5.4	6.0	6.4	7.5	8.3	8.5	10.0
Germany	3.4	3.5	3.4	3.0	2.9	4.1	5.9	7.5	7.8
Great Britain	5.9	6.3	6.2	5.3	6.8	10.4	11.8	12.8	13.0
Italy	3.4	3.6	3.7	3.9	3.9	4.3	4.8	5.3	5.9
Netherlands	5.3	5.0	5.2	5.3	6.2	9.3	11.3	14.5	15.0
Sweden	1.6	1.8	2.2	2.1	2.0	2.5	3.1	3.5	3.1

47. Annual indexes of productivity and related measures, twelve countries

(1977 = 100)

Item and country	1960	1970	1973	1974	1976	1977	1979	1980	1981	1982	1983	1984	1985
Output per hour													
United States	62.2	80.8	93.4	90.6	97.1	100.0	101.4	101.4	103.6	105.9	112.9	118.5	-
Canada	50.3	76.8	91.3	93.4	96.2	100.0	104.2	101.9	104.0	101.0	107.6	111.5	-
Japan	23.2	64.8	83.1	86.5	94.3	100.0	114.8	122.7	127.2	135.0	142.3	152.2	-
Belgium	32.8	60.0	78.3	82.7	95.1	100.0	112.1	119.7	128.0	134.0	143.0	149.6	-
Denmark	36.4	65.3	82.8	85.5	98.0	100.0	108.3	114.3	116.2	115.3	119.4	120.4	-
France	36.4	69.6	82.2	85.2	95.0	100.0	110.3	112.0	116.4	123.5	128.6	135.9	-
Germany	40.5	71.5	84.2	87.6	96.6	100.0	107.8	108.3	110.6	112.4	119.3	124.8	-
Italy	36.5	72.7	90.9	95.3	98.9	100.0	110.5	116.9	121.0	123.4	126.4	134.7	-
Netherlands	32.4	64.3	81.5	88.1	95.8	100.0	112.3	113.9	116.9	119.8	126.1	139.3	-
Norway	54.6	81.7	94.6	97.7	99.7	100.0	107.1	109.3	109.7	112.7	119.0	121.4	-
Sweden	42.3	80.7	94.8	98.8	101.7	100.0	110.9	112.7	113.2	116.5	125.5	132.6	-
United Kingdom	53.9	77.7	93.1	96.5	99.5	100.0	101.9	99.7	105.9	110.6	118.7	124.3	-
Output													
United States	52.5	78.6	96.3	91.7	93.1	100.0	108.1	103.2	104.8	98.4	105.6	117.9	-
Canada	41.5	75.1	94.6	98.0	98.1	100.0	110.9	107.7	108.8	96.4	101.7	110.1	-
Japan	19.2	69.9	91.9	91.7	94.8	100.0	113.9	124.1	129.8	137.3	148.2	165.2	-
Belgium	41.7	78.1	95.8	99.6	99.5	100.0	104.2	107.2	105.9	109.1	110.7	112.8	-
Denmark	48.2	81.7	95.4	96.8	99.4	100.0	107.2	112.1	108.5	110.2	114.2	120.6	-
France	35.4	73.3	88.6	91.8	96.1	100.0	106.1	106.6	105.9	106.0	107.4	109.6	-
Germany	50.0	86.6	96.1	95.4	98.0	100.0	106.6	106.6	104.9	102.4	103.5	107.5	-
Italy	37.4	78.0	90.5	96.3	97.9	100.0	108.6	115.4	114.3	111.6	109.0	113.1	-
Netherlands	44.8	84.4	95.8	100.0	99.0	100.0	106.1	106.6	106.7	105.0	105.3	110.8	-
Norway	55.1	87.0	99.5	104.0	101.4	100.0	100.3	101.3	100.1	99.9	98.7	101.2	-
Sweden	52.6	92.5	100.3	105.7	106.1	100.0	103.6	104.0	100.6	100.1	105.2	112.4	-
United Kingdom	71.0	94.7	104.7	103.5	98.2	100.0	100.5	91.7	86.2	86.4	88.9	92.4	-
Total hours													
United States	84.4	97.3	103.1	101.2	95.9	100.0	106.5	101.7	101.1	92.9	93.5	99.5	-
Canada	82.6	97.7	103.6	105.0	102.0	100.0	106.4	105.7	104.6	95.4	94.6	98.7	-
Japan	82.7	107.9	110.7	106.1	100.6	100.0	99.3	101.2	102.0	101.7	104.2	108.5	-
Belgium	127.1	130.2	122.3	120.4	104.6	100.0	93.0	89.6	82.8	81.4	77.4	75.4	-
Denmark	132.4	125.1	115.2	113.2	101.4	100.0	99.0	98.0	93.4	95.6	95.6	100.2	-
France	97.2	105.3	107.8	107.8	101.2	100.0	96.2	95.2	91.0	85.9	83.5	80.7	-
Germany	123.4	121.2	114.2	108.9	101.5	100.0	98.9	98.4	94.9	91.1	86.8	86.2	-
Italy	102.3	107.4	99.6	101.0	99.0	100.0	98.2	98.7	94.5	90.5	86.2	83.9	-
Netherlands	138.4	131.2	117.6	113.5	103.3	100.0	94.4	93.6	91.2	87.7	83.5	79.5	-
Norway	101.0	106.4	105.1	106.5	101.7	100.0	93.6	92.6	91.3	88.6	82.9	83.4	-
Sweden	124.4	114.6	105.7	107.0	104.3	100.0	93.4	92.3	88.9	85.9	83.9	84.8	-
United Kingdom	131.8	121.9	112.4	108.4	98.7	100.0	98.6	92.0	81.5	78.1	74.9	74.3	-
Compensation per hour													
United States	36.5	57.3	68.8	76.2	92.1	100.0	118.6	132.4	145.2	157.5	163.2	169.1	-
Canada	27.1	46.5	59.2	68.5	89.9	100.0	118.3	130.6	151.5	167.1	179.3	181.8	-
Japan	8.9	33.9	55.1	72.3	90.7	100.0	113.4	120.7	129.8	136.6	140.7	144.8	-
Belgium	13.9	34.7	53.6	65.4	89.4	100.0	117.5	130.4	144.9	152.1	164.4	174.9	-
Denmark	12.6	36.3	56.1	67.9	90.4	100.0	123.2	135.9	149.7	161.1	174.3	184.0	-
France	15.1	38.6	52.3	62.0	88.9	100.0	129.3	147.5	170.3	200.8	225.0	244.0	-
Germany	18.9	48.4	67.9	77.4	91.7	100.0	116.0	125.7	134.6	141.3	149.4	155.0	-
Italy	8.3	26.1	43.7	54.5	84.1	100.0	134.7	160.2	197.1	237.3	277.0	306.9	-
Netherlands	12.5	39.0	60.5	71.9	91.9	100.0	117.0	123.6	129.1	138.0	144.7	152.8	-
Norway	15.8	37.9	54.5	63.6	88.8	100.0	116.0	128.0	142.8	156.0	173.4	185.6	-
Sweden	14.7	38.5	54.2	63.8	91.5	100.0	120.1	133.6	148.1	158.9	173.3	190.7	-
United Kingdom	14.8	30.8	44.9	57.1	88.8	100.0	137.3	163.3	185.4	202.6	217.8	233.6	-
Unit labor costs: National currency basis:													
United States	58.7	70.9	73.7	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.8	-
Canada	53.9	60.6	64.8	73.3	93.5	100.0	113.5	128.1	145.7	165.4	166.7	163.0	-
Japan	38.4	52.3	66.4	83.6	96.2	100.0	98.8	98.4	102.0	101.2	98.9	95.1	-
Belgium	42.3	57.9	68.5	79.0	94.1	100.0	104.8	108.9	113.2	113.5	114.9	116.9	-
Denmark	34.5	55.6	67.8	79.4	92.3	100.0	113.7	118.9	128.8	139.7	146.0	152.8	-
France	41.6	52.6	63.6	72.8	93.6	100.0	117.3	131.7	146.3	162.6	175.0	179.5	-
Germany	46.8	67.6	80.6	88.3	95.0	100.0	107.7	116.1	121.7	125.7	125.3	124.2	-
Italy	22.8	36.0	48.1	57.2	85.1	100.0	121.9	137.0	162.9	192.4	219.2	227.7	-
Netherlands	38.5	60.7	74.3	81.6	96.0	100.0	104.1	108.5	110.4	115.2	114.7	109.7	-
Norway	29.0	46.4	57.6	65.2	89.1	100.0	108.2	117.0	130.2	138.5	145.6	152.9	-
Sweden	34.8	47.7	57.2	64.6	90.0	100.0	108.3	118.6	130.9	136.3	138.1	143.8	-
United Kingdom	27.6	39.7	48.2	59.7	89.2	100.0	134.7	163.8	175.1	183.1	183.5	187.9	-
Unit labor costs: U.S. dollar basis:													
United States	58.7	70.9	73.7	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.8	-
Canada	59.0	61.7	68.8	79.7	100.7	100.0	103.0	116.4	129.1	142.3	143.7	133.7	-
Japan	28.5	39.1	65.6	76.8	86.9	100.0	121.3	116.8	123.8	108.8	111.5	107.2	-
Belgium	30.4	41.8	63.2	72.8	87.4	100.0	128.1	133.7	109.5	88.9	80.6	72.5	-
Denmark	30.1	44.5	67.6	78.4	91.7	100.0	129.7	126.8	108.4	100.5	95.8	88.6	-
France	41.7	46.8	70.4	74.5	96.3	100.0	135.5	153.4	132.2	121.5	112.9	101.0	-
Germany	26.0	43.1	70.7	79.4	87.6	100.0	136.4	148.5	125.3	120.2	113.9	101.3	-
Italy	32.5	50.6	73.1	77.6	90.5	100.0	129.5	141.4	126.3	125.4	127.4	114.5	-
Netherlands	25.1	41.2	65.6	74.6	89.1	100.0	127.4	134.2	108.9	105.8	98.6	83.9	-
Norway	21.7	34.5	53.4	62.8	86.9	100.0	113.8	126.2	120.6	114.1	106.2	99.7	-
Sweden	30.1	41.1	58.7	65.1	92.3	100.0	112.9	125.3	115.4	96.9	80.4	77.7	-
United Kingdom	44.4	54.4	67.7	80.1	92.3	100.0	163.9	218.3	203.1	183.5	159.4	143.9	-

- Data not available.

48. Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]								
	1977	1978	1979	1980	1981	1982	1983	1984	1985
PRIVATE SECTOR[3]									
Total cases	–	–	9.5	8.7	8.3	7.7	7.6	8.0	–
Lost workday cases	–	–	4.3	4.0	3.8	3.5	3.4	3.7	–
Lost workdays	–	–	67.7	65.2	61.7	58.7	58.5	63.4	–
Agriculture, forestry, and fishing[3]									
Total cases	–	–	11.7	11.9	12.3	11.8	11.9	12.0	–
Lost workday cases	–	–	5.7	5.8	5.9	5.9	6.1	6.1	–
Lost workdays	–	–	83.7	82.7	82.8	86.0	90.8	90.7	–
Mining									
Total cases	–	–	11.4	11.2	11.6	10.5	8.4	9.7	–
Lost workday cases	–	–	6.8	6.5	6.2	5.4	4.5	5.3	–
Lost workdays	–	–	150.5	163.6	146.4	137.3	125.1	160.2	–
Construction									
Total cases	–	–	16.2	15.7	15.1	14.6	14.8	15.5	–
Lost workday cases	–	–	6.8	6.5	6.3	6.0	6.3	6.9	–
Lost workdays	–	–	120.4	117.0	113.1	115.7	118.2	128.1	–
General building contractors:									
Total cases	–	–	16.3	15.5	15.1	14.1	14.4	15.4	–
Lost workday cases	–	–	6.8	6.5	6.1	5.9	6.2	6.9	–
Lost workdays	–	–	111.2	113.0	107.1	112.0	113.0	121.3	–
Heavy construction contractors:									
Total cases	–	–	16.6	16.3	14.9	15.1	15.4	14.9	–
Lost workday cases	–	–	6.7	6.3	6.0	5.8	6.2	6.4	–
Lost workdays	–	–	123.1	117.6	106.0	113.1	122.4	131.7	–
Special trade contractors:									
Total cases	–	–	16.0	15.5	15.2	14.7	14.8	15.8	–
Lost workday cases	–	–	6.9	6.7	6.6	6.2	6.4	7.1	–
Lost workdays	–	–	124.3	118.9	119.3	118.6	119.0	130.1	–
Manufacturing									
Total cases	–	–	13.3	12.2	11.5	10.2	10.0	10.6	–
Lost workday cases	–	–	5.9	5.4	5.1	4.4	4.3	4.7	–
Lost workdays	–	–	90.2	86.7	82.0	75.0	73.5	77.9	–
Durable goods									
Lumber and wood products:									
Total cases	–	–	20.7	18.6	17.6	16.9	18.3	19.6	–
Lost workday cases	–	–	10.8	9.5	9.0	8.3	9.2	9.9	–
Lost workdays	–	–	175.9	171.8	158.4	153.3	163.5	172.0	–
Furniture and fixtures:									
Total cases	–	–	17.6	16.0	15.1	13.9	14.1	15.3	–
Lost workday cases	–	–	7.1	6.6	6.2	5.5	5.7	6.4	–
Lost workdays	–	–	99.6	97.6	91.9	85.6	83.0	101.5	–
Stone, clay, and glass products:									
Total cases	–	–	16.8	15.0	14.1	13.0	13.1	13.6	–
Lost workday cases	–	–	8.0	7.1	6.9	6.1	6.0	6.6	–
Lost workdays	–	–	133.7	128.1	122.2	112.2	112.0	120.8	–
Primary metal industries:									
Total cases	–	–	17.3	15.2	14.4	12.4	12.4	13.3	–
Lost workday cases	–	–	8.1	7.1	6.7	5.4	5.4	6.1	–
Lost workdays	–	–	134.7	128.3	121.3	101.6	103.4	115.3	–
Fabricated metal products:									
Total cases	–	–	19.9	18.5	17.5	15.3	15.1	16.1	–
Lost workday cases	–	–	8.7	8.0	7.5	6.4	6.1	6.7	–
Lost workdays	–	–	124.2	118.4	109.9	102.5	96.5	104.9	–
Machinery, except electrical:									
Total cases	–	–	14.7	13.7	12.9	10.7	9.8	10.7	–
Lost workday cases	–	–	5.9	5.5	5.1	4.2	3.6	4.1	–
Lost workdays	–	–	83.6	81.3	74.9	66.0	58.1	65.8	–
Electric and electronic equipment:									
Total cases	–	–	8.6	8.0	7.4	6.5	6.3	6.8	–
Lost workday cases	–	–	3.4	3.3	3.1	2.7	2.6	2.8	–
Lost workdays	–	–	51.9	51.8	48.4	42.2	41.4	45.0	–
Transportation equipment:									
Total cases	–	–	11.6	10.6	9.8	9.2	8.4	9.3	–
Lost workday cases	–	–	5.5	4.9	4.6	4.0	3.6	4.2	–
Lost workdays	–	–	85.9	82.4	78.1	72.2	64.5	68.8	–
Instruments and related products:									
Total cases	–	–	7.2	6.8	6.5	5.6	5.2	5.4	–
Lost workday cases	–	–	2.8	2.7	2.7	2.3	2.1	2.2	–
Lost workdays	–	–	40.0	41.8	39.2	37.0	35.6	37.5	–
Miscellaneous manufacturing industries:									
Total cases	–	–	11.7	10.9	10.7	9.9	9.9	10.5	–
Lost workday cases	–	–	4.7	4.4	4.4	4.1	4.0	4.3	–
Lost workdays	–	–	67.7	67.9	68.3	69.9	66.3	70.2	–

See footnotes at end of table.

48. —Continued Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]								
	1977	1978	1979	1980	1981	1982	1983	1984	1985
Nondurable goods									
Food and kindred products:									
Total cases	–	–	19.9	18.7	17.8	16.7	16.5	16.7	–
Lost workday cases	–	–	9.5	9.0	8.6	8.0	7.9	8.1	–
Lost workdays	–	–	141.8	136.8	130.7	129.3	131.2	131.6	–
Tobacco manufacturing:									
Total cases	–	–	9.3	8.1	8.2	7.2	6.5	7.7	–
Lost workday cases	–	–	4.2	3.8	3.9	3.2	3.0	3.2	–
Lost workdays	–	–	64.8	45.8	56.8	44.6	42.8	51.7	–
Textile mill products:									
Total cases	–	–	9.7	9.1	8.8	7.8	7.4	8.0	–
Lost workday cases	–	–	3.4	3.3	3.2	2.8	2.8	3.0	–
Lost workdays	–	–	61.3	62.8	59.2	53.8	51.4	54.0	–
Apparel and other textile products:									
Total cases	–	–	6.5	6.4	6.3	6.0	6.4	6.7	–
Lost workday cases	–	–	2.2	2.2	2.2	2.1	2.4	2.5	–
Lost workdays	–	–	34.1	34.9	35.0	36.4	40.6	40.9	–
Paper and allied products:									
Total cases	–	–	13.5	12.7	11.6	10.6	10.0	10.4	–
Lost workday cases	–	–	6.0	5.8	5.4	4.9	4.5	4.7	–
Lost workdays	–	–	108.4	112.3	103.6	99.1	90.3	93.8	–
Printing and publishing:									
Total cases	–	–	7.1	6.9	6.7	6.6	6.6	6.5	–
Lost workday cases	–	–	3.1	3.1	3.0	2.8	2.9	2.9	–
Lost workdays	–	–	45.1	46.5	47.4	45.7	44.6	46.0	–
Chemicals and allied products:									
Total cases	–	–	7.7	6.8	6.6	5.7	5.5	5.3	–
Lost workday cases	–	–	3.5	3.1	3.0	2.5	2.5	2.4	–
Lost workdays	–	–	54.9	50.3	48.1	39.4	42.3	40.8	–
Petroleum and coal products:									
Total cases	–	–	7.7	7.2	6.7	5.3	5.5	5.1	–
Lost workday cases	–	–	3.6	3.5	2.9	2.5	2.4	2.4	–
Lost workdays	–	–	62.0	59.1	51.2	46.4	46.8	53.5	–
Rubber and miscellaneous plastics products:									
Total cases	–	–	17.1	15.5	14.6	12.7	13.0	13.6	–
Lost workday cases	–	–	8.2	7.4	7.2	6.0	6.2	6.4	–
Lost workdays	–	–	127.1	118.6	117.4	100.9	101.4	104.3	–
Leather and leather products:									
Total cases	–	–	11.5	11.7	11.5	9.9	10.0	10.5	–
Lost workday cases	–	–	4.9	5.0	5.1	4.5	4.4	4.7	–
Lost workdays	–	–	76.2	82.7	82.6	86.5	87.3	94.4	–
Transportation and public utilities									
Total cases	–	–	10.0	9.4	9.0	8.5	8.2	8.8	–
Lost workday cases	–	–	5.9	5.5	5.3	4.9	4.7	5.2	–
Lost workdays	–	–	107.0	104.5	100.6	96.7	94.9	105.1	–
Wholesale and retail trade									
Total cases	–	–	8.0	7.4	7.3	7.2	7.2	7.4	–
Lost workday cases	–	–	3.4	3.2	3.1	3.1	3.1	3.3	–
Lost workdays	–	–	49.0	46.7	45.3	45.5	47.8	50.5	–
Wholesale trade:									
Total cases	–	–	8.8	8.2	7.7	7.1	7.0	7.2	–
Lost workday cases	–	–	4.1	3.9	3.6	3.4	3.2	3.5	–
Lost workdays	–	–	59.1	58.2	54.7	52.1	50.6	55.5	–
Retail trade:									
Total cases	–	–	7.7	7.1	7.1	7.2	7.3	7.5	–
Lost workday cases	–	–	3.1	2.9	2.9	2.9	3.0	3.2	–
Lost workdays	–	–	44.7	44.5	41.1	42.6	46.7	48.4	–
Finance, insurance, and real estate									
Total cases	–	–	2.1	2.0	1.9	2.0	2.0	1.9	–
Lost workday cases	–	–	.9	.8	.8	.9	.9	.9	–
Lost workdays	–	–	13.3	12.2	11.6	13.2	12.8	13.6	–
Services									
Total cases	–	–	5.5	5.2	5.0	4.9	5.1	5.2	–
Lost workday cases	–	–	2.5	2.3	2.3	2.3	2.4	2.5	–
Lost workdays	–	–	38.1	35.8	35.9	35.8	37.0	41.1	–

---

[1] Total cases include fatalities.

[2] The incidence rates represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as:
(N/EH) X 200,000, where:
N = number of injuries and illnesses or lost workdays.
EH = total hours worked by all employees during calendar year.
200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year.)

[3] Excludes farms with fewer than 11 employees since 1976.

– Data not available.

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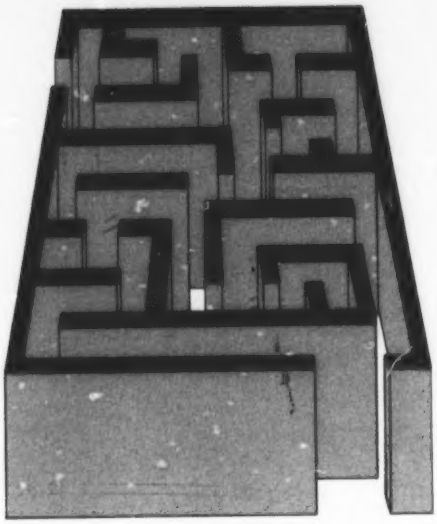

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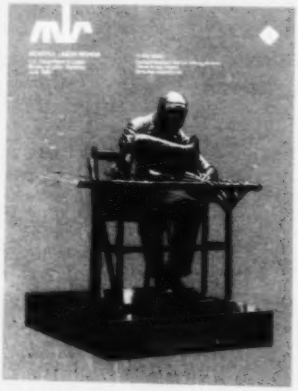

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Labor Month In Review

EMPLOYMENT BENCHMARK. With computation of data for May 1986, the Bureau of Labor Statistics completed its annual revision of employment, hours, and earnings data from the establishment survey. The revision uses employment counts for March 1985 as a benchmark. As part of the usual annual benchmarking process, the Bureau also revised seasonally adjusted series for the past 5 years, and computed new seasonal adjustment factors.

Adjustment procedure. Monthly estimates from the Current Employment Statistics Survey are based on information collected from a sample of establishments. These sample estimates are "benchmarked"—adjusted to reflect actual employment counts—on an annual basis. Benchmarks are counts of employment based primarily on mandatory unemployment insurance reports submitted by employers to State employment security agencies. The current revision affects unadjusted series from April 1984 (the month following the previous benchmark) forward. Seasonally adjusted series are revised from January 1981 forward. Selected hours and earnings estimates in the trade and services divisions are revised beginning with January 1984 data.

The current revisions. In March 1985, the benchmark count for total nonagricultural employment was 96.0 million, only 3,000 below the sample-based estimate for the same month. This small aggregate adjustment is the result of offsetting corrections to the total private and government sectors. A downward adjustment of 131,000 in total private employment, stemming primarily from manufacturing (down 104,000), was balanced by an upward revision of 128,000 in State and local government. Of the 255 3-digit Standard Industrial Classification industry groups for which the Bureau publishes employment estimates, only 35 were revised by 5 percent or more. As is generally the case, the largest industries in terms of employment tended to have the smallest percentage revisions.

Sources of the difference. Differences between the benchmark totals and the sample-based estimates are caused by both sampling and nonsampling error. Sampling error may occur whenever inferences are drawn from a sample about its universe.

Nonsampling error has three major sources: (1) bias, (2) procedures for handling changes in industrial classification, and (3) other errors of coverage, response, processing, and collection. Bias is inherent in establishment surveys largely because sample estimates do not readily capture employment growth from new firms. The survey's sample design also places a higher probability of selection on firms with greater employment. This too creates a bias problem, because small, young firms are responsible for much of employment growth. Coincident with this benchmark, the Bureau is introducing increased sample stratification by establishment size for trade and service industry estimates. With finer stratification by size, there is an increase in the relative weight assigned to small firms during estimation, thus lessening the large firm bias.

Revisions to other data. Benchmarks are not available for the series on women, production or nonsupervisory workers, or hours and earnings. Women and production worker series are revised by applying the sample-derived ratio to the revised employment estimate at the basic cell level. These revisions are then summarized to the broader industry groupings.

Production and nonsupervisory worker employment estimates are used as weights in the estimation of hours and earnings at aggregate industry levels. Benchmark revisions to employment may cause shifts in these weights, affecting summary level estimates of hours and earnings. This year, the introduction of a new stratification pattern in trade and services has resulted in a slightly larger than usual hours and earnings revision.

Seasonal adjustment. Each year, employment, hours, and earnings data from the new benchmark are incorporated into the calculation of new seasonal adjustment factors. The Bureau uses the X-11 ARIMA seasonal adjustment method, an adaptation of the standard ratio-to-moving average method, which provides for "moving" adjustment factors to take changing seasonal patterns into account.

Revised estimates for employment, hours, and earnings by detailed industry appear in the June issue of *Employment and Earnings*, along with a more complete explanation of the benchmarking procedure and the new seasonal adjustment factors that will be used for the period April 1986–March 1987. Estimates reflecting the new benchmark will appear in the Current Labor Statistics section of the *Monthly Labor Review*, beginning with the July issue. ☐

Deindustrialization and the shift to services

Does the employment shift to services imply that the U.S. is losing its industrial base? Data show the industrial sector as a whole in healthy shape, but a few manufacturing industries in deep trouble

RONALD E. KUTSCHER AND VALERIE A. PERSONICK

Much discussion and concern recently has been focused on the deindustrialization of the United States and the need for a national industrial policy.[1] The well-reported growth in employment in the service sector and the relative decline in employment in manufacturing industries implies to some a decrease in our industrial capacity. The deindustrialization argument points to a lack of investment in basic production, plant closings and layoffs, and the large negative merchandise trade balance as evidence that the United States is losing its manufacturing base.

But precisely how can deindustrialization be defined? Does the shift to a service economy imply the erosion of an industrial base? Should deindustrialization be described as a loss of manufacturing jobs or should production changes also be a criterion? Should these changes be measured in absolute terms or relative terms? These are some of the questions we examine in this article by reviewing data on both employment and production for manufacturing and other major sectors, first as a whole, and then for detailed industries.

Our findings indicate that the shift to a service economy is not really evidence of a declining industrial base, or "deindustrialization." The shift has largely been a relative one. Employment in the manufacturing sector in absolute terms has not declined appreciably over the last two decades (except cyclically), and the most recent projections by the Bureau of Labor Statistics show manufacturing employment recovering most of its current recession-related losses. Furthermore, while employment in manufacturing is still off its previous peak, the same is not true for output. Manufacturing production in real terms has bounced back from the recession and by 1984 had reached a new peak level, hardly proof of a loss of our industrial base.[2]

While little evidence of deindustrialization is present at the macro or aggregate level, an additional finding is that for about 20 manufacturing industries, including steel, leather, and tires, the past 15 years have seen steady declines in both output and employment. Further, the BLS projections for these industries indicate little prospect for recovery. Thus, while it is possible to say from the data we have examined that the United States is not deindustrializing, this is not to conclude that declines in both production and employment have not hit certain industries particularly hard.

Although it is clear that there is little consensus on what is meant by deindustrialization, certain points in these discussions seem more important than others:

- Industrial base to most means the manufacturing sector.
- An absolute decline is more serious than a relative one.
- Production declines are a more alarming signal of a reduction in the industrial base than employment declines, because through efficiencies it is possible to have increasing output with stable or declining employment. Absolute

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Ronald E. Kutscher is the Associate Commissioner for the Office of Economic Growth and Employment Projections, Bureau of Labor Statistics. Valerie A. Personick is an economist in the same office.

declines in production may result from many factors, such as increasing competition from other products or from foreign producers, or a lack of capital investment. In this article, we only examine the observed production changes without looking at the reasons why.

- Production should be measured in quantity or real terms to eliminate price effects.

Macro review

Shifts in employment. We begin this examination of America's possible deindustrialization by reviewing employment changes at the macro or most aggregate level over the past 25 years. Our analysis of data on changing job shares clearly indicates significant structural change occurring in the U.S. economy. Does this imply that the United States is losing its industrial capacity?

The goods-producing sector is defined here to include manufacturing, construction, mining, and agriculture; service-producing includes all other industries, including government. While beginning the overview of employment at the broad aggregations of goods-producing and service-producing, this article will focus more on manufacturing, because as noted earlier, this is the sector with which the deindustrialization argument is most concerned.

The first point to be made is that the shift to services has been largely a relative shift and not an absolute one. Job gains in service-producing industries were not accomplished at the expense of any of the major goods-producing industries, except perhaps agriculture. Rather, employment has remained fairly stable in the goods-producing sector as a whole, including manufacturing, while increasing sharply in the service-producing sectors, as chart 1 shows. The stability in the level of jobs in the goods-producing sector and in manufacturing is evident throughout the 1959–84 period, except for times of cyclical decline such as 1974–75 or 1980–82.[3]

The point that the employment shift to services has largely been only a relative one has also been made by Bureau economist Michael Urquhart in a 1984 *Monthly Labor Review* article.[4] His examination of labor force data over the period of 1969 to 1979 showed that there had been no real net migration of workers from the goods to the services sector, but rather most of the growth in service sector jobs was attributable to the increase in women's labor force participation.

Despite the overall stability in the absolute number of goods-producing jobs, the change in shares between the goods- and service-producing sectors has been dramatic. In 1959, the latter sector accounted for 60 percent of all employment and the former, 40 percent; by 1984, that ratio had shifted to 72 percent of employment in the service-producing sector and only 28 percent in the goods-producing sector. (See table 1.)

Chart 1. Total employment, 1959-84

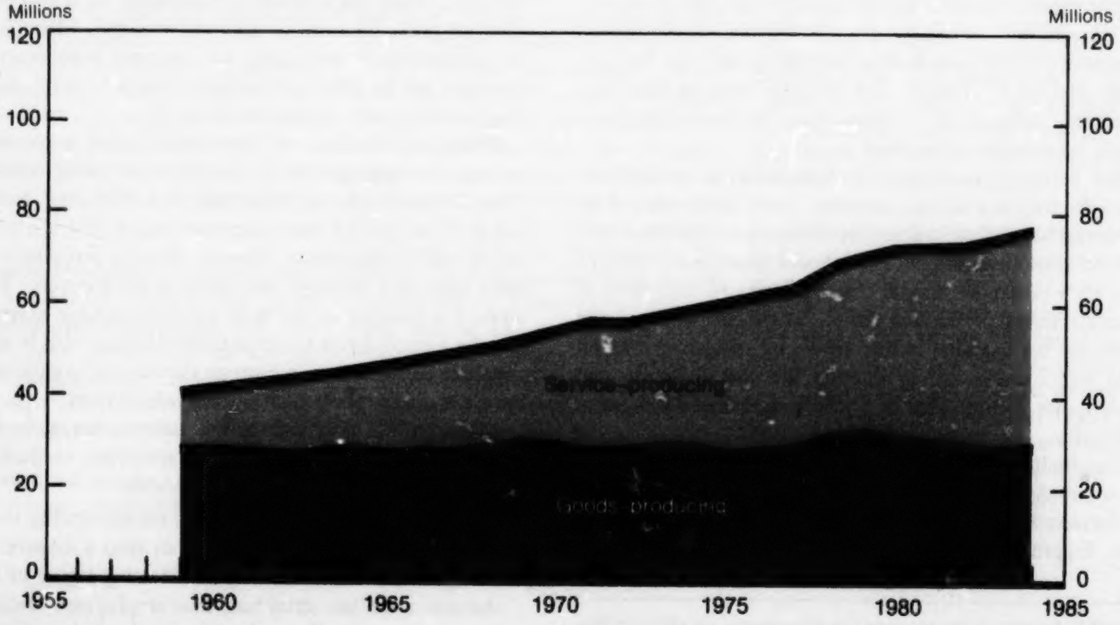


Table 1. Employment by major sector, 1959–84

Year	Total	Goods-producing							Service-producing		
		Total	Agriculture	Mining	Construction	Manufacturing			Total	Government	Private
						Total	Durable	Nondurable			
Level (in thousands)											
1959	67,784	27,125	5,583	614	3,910	17,018	9,582	7,436	40,659	8,008	32,651
1969	81,508	28,964	3,622	501	4,374	20,467	12,080	8,387	52,544	12,117	40,427
1979	101,471	31,324	3,340	704	5,879	21,401	12,985	8,416	70,147	15,832	54,315
1980	102,146	30,589	3,356	723	5,842	20,668	12,419	8,249	71,557	16,114	55,443
1981	102,972	30,403	3,341	737	5,766	20,559	12,343	8,216	72,569	15,896	56,673
1982	101,643	28,739	3,396	729	5,460	19,154	11,262	7,892	72,904	15,702	57,202
1983	102,528	28,284	3,369	650	5,440	18,825	10,959	7,866	74,244	15,736	58,508
1984	106,841	29,643	3,293	651	5,920	19,779	11,744	8,035	77,198	15,851	61,347
Percent distribution											
1959	100.0	40.0	8.2	0.9	5.8	25.1	14.1	11.0	60.0	11.8	48.2
1969	100.0	35.5	4.4	0.6	5.4	25.1	14.8	10.3	64.5	14.9	49.6
1979	100.0	30.9	3.3	0.7	5.8	21.1	12.8	8.3	69.1	15.6	53.5
1980	100.0	29.9	3.3	0.7	5.7	20.2	12.2	8.1	70.1	15.8	54.3
1981	100.0	29.5	3.2	0.7	5.6	20.0	12.0	8.0	70.5	15.4	55.0
1982	100.0	28.3	3.3	0.7	5.4	18.8	11.1	7.8	71.7	15.4	56.3
1983	100.0	27.6	3.3	0.6	5.3	18.4	10.7	7.7	72.4	15.3	57.1
1984	100.0	27.7	3.1	0.6	5.5	18.5	11.0	7.5	72.3	14.8	57.4
Average annual rate of change											
1959–84	1.8	0.4	−2.1	0.2	1.7	0.6	0.8	0.3	2.6	2.8	2.6
1959–69	1.9	0.7	−4.2	−2.0	1.1	1.9	2.3	1.2	2.6	4.2	2.2
1969–79	2.2	0.8	−0.8	3.5	3.0	0.4	0.7	0.0	2.9	2.7	3.0
1979–84	1.0	−1.1	−0.3	−1.6	0.1	−1.6	−2.0	−0.9	1.9	0.0	2.5

NOTE: Data include wage and salary, self-employed, and unpaid family workers.

For manufacturing alone, the share decline has not been as sharp, but still significant. While remaining fairly level at about the 19 to 20 million mark for the past two decades (except for the recessionary periods noted earlier), manufacturing employment fell from 25.1 percent of all jobs in 1959 to 18.5 percent in 1984. It is this widely reported decline in job share for manufacturing, along with reports of plant closings and high regional unemployment in some heavy manufacturing centers, which may have fostered much of the concern about a loss in our industrial base. Of course, these declines have resulted in many hardships among the workers displaced.[5]

The difference between a 12.3-percentage-point share loss for the goods sector as a whole between 1959 and 1984 and only a 6.6-percentage-point drop for manufacturing by itself is accounted for mostly by the loss of agricultural jobs. Agriculture was the only goods-producing sector to register actual employment decreases over the period. The agricultural sector has been shrinking dramatically since at least the 1940's. Low farm prices during the Great Depression of the 1930's eliminated many farm jobs and forced rapid consolidation, eventually leading to very high productivity gains in farming. The movement away from the farm gradually began to taper, and in the past decade the decline in agricultural employment has slowed appreciably.

It has also seemed that the shift to services has accelerated in recent years because of the 1980-82 recessions and because of the increase in imports, especially of manufactured goods, resulting in part from the high value of the dollar. Employment in the goods-producing sector declined by 3 million from the pre-recession 1979 level to 1983's trough, while service-producing jobs increased every year during that time span, by a total of 4.1 million. Of the 3-million loss in jobs in the goods-producing sector, 2.6 million were in manufacturing, and only small amounts were in the other goods-producing components. Goods-producing employment recovered somewhat in 1984, rising 1.4 million, but this gain was dwarfed by the almost 3.0 million new service-producing jobs added in that single year. Within the goods sector, construction employment recovered to its pre-recession high, but manufacturing employment was still off 1.6 million.

Thus, from an employment perspective, there clearly has been a large *relative* decline in the share of employment in goods-producing industries and a similar *relative* decline in manufacturing. However, in absolute terms the employment levels in all goods-producing sectors except agriculture were relatively stable prior to 1979, and even increased in construction. Since 1979, manufacturing employment has declined appreciably, however, and only part of the cyclical losses of 1980–82 have been recovered to date.

Shifts in output. As noted, it may be more important for an examination of the deindustrialization debate to review production rather than just employment, on which most of the debate seems to have focused thus far. A decline in employment, whether absolute or relative, need not necessarily signify an erosion of the U.S. industrial base if real output is still increasing. Using production as a criterion, the goods-producing sector, by reaching new peak levels in 1984, has clearly shown that it is not disappearing. In addition, although a shift away from goods production in relative terms has occurred, it can be seen from chart 2 that the magnitude of that relative shift is less for output than it is for employment. The goods-producing sector accounted for 54.9 percent of the real value of all production in 1959 and 46.7 percent in 1984, a drop of 8.2 percentage points. (See table 2.) The decrease in its job share over that span, however, was 12.3 percentage points. This differential comes about because productivity gains, although slowing down over time, have been more rapid in the goods-producing than in the service-producing sector.

These conclusions relating to output are based on data computed for the Bureau's economic and employment projections system.[6] Actual production, rather than sales in nominal dollars, should be the basis for this analysis, because different price movements among goods and services can distort actual production changes. However, it is impossible to measure the output of many industries' goods or services in actual production units.[7] A proxy for production that is widely used is sales or shipments in nominal prices, deflated by a price index appropriate to the particular industry's mix of goods and services. These data on real output, as well as data on employment, are available for each of 150 individual industries encompassing the total U.S. economy. Historical data are available from 1958 to 1984 and projected data through 1995.

Another conclusion drawn from looking at this data base is that more of the relative decline in goods-sector output is attributable to agriculture and construction than to manufacturing. In contrast, the loss in employment share occurred primarily for the agriculture and manufacturing components of the goods-producing sector. Manufacturing dropped 6.6 percentage points in its job share between 1959 and 1984, but only 2.3 points in its output share.

The trend for only the more recent 1979–84 span is also more positive for output than it is for employment. By 1984, goods-producing output in constant dollars had recovered from the 1980–82 recessions, surpassing the previous peak reached in 1979 and hitting an all-time high. As mentioned, employment in the goods-producing sector has also recovered from the 1980–82 downturns, but not enough to regain the 1979 level.[8]

Again, the more important point is whether a *relative* decline reflects the erosion of our industrial sector. If manufacturing production is still growing in absolute terms, then we cannot be said to be eliminating our industrial base, even though we are undergoing a relative structural shift in our economy. The data at the aggregate level for each of the major sectors show production levels for all compo-

Chart 2. Share of private output and employment, goods- versus service-producing industries, 1959-84

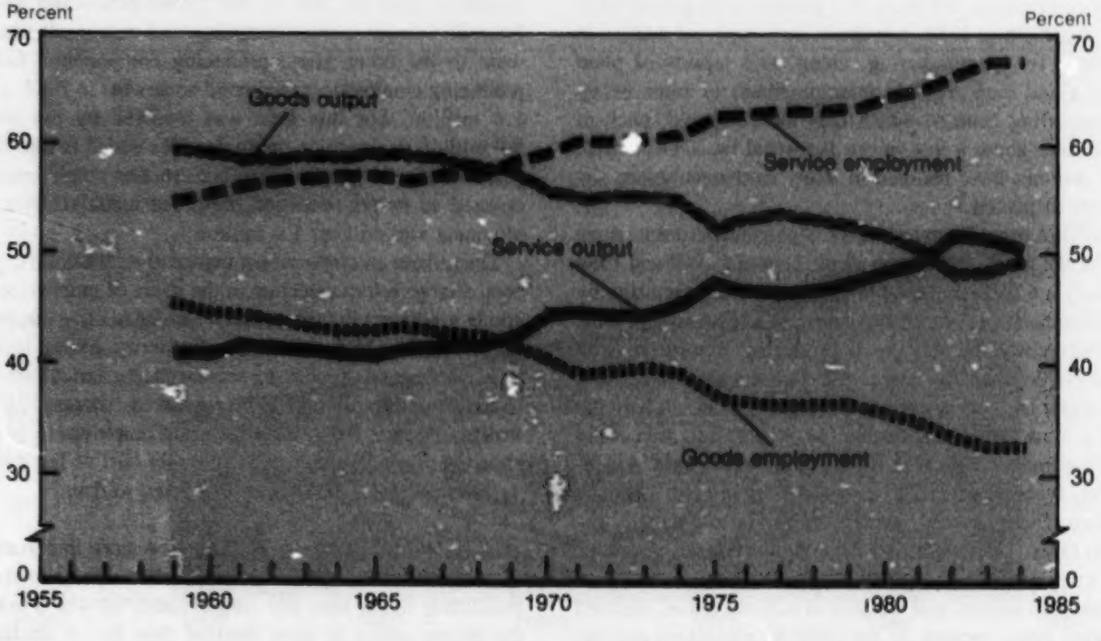


Table 2. Gross duplicated output (1977 dollars) by major sector, 1959–84

Year	Total	Goods-producing							Service-producing		
		Total	Agriculture	Mining	Construction	Manufacturing			Total	Government	Private
						Total	Durable	Nondurable			
Level (in millions)											
1959	2,002,527	1,100,342	102,441	55,927	205,398	736,576	375,635	360,941	902,185	151,907	750,278
1969	2,969,101	1,585,583	116,916	79,609	255,346	1,133,712	607,876	525,836	1,383,518	222,002	1,161,516
1979	3,950,145	1,944,892	138,569	83,108	275,190	1,448,025	773,604	674,421	2,005,253	255,706	1,749,547
1980	3,860,734	1,847,174	132,706	82,926	258,548	1,372,997	718,710	654,287	2,013,560	260,851	1,752,709
1981	3,919,714	1,853,677	141,675	82,262	249,458	1,380,282	719,069	661,213	2,066,037	263,066	1,802,971
1982	3,796,261	1,710,370	136,897	80,304	232,300	1,260,869	628,634	632,235	2,085,891	262,277	1,823,614
1983	3,970,865	1,809,382	130,381	78,735	253,667	1,346,599	678,978	667,621	2,161,483	263,017	1,898,466
1984	4,309,342	2,012,679	150,906	82,787	293,618	1,485,366	783,483	701,883	2,296,663	265,023	2,031,640
Percent distribution											
1959	100.0	54.9	5.1	2.8	10.3	36.8	18.8	18.0	45.1	7.6	37.5
1969	100.0	53.4	3.9	2.7	8.6	38.2	20.5	17.7	46.6	7.5	39.1
1979	100.0	49.2	3.5	2.1	7.0	36.7	19.6	17.1	50.8	6.5	44.3
1980	100.0	47.8	3.4	2.1	6.7	35.6	18.6	16.9	52.2	6.8	45.4
1981	100.0	47.3	3.6	2.1	6.4	35.2	18.3	16.9	52.7	6.7	46.0
1982	100.0	45.1	3.6	2.1	6.1	33.2	16.6	16.7	54.9	6.9	48.0
1983	100.0	45.6	3.3	2.0	6.4	33.9	17.1	16.8	54.4	6.6	47.8
1984	100.0	46.7	3.5	1.9	6.8	34.5	18.2	16.3	53.3	6.1	47.1
Average annual rate of change											
1959–84	3.1	2.4	1.6	1.6	1.4	2.8	3.0	2.7	3.8	2.3	4.1
1959–69	4.0	3.7	1.3	3.6	2.2	4.4	4.9	3.8	4.4	3.9	4.5
1969–79	2.9	2.1	1.7	0.4	0.8	2.5	2.4	2.5	3.8	1.4	4.2
1979–84	1.8	0.7	1.7	–0.1	1.3	0.5	0.3	0.8	2.8	0.7	3.0

nents growing in absolute terms. Real output in manufacturing in 1984 was actually more than double what it was in 1959—hardly evidence of a reduction of an industrial base. The impression that deindustrialization has accelerated recently because of the recession is also questionable. Real manufacturing output did drop by almost 13 percent over the 4 years from the 1979 peak to the 1982 trough, but in the 2 years since, it has gained almost 18 percent, surpassing the 1979 level. However, when looking at recent employment trends, the story differs. Manufacturing employment reached its low point in 1983, and in 1984, although 1 million jobs were added, it did not recover to the 1979 peak. Furthermore, preliminary data for 1985 indicate that little further gains in manufacturing employment have occurred. Thus, output increases have been made without corresponding increases in employment, the result of productivity gains. This loss of manufacturing jobs is a severe problem for certain industries and locales; however, the rise in manufacturing output overall seems to preclude a conclusion of deindustrialization—at least at the level of total manufacturing.

Another argument advanced in the discussion about deindustrialization is that the U.S. manufacturing sector has performed poorly in comparison with other industrialized countries. However, the evidence to support this impression is mixed. A recent Bureau study of manufacturing productivity trends in 12 countries shows that while the rate of gain in U.S. manufacturing output over the years 1973–84 was smaller than for four of the other countries, particularly Japan, the rate of employment decline in U.S. manufacturing was the smallest of any of the countries studied.[9]

Hours. Another point to be made about the shift to services at the major sector level concerns hours. Because at least part of the growth in employment in the service-producing industries has been in part-time jobs, the amount of the shift can be overemphasized by looking only at employment. The share of worker-hours in the goods-producing sector dropped from 41.1 percent of the total in 1959 to 30.3 percent in 1984, or 10.8 percentage points. (See table 3.) This relative shift in hours is less than for employment, but more than for output.

Quality of jobs. One reason for the concern in the popular literature about the shift away from manufacturing industries toward service-producing industries, especially for employment, is the fear that this will lead to the disappearance of well-paying factory jobs. It is argued that the declining smokestack industries have a large proportion of middle-income earners, while the growing service and high-tech industries have a more bipolar wage structure, with more high or low earners. The shift among industries, therefore, will lead to a declining middle class.

Considerable doubt has been cast on this argument, however, by Neal Rosenthal in a previous *Monthly Labor Review* article.[10] He found through an analysis of occupational data that while middle-income jobs have declined slightly as a percentage of total employment, lower-paying jobs have declined even more. Furthermore, declines in high-paying smokestack industries (such as steel) have at least been matched by declines in lower-paying manufacturing industries (such as textiles, apparel, and leather).[11]

Micro analysis

Industry shifts. In the above section, we discussed output and employment at the major sector or very aggregate level. At that level we showed that while the U.S. economy in relative terms is shifting in a very pronounced way towards the service-producing sector and away from the goods-producing sector, in absolute terms the manufacturing sector is nearly stable in jobs and growing in production—giving little evidence of a loss of the U.S. industrial base. However, this examination at the macro level could be masking important changes at the micro or industry level. In this section, we examine some of these divergent employment and output trends for individual industries, using the level of detail in the BLS projections system.

In reviewing these industry output and employment data closely for the period 1959–84, it appears that the time frame 1959–69 is quite different in its characteristics from either the 1969–79 or 1979–84 span. During the booming 1960's, manufacturing increased its share of output and held steady in its share of employment, whereas after 1969, several recessions and other factors forced manufacturing off its earlier upward path. Economic downturns in 1970, 1974–75, and 1980–82 had a larger impact on the cyclically sensitive manufacturing sector than on the more cyclically resistant service-producing sector. Because of the different characteristics of the earlier years, the analysis in this section of the article will focus on the more recent 1969–84 period. The analysis consisted of examining industries over the 15-year span and categorizing them into 1 of 3 groups: (1) consistent gainers in output and employment, (2) consistent gainers in output but employment losers, and (3) consistent losers of both output and employment.

Output and employment gainers. Table 4 lists those industries which have shown a positive trend in both output and employment during the last 15 years. (That is, the least squares rate of change over 1969–84 has been positive. This does not mean that these industries may not have shown declines for a few of the years but only that the overall trend for the span is positive.) One-half of the 150 industries in the data base examined fall into this category. Among the goods-producing industries which are included in the growing industries are 4 of the 7 agricultural industries, 2 mining industries, maintenance construction, and numerous manufacturing industries. Most of the latter on the list of output and employment gainers are durable goods industries, particularly those which are included in 1 of the 3 high-technology definitions developed earlier by BLS.[12] These designations identify high-tech industries on the basis of expenditures for research and development, the ratio of scientific and technical personnel to all workers in the industry, and the degree of product sophistication. Many of the electrical machinery and electronic equipment industries which meet one of the high-tech definitions have experienced both production and employment advances in the last 15 years.

The rest of the industries on the list include virtually all of the individual service-producing industries in the data base. Only a few of the transportation industries, gas utilities, or service industries have lost either jobs or production, or both, between 1969 and 1984. All the communications

Table 3. Worker hours by major sector, 1959–84

Year	Total	Goods-producing							Service-producing		
		Total	Agriculture	Mining	Construction	Manufacturing					
						Total	Durable	Nondurable	Total	Government	Private
Level (in millions)											
1959	140,710	57,791	12,991	1,285	7,969	35,546	20,162	15,384	82,919	16,718	66,201
1969	163,320	61,462	8,328	1,109	9,036	42,989	25,671	17,318	101,858	25,159	76,699
1979	196,381	65,805	7,626	1,555	11,956	44,668	27,425	17,243	130,576	32,951	97,625
1980	196,153	63,202	7,574	1,566	11,443	42,619	25,838	16,781	132,951	33,528	99,423
1981	197,268	62,924	7,563	1,603	11,276	42,482	25,723	16,759	134,344	33,070	101,274
1982	192,992	58,639	7,522	1,564	10,591	38,962	23,093	15,869	134,353	32,670	101,683
1983	195,250	58,508	7,362	1,406	10,659	39,081	22,972	16,109	136,742	32,756	103,986
1984	204,741	61,983	7,303	1,427	11,784	41,469	24,938	16,531	142,758	33,020	109,738
Percent distribution											
1959	100.0	41.1	9.2	0.9	5.7	25.3	14.3	10.9	58.9	11.9	47.0
1969	100.0	37.6	5.1	0.7	5.5	26.3	15.7	10.6	62.4	15.4	47.0
1979	100.0	33.5	3.9	0.8	6.1	22.7	14.0	8.8	66.5	16.8	49.7
1980	100.0	32.2	3.9	0.8	5.8	21.7	13.2	8.6	67.8	17.1	50.7
1981	100.0	31.9	3.8	0.8	5.7	21.5	13.0	8.5	68.1	16.8	51.3
1982	100.0	30.4	3.9	0.8	5.5	20.2	12.0	8.2	69.6	16.9	52.7
1983	100.0	30.0	3.8	0.7	5.5	20.0	11.8	8.3	70.0	16.8	53.3
1984	100.0	30.3	3.6	0.7	5.8	20.3	12.2	8.1	69.7	16.1	53.6
Average annual rate of change											
1959–84	1.5	0.3	−2.3	0.4	1.6	0.6	0.9	0.3	2.2	2.8	2.0
1959–69	1.5	0.6	−4.3	−1.5	1.3	1.9	2.4	1.2	2.1	4.2	1.5
1969–79	1.9	0.7	−0.9	3.4	2.8	0.4	0.7	0.0	2.5	2.7	2.4
1979–84	0.8	−1.2	−0.9	−1.7	−0.3	−1.5	−1.9	−0.8	1.8	0.0	2.4

Table 4. Positive output trend and positive employment trend, average annual rate of change,[1] 1969–84

Industry	Output	Employment
Agriculture:		
Food and feed grains	2.4	0.6
Agricultural products, n.e.c.	1.7	1.4
Forestry and fishery products	0.3	3.0
Agricultural, forestry, and fishery services	1.7	3.8
Mining:		
Coal mining	2.8	3.3
Chemical and fertilizer mineral mining	1.6	2.5
Construction:		
Maintenance and repair construction	2.2	3.3
Nondurable goods manufacturing:		
Meat products	2.1	0.3
Canned and frozen foods	2.4	0.1
Soft drinks and flavorings	2.7	0.5
Food products, n.e.c.	2.1	0.4
Fabricated textile products, n.e.c.	1.3	0.5
Paper products	2.5	0.1
Periodical and book printing, publishing	3.3	2.0
Printing and publishing, n.e.c.	3.2	2.0
Industrial inorganic and organic chemicals	1.4	0.9
Agricultural chemicals	2.2	0.5
Drugs	5.0	2.4
Cleaning and toilet preparations	2.7	1.4
Petroleum refining and related products	1.6	0.4
Plastics products, n.e.c.	4.9	3.7
Durable goods manufacturing:		
Logging	4.5	0.3
Millwork, plywood, and wood products, n.e.c.	3.1	0.8
Furniture and fixtures, except household	3.5	2.1
Primary aluminum and aluminum products	1.5	0.2
Fabricated structural metal products	0.2	0.5
Fabricated metal products, n.e.c.	2.0	0.9
Construction, mining, and oilfield machinery	1.5	0.7
Metalworking machinery	0.8	0.4
General industrial machinery	1.4	0.2
Nonelectrical machinery, n.e.c.	3.0	2.4
Computers and peripheral equipment	16.3	5.8
Typewriters and office equipment	5.6	0.2
Service industry machines	2.1	0.8
Electric transmission equipment	2.1	1.0
Radio and communication equipment	6.4	1.9
Electronic components and accessories	11.3	4.2
Electrical machinery and supplies, n.e.c.	3.6	1.9
Durable goods manufacturing—Continued		
Aircraft	1.3	0.3
Ship and boat building and repair	3.1	1.0
Motorcycles, bicycles, and parts	2.0	0.1
Scientific and controlling instruments	4.3	1.9
Medical and dental instruments and supplies	5.5	5.7
Optical and ophthalmic equipment	8.6	1.5
Photographic equipment and supplies	6.0	1.2
Transportation and utilities:		
Trucking and warehousing	2.5	1.7
Air transportation	2.8	2.4
Pipelines, except natural gas	2.0	1.4
Transportation services	4.0	6.1
Radio and television broadcasting	2.6	4.1
Communication, except radio and television	7.5	1.3
Electric utilities, public and private	4.3	2.9
Water and sanitary services	4.3	1.8
Trade:		
Wholesale trade	2.9	2.5
Eating and drinking places	2.5	5.0
Retail trade, except eating and drinking	2.5	1.7
Finance, insurance, and real estate:		
Banking	5.0	3.8
Credit agencies and financial brokers	5.7	4.5
Insurance	3.3	2.4
Real estate	4.5	3.6
Services:		
Hotels and lodging places	2.8	3.9
Personal and repair services	2.0	1.0
Business services	6.8	7.0
Advertising	3.6	3.0
Professional services, n.e.c.	5.7	5.6
Automobile repair and services	2.1	4.2
Motion pictures	5.6	2.2
Amusements and recreation services	6.1	4.2
Doctors' and dentists' services	4.3	5.0
Hospitals	5.3	3.9
Medical services, n.e.c.	5.4	6.8
Educational services	3.2	3.5
Noncommercial and membership organizations	4.0	1.7
Government:		
Local government passenger transit	4.5	5.4
State and local enterprises, n.e.c.	1.8	2.3
General government	1.2	2.0

[1] Based on least squares trend line.

n.e.c. = Not elsewhere classified.

industries, electric and water utilities, trade, finance, and most other service industries have had positive trends in both output and employment during the last 15 years.

Of course, even within services, some industries have not grown as rapidly as others. The biggest gainers in both output and employment were business services and medical services. Personal services and private educational services, in contrast, have posted only moderate growth.

Output gainers and employment losers. In the second category of industries selected in our review process are 37 of the 150 industries in the data base. These industries have experienced real production increases between 1969 and 1984 but have had declining job trends. (See table 5.) This category still could indicate relatively healthy industries, where greater efficiency has allowed more output to be produced with fewer workers. Many of the food processing, textile, chemical, metal products, and industrial machinery industries are on this list, as well as motor vehicles. Demand for these products continued to be strong, but new manufacturing technologies or better use of existing technologies permitted increases in production with less employment.

Output and employment losers. Finally, table 6 shows those industries which have declining trends for both production and employment over the 1969-84 period, 24 in all. Chart 3 graphs that decline for a few of these industries. Most of the industries included in table 6 are those well-recognized as having long-term problems. The steel industry, for example, began its decline long before the last recession. Because of large international wage differentials and the failure to invest in more efficient new technologies, the domestic steel industry lost out to cheaper-priced imports or to substitute materials, especially after the energy crisis in 1973–74 forced transportation equipment manufacturers and others to turn to lighter-weight materials. Other industries on this list of output and employment losers have also faced either declining demand for their products or stiff competition from imports or both, leading to a long-run decline. Included would be some of the mining industries, tobacco, leather products, rubber, wooden containers, metal cans, and watches and clocks.

The troubled industries listed in table 6 lost a combined total of 1.5 million jobs between 1969 and 1984, but of that total, two-fifths was in one industry, the private household industry—and that industry, of course, is not considered part of our industrial base. Of the rest of the troubled industries, blast furnaces and basic steel products dominates in terms of both output and employment lost. The job decline in this industry totaled .3 million between 1969 and 1984, (one-fifth of the total loss for all troubled industries), and production losses were 34 percent. Other industries in table 6 with more than a 20-percent reduction in output over the 15-year span included iron and ferroalloy ores mining, copper ore mining, wooden containers, rubber products except tires, leather tanning and finishing, leather products (mainly shoes), primary nonferrous metals and products, heating equipment and plumbing fixtures, railroad equipment, and watches and clocks. Combined, the troubled industries in table 6 accounted for 6.7 percent of total real production in the economy in 1969, but by 1984 they had declined to only 3.7 percent. For jobs, the share drop was equally sharp—from 6.0 to 3.1 percent. For the manufacturing industries only among the group of output and employment losers, output dropped from a 6.1-percent share in 1969 to 3.4 percent in 1984, and employment from 3.5 to 1.8 percent. Thus, while we have shown that restructuring does not necessarily mean "deindustrialization" or the loss of an industrial base at the macro level, these data clearly isolate a group of individual industries within the manufacturing sector which are in deep trouble.

Table 5. Positive output trend and negative employment trend, average annual rate of change,[1] 1969–84

Industry	Output	Employment
Agriculture:		
Dairy and poultry products	1.0	−4.9
Meat animals and livestock	0.0	−2.9
Cotton	1.9	−8.9
Nondurable goods manufacturing:		
Dairy products	1.6	−2.9
Grain mill products	2.8	−0.1
Bakery products	0.0	−1.6
Confectionery products	3.3	−0.8
Alcoholic beverages	3.1	−1.4
Fabric, yarn, and thread mills	0.6	−2.2
Floor covering mills	3.1	−1.1
Textile mill products, n.e.c.	2.0	−1.8
Hosiery and knit goods	1.1	−1.7
Apparel	1.1	−1.4
Paperboard containers and boxes	1.3	−1.1
Chemical products, n.e.c.	2.2	−0.6
Plastic materials and synthetic rubber	2.3	−1.4
Synthetic fibers	4.0	−2.5
Paints and allied products	1.2	−0.9
Durable goods manufacturing:		
Sawmills and planing mills	0.8	−0.9
Household furniture	1.9	−0.8
Glass	0.6	−0.5
Stone and other mineral products, n.e.c.	1.6	−0.3
Primary copper and copper products	0.1	−1.2
Screw machine products	0.9	−0.6
Cutlery, handtools, and general hardware	0.4	−0.5
Farm and garden machinery	1.0	−0.6
Household appliances	1.5	−1.8
Electric lighting and wiring equipment	0.7	−0.1
Radio and television receiving equipment	5.6	−3.2
Telephone and telegraph apparatus	5.3	−0.5
Motor vehicles	0.9	−0.7
Musical instruments, toys, and sporting goods	3.0	−0.6
Manufactured products, n.e.c.	0.2	−0.5
Transportation and utilities:		
Railroad transportation	0.7	−3.0
Water transportation	2.9	−0.2
Government:		
U.S. Postal Service	2.4	−0.6
Federal enterprises, n.e.c.	3.3	−1.4

[1] Based on least squares trend line.

n.e.c. = Not elsewhere classified.

Table 6. Negative output trend and negative employment trend, average annual rate of change,[1] 1969–84

Industry	Output	Employment
Mining:		
Iron and ferroalloy ores mining	−3.9	−3.1
Copper ore mining	−1.7	−4.1
Stone and clay mining and quarrying	−0.8	−0.7
Nondurable goods manufacturing:		
Sugar	−0.2	−2.3
Tobacco manufacturing	−0.2	−1.4
Tires and inner tubes	−1.3	−1.5
Rubber products except tires and tubes	−3.3	−0.9
Leather tanning and finishing	−2.7	−2.9
Leather products including footwear	−1.8	−3.1
Durable goods manufacturing:		
Wooden containers	−4.1	−5.9
Structural clay products	−1.2	−3.6
Pottery and related products	−0.4	−0.1
Blast furnaces and basic steel products	−2.9	−3.5
Iron and steel foundries and forgings	−1.3	−2.3
Primary nonferrous metals and products, n.e.c.	−1.7	−0.2
Metal cans and containers	−0.6	−2.6
Heating equipment and plumbing fixtures	−1.8	−0.9
Metal stampings	−0.2	−1.3
Materials handling equipment	−0.6	−0.5
Special industry machinery	−2.0	−0.6
Railroad equipment	−5.1	−1.6
Transportation equipment, n.e.c.	−0.8	−2.5
Watches, clocks, and clock-operated devices	−1.7	−4.8
Households:		
Household industry	−3.2	−2.7

[1] Based on least squares trend line.

n.e.c. = Not elsewhere classified.

Recent problem industries. In addition to the long-term declining industries, several other manufacturing industries seem to have been hit especially hard in the 1980–82 recessions and have not recovered previous production or employment levels. Many machinery producers in addition to those listed in table 6 are in this category, along with basic chemicals, construction-related industries, and some textile industries (but not apparel). The construction-related industries showed good output growth in 1984, however, and are on their way to surpassing 1979's peaks. The chemical, textile, and many of the metals and machinery industries also showed gains in 1984 and may be expected to eventually fully recover. The exceptions are nonferrous metal ores mining, petroleum refining, and miscellaneous manufactured products. Demand for these items has not picked up much, and output is still depressed. Also, although all the metal and machinery industries did experience production upturns in 1984, the recovery was weak for many and they are still far from pre-recession levels. Examples not already identified as long-term losers include fabricated structural metal; cutlery and handtools; engines and turbines; farm and garden machinery; construction, mining, and oilfield machinery; electrical transmission equipment; and electrical industrial apparatus. For all of these industries, as well as several on the long-term declining list, production in 1984 was still at least 10 percent below pre-recession levels.

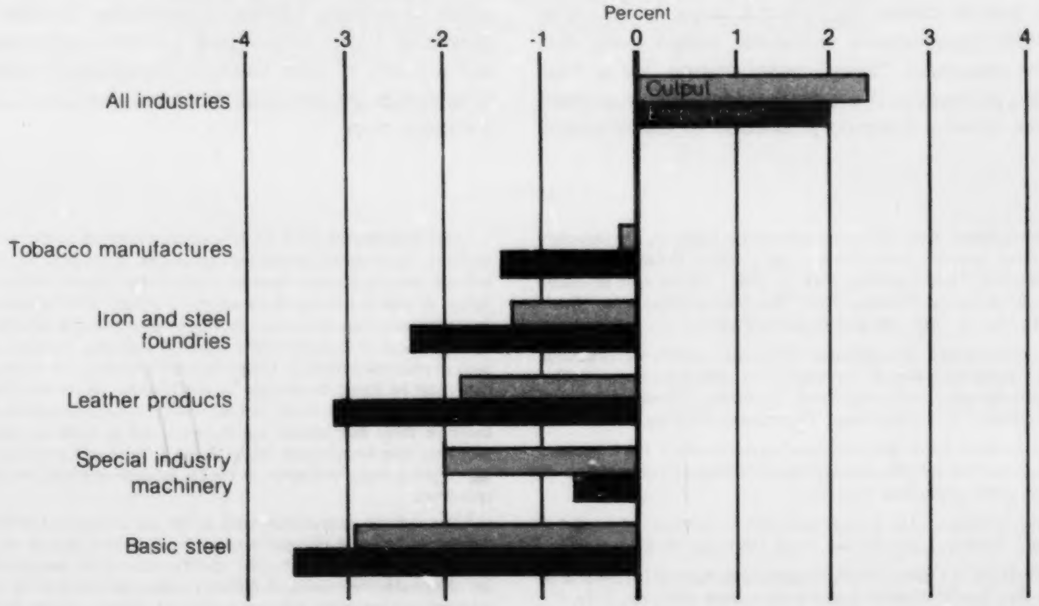
Outlook for the future

BLS projections of output and employment, published in the November 1985 *Monthly Labor Review*, indicate that the goods-producing sector (under the assumptions of the middle projections scenario) is expected to grow in absolute terms in both production and jobs, but to continue to decline as a share of total. The share decline will be more rapid for employment than for output. The goods-producing sector is projected to gain 1.8 million jobs by 1995, but drop from 27.7 percent of all jobs to just 25.6 percent. Production in goods-producing industries, in contrast, is projected to almost keep pace with total output growth, and the decline in the goods-producing share of output will be smaller than for employment.

The decrease in the total employment share projected for the goods-producing sector will be concentrated in agriculture, mining, construction, and nondurable manufacturing industries. Durable goods industries, however, are projected to account for greater shares of both output and employment in 1995, contrary to past trends. This results from the macroeconomic assumptions of strong growth in capital spending for producers' durable equipment, continued increases in defense purchases, and relatively faster growth in exports than in imports of manufactured capital goods as the high value of the dollar continues to fall. Productivity is also projected to increase over the next 10 years, but demand for durable manufacturing products is projected to be high enough to stimulate job growth.

A look at the BLS individual industry projections reinforces the conclusion that the goods-producing sector and manufacturing in particular will not be shrinking in absolute terms. (See table 7.) Among the top 15 fastest-growing employment industries projected, 8 are in manufacturing, and for output, that figure is 11 of 15. The manufacturing industries on these lists of fastest-growing output and employment reflect the assumptions of strong demand for sophisticated capital equipment, medical supplies and drugs, and defense materiel.

Chart 3. Output and job trends, selected long-term declining industries, least squares rate of change, 1969-84



The outlook for the troubled industries identified in table 6 is not so rosy. Some of the industries experiencing long-term loss of markets are projected to continue their decline through 1995. Some small production increases are expected for the steel industry, but only if more efficient technologies are implemented. Employment in steel is projected to drop by more than 20 percent between 1984 and 1995. No production comebacks are anticipated for wooden containers, leather products, tobacco, or the household industry.

Some of the machinery and defense-related sectors on the list, however, are projected to reverse trend and rebound from current low levels. Demand for materials handling equipment is projected to be so strong as to rank that industry among the top 10 in terms of projected output growth. This turnaround is expected to occur as many factories add new, highly engineered, computer-controlled production systems, incorporating industrial robots and automatic material handling.

Table 7. Fastest-growing employment industries and output industries, 1984–95

Industry	Average annual rate of change
Employment	
Medical services, n.e.c.	4.3
Business services	4.2
Computers and peripheral equipment	3.7
Materials handling equipment	3.7
Transportation services	3.5
Professional services, n.e.c.	3.5
Scientific and controlling instruments	2.9
Medical instruments and supplies	2.8
Doctors' and dentists' services	2.6
Plastics products	2.5
Credit agencies and financial brokers	2.5
Amusement and recreation services	2.5
Radio and communication equipment	2.3
Complete guided missiles and space vehicles	2.2
Electronic components and accessories	2.1
Output	
Computers and peripheral equipment	8.4
Electronic components and accessories	7.6
Communications except radio and television	6.6
Telephone and telegraph apparatus	6.0
Complete guided missiles and space vehicles	5.7
Materials handling equipment	5.6
Business services	5.1
Radio and communication equipment	5.0
Scientific and controlling instruments	4.8
Medical instruments and supplies	4.6
Drugs	4.5
Medical services, n.e.c.	4.5
Optical equipment and supplies	4.3
Plastics products	4.3
Amusement and recreation services	4.2

n.e.c. = Not elsewhere classified.

OUR ANALYSIS HAS SHOWN that while there has clearly been a long-term employment shift to the service sector, that shift has for the most part been a relative shift only, and not an absolute one. Only with the last cyclical downturn did the manufacturing sector fail to hold a steady job level. Furthermore, the relative shift to services has been far less pronounced for output than for employment, and manufacturing production has even been growing in absolute levels. While some manufacturing industries clearly have been in a long-term decline, and the 1980–82 recessionary period may have exacerbated their problems, our data indicate that the United States is not losing its industrial base. Most manufacturing industries, indeed many that would be considered "heavy" manufacturing, are at least expanding production, if not employment. Higher productivity has allowed domestic production of manufactured goods to increase without corresponding increases in employment. Future expenditures for new capital equipment and a return to more balanced international currency exchange rates are projected to boost demand for U.S. goods for many years. □

——FOOTNOTES——

[1] See, for example, Barry Bluestone and Bennett Harrison, *The Deindustrialization of America* (Basic Books, Inc., 1982); Robert B. Reich, "Industrial policy," *New Republic*, Mar. 31, 1982; "Do we need an industrial policy?" *Harper's*, February 1985; "The hollow corporation," *Business Week*, Mar. 3, 1986; and numerous other articles.

[2] These conclusions are supported by similar studies of structural change, for example, Robert Z. Lawrence, *Can America Compete?* (The Brookings Institution, 1984); and John E. Cremeans, "Three measures of structural change," U.S. Department of Commerce Working Paper, 1985.

[3] The last year of actual data referenced in this article is 1984, because even though preliminary 1985 employment data were available at time of publication, 1985 output data were not.

[4] Michael Urquhart, "The employment shift to services: where did it come from?" *Monthly Labor Review*, April 1984, pp. 15–22.

[5] Paul O. Flaim and Ellen Sehgal, "Displaced workers of 1979–83: how well have they fared?" *Monthly Labor Review*, June 1985, pp. 3–16.

[6] For a description of the output data and the latest projections, see "Employment Projections for 1995: Data and Methods," BLS Bulletin 2253, March 1986.

[7] One limitation in the type of analysis presented in this article is the difficulty of accurately measuring real output. When possible, real output is based on some physical measure of production, such as units in manufacturing, or tons in mining, or passenger- or freight-miles in transportation. In many cases, however, output data are based on sales or receipts, deflated by a producer or consumer price index, if available. In some industries, such as noncommercial (or nonprofit) establishments, for example, output data must be based on changes in employment. When the data are this limited, any measure of productivity change is very questionable. Presentation of these data should not be interpreted to mean all measurement problems have been solved. Many difficult issues still remain for measuring output in many industries, as well as measuring price changes in those industries.

[8] The industry output data used in the BLS projections system can be defined as "gross duplicated output," because they include not only the value added in each industry but also the value of all intermediate inputs into the production process. A different definition of output, "gross product originating," measures just that portion of industry output that is value added, that is, labor compensation, profits, rents, interest, and indirect business taxes. This latter measure for all industries sums to Gross National Product (GNP).

Gross product originating, or value added, is not used in the BLS model system for several reasons. For one, it is not available for detailed industries. In addition, total or duplicated output is probably a better variable to use in estimating each industry's demand for labor than just the value-added portion of output. Duplicated output can be more closely related to total demand for an industry's products, whether the demand is from final consumers or from intermediate producers.

Gross product originating data can be used to analyze broad sectoral shifts, however, and the results are quite similar to those just described using duplicated output data. Because the former type of data excludes all intermediate products, for each year the percent of total output (or GNP) accounted for by the goods-producing sector is smaller than the percentage based on gross product originating data (which double counts the value of intermediate inputs, more of which are goods than services). However, over time the percentages for both types of data in the goods-producing sector have declined about the same relative amount.

As noted, the goods-producing gross duplicated output share fell from 54.9 percent of total output in 1959 to 46.7 percent in 1984, a loss of 8.2 percentage points. The gross product originating share fell from 37.8 percent to 32.6 percent, or 5.2 percentage points. However, employment fell from 40 to 27.7 percent, a drop of 12.3 percentage points. Thus, no matter which measure of output is used, the shift between goods- and service-producing industries has been considerably less pronounced for output than it has been for employment.

[9] Edwin Dean, Harry Boissevain, and James Thomas, "Productivity and labor cost trends in manufacturing, 12 countries," *Monthly Labor Review*, March 1986, pp. 3–10.

[10] Neal H. Rosenthal, "The shrinking middle class: myth or reality?" *Monthly Labor Review*, March 1985, pp. 3–10.

[11] This analysis is being extended in a Bureau study by Patrick McMahon and John Tschetter, currently underway. Their study reinforces the conclusions of Rosenthal and further examines earnings shifts based on demographic and structural changes.

[12] Richard W. Riche, Daniel E. Hecker, and John U. Burgan, "High-technology today and tomorrow; a small slice of the employment pie," *Monthly Labor Review*, November 1983, pp. 50–58.

A note on communications

The *Monthly Labor Review* welcomes communications that supplement, challenge, or expand on research published in its pages. To be considered for publication, communications should be factual and analytical, not polemical in tone. Communications should be addressed to the Editor-in-Chief, *Monthly Labor Review*, Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C. 20212.

Consumer expenditures: results from the Diary and Interview surveys

Data from the Consumer Expenditure Survey show that urban consumers spent about two-thirds of their total expenditures on food, housing, and transportation

RAYMOND GIESEMAN AND JOHN ROGERS

Historically, the Bureau of Labor Statistics Consumer Expenditure Survey has been of importance largely for its role in periodically revising the Bureau's Consumer Price Index. Results from the survey are used to select new market baskets of goods and services for the CPI, and to determine the relative importance of the items selected. While this remains an important use of the Consumer Expenditure Survey, the increasing demand for more timely information about the spending habits of different kinds of households has expanded the role of the survey, making it an important source of information in its own right.

In the past, the expenditure survey was conducted about every 10 years, the previous one being in 1972–73. However, sharp increases in the costs of energy and housing during the 1970's highlighted the need for timely expenditure data in order to observe consumers' response to these phenomena. The BLS recognized the need for a survey that would provide a continuous flow of data, and began the current survey in 1980. Data from this ongoing survey allow analysts to track expenditures classified by household characteristics over a period of time and to link expenditure changes to changes in economic and social conditions. Among the characteristics by which the expenditures may be classified are: before-tax income, consumer unit size, age of reference person, region of residence, and number of earners.[1]

Data from the 1982–83 Survey of Consumer Expenditures show that urban American consumers spent about two-thirds of their total expenditures on food, housing, and transportation; they spent more than a third of their food dollar on food away from home; and average transportation expenditures increased 7 percent from 1980–81 to 1982–83, despite a 10-percent decline in gasoline expenditures. These are among the results that the Consumer Expenditure Survey provides and that this article describes.

Description of the survey

The expenditure survey consists of two separate components, each with its own questionnaire and sample: a quarterly interview survey in which each of the sampled consumer units reports information to an interviewer every 3 months for five consecutive quarters, and a diary survey in which consumer units are asked to complete a diary of expenses for two consecutive 1-week periods. At the same time, a great deal of information is obtained about the characteristics of the members of the consumer unit. The Interview survey is designed to obtain data on expenditures and income that respondents can be expected to recall for a period of 3 months or longer, such as property or automobile purchases, and those that occur on a regular basis, such as rent, utility bills, or insurance premiums. It is estimated that about 95 percent of expenditures are covered in the Interview survey. The Diary survey obtains data on frequently purchased items such as food and beverages, housekeeping supplies, and so forth, that respondents are less likely to be able to recall over long periods of time. Expenditures incurred away from home overnight or longer are excluded from the Diary survey. Spending on trips is obtained in the Interview survey. To obtain a complete picture of consumer spending, it is necessary to integrate results from both survey components. Data collection for both components of the

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Raymond Gieseman and John Rogers are economists in the Division of Consumer Expenditure Surveys, Bureau of Labor Statistics.

survey is carried out by the Bureau of the Census under contract to the Bureau of Labor Statistics.

Average expenditure levels

Expenditures and income of consumer units classified by five household characteristics—income quintile, age of reference person, region of residence, size of consumer unit, and number of earners—are shown in tables 1 and 2. Table 1 includes Interview survey data and table 2 shows Diary survey data for 1982–83. The tables also include the number of consumer units and average consumer unit size for each class.

The interview data show that expenditures can vary substantially when classified by different consumer unit characteristics. The amount spent for food and housing by consumer units in the highest income quintile was more than three times the amount spent by those in the lowest income quintile. Consumer units with reference persons aged 65 and over spent four times as much on health care as those with reference persons under 25 years of age. Consumer units in the West spent 20 percent more on average for transportation than those in the Northeast, and four-person consumer units spent twice as much on housing as single persons.

Results from the Diary survey show that consumer units in the highest income quintile spent more than 2½ times as much on food at home as the lowest income quintile consumer units, and more than 4½ times as much on food away from home. Consumer units whose reference person was under 25 years of age spent about 38 percent less for food at home than those with reference persons over 65 years of age, but spent 48 percent more for food away from home. Consumer units in the South spent about 11 percent less for food than those in the Northeast.

Budget shares

While actual expenditure levels are revealing to some users, others may find budget shares more appropriate. Budget shares are the portion of total expenditures spent on a component or the portion of an average component expenditure spent on a subcomponent.

For example, the interview data show that the highest income quintile consumer units spent more than three times the amount for food and housing than did those in the lowest quintile, but that amount accounted for only a 44-percent

Table 1. Average annual income and expenditures by selected household characteristics, urban United States, Interview survey, 1982–83

Characteristic	Number of consumer units (thousands)	Income before taxes[1]	Consumer unit size	Expenditures								
				Total	Food and alcoholic beverages	Housing	Apparel and services	Transportation	Health care	Entertainment	Personal insurance and pensions	Other
All consumer units	71,570	$22,702	2.6	$18,892	$3,422	$ 5,784	$1,030	$3,712	$ 822	$ 870	$1,625	$1,628
Income quintile:[1]												
Lowest 20 percent	12,328	4,097	1.8	8,324	1,887	2,980	429	1,231	514	284	191	807
Second 20 percent	12,321	10,611	2.3	12,155	2,529	3,994	612	2,259	807	429	570	954
Third 20 percent	12,373	18,129	2.6	16,733	3,150	5,032	870	3,451	825	710	1,301	1,395
Fourth 20 percent	12,337	28,231	3.0	22,425	3,965	6,466	1,174	4,604	882	1,123	2,347	1,864
Highest 20 percent	12,403	52,267	3.3	35,171	5,302	10,188	2,054	6,950	1,074	1,851	4,548	3,204
Age of reference person:												
Under 25	7,013	11,537	1.8	11,617	2,178	3,410	782	2,623	307	581	722	1,013
25–34	17,210	23,835	2.7	19,271	3,305	6,409	1,071	4,052	547	977	1,724	1,186
35–44	13,028	29,718	3.5	24,296	4,368	7,494	1,428	4,758	753	1,294	2,209	1,991
45–54	10,034	31,198	3.2	24,718	4,473	6,870	1,366	4,991	936	1,075	2,469	2,537
55–64	10,436	24,450	2.4	19,497	3,588	5,374	993	3,656	1,056	799	2,155	1,877
65 and over	13,849	13,583	1.7	12,346	2,421	4,123	515	1,972	1,228	390	401	1,296
Region of residence:												
Northeast	16,236	21,704	2.5	18,038	3,535	5,677	1,002	3,360	758	779	1,354	1,573
Midwest	18,666	22,318	2.6	18,881	3,358	5,731	987	3,667	786	876	1,793	1,683
South	22,833	22,472	2.7	18,444	3,254	5,479	1,033	3,798	863	793	1,645	1,581
West	13,835	24,655	2.5	20,650	3,653	6,484	1,118	4,044	876	1,097	1,685	1,693
Size of consumer unit:												
One person	20,523	13,361	1.0	11,469	2,058	3,827	608	2,046	539	499	775	1,117
Two persons	20,946	23,423	2.0	19,377	3,328	5,909	992	3,851	1,023	850	1,740	1,684
Three persons	11,344	26,970	3.0	21,472	3,816	6,490	1,163	4,367	866	955	2,000	1,813
Four persons	10,726	30,992	4.0	24,959	4,610	7,575	1,473	4,891	858	1,248	2,326	1,979
Five persons	4,801	29,803	5.0	25,656	4,965	7,365	1,437	5,354	926	1,319	2,181	2,110
Six or more persons	3,230	26,086	6.8	23,658	5,080	6,628	1,418	4,735	882	1,142	1,818	1,955
Number of earners:												
One-person consumer units:												
No earner	7,060	7,130	1.0	7,707	1,519	3,107	300	926	756	205	47	846
One earner	13,463	16,400	1.0	13,442	2,341	4,205	770	2,633	425	653	1,156	1,259
Consumer units of two or more persons:												
No earner	7,252	12,278	2.5	12,759	2,854	4,324	542	2,071	1,167	447	161	1,193
One earner	15,059	22,107	3.1	19,289	3,639	6,159	1,054	3,492	948	918	1,504	1,576
Two earners	21,478	30,661	3.1	24,175	4,081	7,301	1,341	5,055	604	1,161	2,565	1,867
Three or more earners	7,260	38,130	4.6	29,556	5,445	7,511	1,742	6,545	1,068	1,383	2,964	2,896

[1] Includes only consumer units providing complete reports of income.

share of their total expenditures, compared with a 58-percent share of the total for those in the lowest quintile. Almost 10 percent of the total expenditures of consumer units with reference persons aged 65 and over were spent on health care, compared with less than 3 percent spent by those with reference persons under 25. The youngest consumer unit class spent 23 percent of their total on transportation, compared with 16 percent spent by the oldest class of consumer units. Food and housing expenditures accounted for a relatively constant share of total expenditures across consumer unit size classes. Single persons spent 51 percent of their total on food and housing, two-person consumer units spent about 48 percent, and shares for other size classes fell within that range.

The diary data show that consumer units spent over a third of their total food dollar on food away from home. The youngest class of consumer units spent about 47 percent of their food dollar on food away from home, compared with only 27 percent for the oldest class.

Food expenditures away from home were also influenced by the number of wage earners in the consumer unit. Single-person consumer units in which the individual was not a wage earner—primarily elderly persons—spent 31 percent of total food expenditures away from home, compared with 58 percent for those in which the individual was a wage earner. Consumer units of two or more persons with no wage earner spent 23 percent of their food budget away from home, compared with 30 percent for those with one earner, and 37 percent for those with two earners.

Income also influences expenditures for food away from home. Consumer units in the lowest income quintile spent 30 percent of their total food expenditures on food away from home, compared with 42 percent for those in the highest quintile. For the middle income quintile, the proportion was about 33 percent.

Aggregate expenditure shares

Some users of expenditure data may be interested in the aggregate amount spent on a component by a particular class of consumer units. Or they may be interested in the portion that amount is of aggregate spending by all consumer units. For such users, aggregate expenditure shares are another

Table 2. Average weekly income and expenditures by selected consumer unit characteristics, urban United States, Diary survey, 1982–83

Characteristic	Number of consumer units (thousands)	Income before taxes[1]	Consumer unit size	Items of expenditure							
				Food, total	Food at home	Food away from home	Alcoholic beverages	Tobacco products and smoking supplies	Personal care products and services	Nonprescription drugs and supplies	Housekeeping supplies
All consumer units	73,145	$418.25	2.5	$55.11	$35.51	$19.60	$ 5.46	$3.24	$4.46	$1.85	$5.44
Income quintile:[1]											
Lowest 20 percent	11,367	72.02	1.7	28.08	19.74	8.34	2.64	2.00	2.35	1.12	2.71
Second 20 percent	11,374	192.77	2.3	41.95	30.01	11.94	3.62	2.79	3.20	1.31	3.92
Third 20 percent	11,380	336.71	2.6	54.39	36.39	18.00	5.29	3.86	4.20	1.90	5.57
Fourth 20 percent	11,387	524.67	2.9	67.86	43.44	24.42	6.48	4.16	5.34	2.41	6.84
Highest 20 percent	11,393	963.90	3.2	91.16	52.99	38.17	10.61	4.22	8.08	2.98	9.37
Age of reference person:											
Under 25	8,467	216.83	1.8	32.33	17.00	15.34	5.11	2.33	2.63	.53	2.43
25–34	16,767	433.90	2.7	54.22	33.20	21.03	6.46	3.07	3.95	1.78	5.02
35–44	13,465	557.63	3.4	71.27	46.01	25.26	6.16	4.16	5.42	1.79	7.00
45–54	9,744	593.87	3.1	74.48	48.78	25.70	6.64	4.41	6.04	2.60	7.43
55–64	10,498	469.42	2.3	59.59	39.28	20.31	5.78	3.81	5.18	2.29	5.97
65 and over	14,203	246.02	1.7	37.80	27.42	10.37	2.80	1.87	3.63	1.96	4.50
Region of residence:											
Northeast	17,307	429.83	2.5	58.48	38.48	20.00	5.58	3.51	4.41	1.67	5.53
Midwest	16,981	394.92	2.6	53.23	34.73	18.50	4.86	3.39	4.45	1.57	6.05
South	21,637	404.44	2.5	52.24	33.30	18.94	5.14	3.18	4.37	1.93	4.86
West	15,219	452.65	2.4	57.68	36.23	21.45	6.54	2.81	4.86	2.32	5.41
Size of consumer unit:											
One person	22,181	239.46	1.0	28.12	13.98	14.14	4.80	1.78	2.60	.93	2.51
Two persons	20,416	451.94	2.0	53.97	33.77	20.20	6.22	3.32	4.97	2.06	5.84
Three persons	12,472	482.58	3.0	62.14	42.62	19.53	5.44	3.90	4.61	2.66	6.06
Four persons	10,626	576.44	4.0	81.21	53.90	27.31	6.30	4.30	6.14	2.43	8.25
Five persons	4,681	535.50	5.0	87.65	63.07	24.58	4.91	4.48	6.13	1.93	7.81
Six or more persons	2,769	496.50	6.7	92.72	71.58	21.14	4.69	5.12	5.69	1.78	8.47
Number of earners:											
One-person consumer units:											
No earner	8,155	128.96	1.0	22.51	15.49	7.03	1.69	1.32	2.51	1.14	2.58
One earner	14,026	298.17	1.0	31.39	13.10	18.28	6.29	2.05	2.65	.80	2.46
Consumer units of two or more persons:											
No earner	7,137	231.60	2.5	45.40	34.98	10.42	2.68	2.42	3.71	1.89	5.25
One earner	16,186	403.35	3.1	62.53	43.96	18.56	4.59	3.54	4.82	2.49	6.57
Two earners	21,216	590.19	3.1	68.16	43.11	25.05	7.16	4.17	5.53	1.96	6.57
Three or more earners	6,424	716.25	4.5	97.25	64.03	33.22	8.15	5.31	7.32	3.06	9.24

[1] Includes only consumer units providing complete reports of income.

way of analyzing the consumer expenditure data.

Aggregate expenditures on a component are determined by multiplying the mean expenditure on that component by the total number of consumer units. The aggregate expenditure share of a class of consumer units is determined by multiplying the class's mean expenditure on the component by the number of consumer units in the class and dividing by the aggregate expenditure. This differs from the budget share of a class of consumer units which is the average amount spent on a component as a portion of the average total expenditures of the class. Even though the class's component budget share may be large, the aggregate expenditure share will be relatively small if the class size is small or the class mean expenditure for the component is low relative to that of other classes. For example, the interview data show that consumer units with reference persons under age 25 spent 23 percent of their average total expenditures on transportation, compared with 20 percent spent by all consumer units. However, because the dollar value of their mean expenditure is low relative to most other classes, the aggregate expenditure share for units in the under-25 class was only about 7 percent of total aggregate transportation expenditures, although they account for 10 percent of the total number of consumer units.

The Diary survey data show that consumer units with reference persons age 65 or over had an aggregate expenditure share for food of 13 percent even though the class made up about 19 percent of the population. When classified by income quintile, each income class has a 20-percent population share (of complete income reporters), but aggregate food expenditure shares varied from 10 percent for consumer units in the lowest quintile to 32 percent for those in the highest quintile.[2] By size of household, one- and two-person households accounted for 43 percent of aggregate food expenditures, but 51 percent of aggregate expenditures for food away from home. By age of reference person, consumer units with reference persons age 65 or over accounted for 21 percent of aggregate expenditures for nonprescription drugs and supplies, compared with 3 percent for consumer units with reference persons under 25.[3]

Per capita expenditures

Average consumer unit size varies by classifications of consumer units according to age of reference person, number of earners, and so forth. It may be useful to also consider per capita expenditures because consumer unit size may contribute to differences in expenditures among classes.

For age classes, mean expenditure levels per consumer unit generally increase with age until they peak in the middle age classes, then decline. However, per capita expenditures show a different pattern. Per capita expenditures for housing are highest, $2,425, for the age class with reference persons age 65 or over, compared with the lowest per capita housing expenditure of $1,894 by consumer units with reference persons under 25.

Data from the Diary survey show that expenditure levels for food at home are highest for age classes with reference persons ages 35 to 44 and 45 to 54. However, the highest per capita expenditures are for those classes with reference persons ages 55 to 64 and 65 or over. Average expenditures for nonprescription drugs and supplies are highest for the class with reference persons ages 45 to 54, but per capita expenditures are highest for the class with reference persons age 65 or over.

Expenditure changes over time

Consumer Expenditure Survey data are used to document changes in the expenditure patterns of American consumers over a period of time. Changes in expenditure patterns can be attributed to such factors as shifts in relative prices and wage rates, changes in tastes and habits, changes in lifestyles, and the availability of new products. Demo-

Table 3. Characteristics and average annual expenditures of urban consumer units, and percent change in consumer expenditures, Interview survey, and Consumer Price Index, 1972–73 and 1982–83[1]

Item	1972–73	1982–83	Percent change: Consumer expenditures	Percent change: CPI-U
Number of consumer units (in thousands)	58,948	70,329	19	—
Consumer unit characteristics:				
Income before taxes[2]	$12,388	$23,027	86	—
Size of consumer unit	2.8	2.6	—	—
Age of reference person	47.1	46.6	—	—
Number in consumer unit:				
Earners	1.3	1.4	—	—
Vehicles	1.8	1.8	—	—
Children under 18	1.0	.7	—	—
Persons 65 and over	.3	.3	—	—
Total expenditures	$9,421	$19,128	103	—
Food	1,675	3,175	90	118
Food at home	1,313	2,238	70	113
Food away from home	362	937	159	130
Alchoholic beverages	89	286	221	76
Housing	2,638	5,869	122	—
Shelter	1,507	3,309	120	—
Owned dwellings	746	1,947	161	—
Rented dwellings	644	1,065	65	[3]89
Other lodging	117	296	153	[3]164
Fuels, utilities, and public services	581	1,512	160	[3]192
Household operations	138	275	99	127
Housefurnishings and equipment	411	773	88	71
Apparel and services	732	1,039	42	56
Transportation	1,762	3,766	114	142
Vehicles	709	1,425	101	[3]130
Gasoline and motor oil	404	1,076	166	232
Other vehicle expenses	540	1,034	91	[3]102
Public transportation	110	231	110	146
Health care	432	834	93	154
Entertainment	389	879	126	88
Personal care services	106	178	68	103
Reading	50	128	156	[3]119
Education	126	257	104	[3]126
Tobacco	131	208	59	98
Miscellaneous	102	274	169	—
Cash contributions	372	586	58	—
Personal insurance and pensions	818	1,651	104	—
Life and other personal insurance	367	262	−29	—
Retirement, pensions, Social Security	451	1,388	208	—

[1] Expenditure categories for 1972–73 were adjusted to correspond with 1982–83 definitions; estimates for 1982–83 exclude students.

[2] Income before taxes is calculated using complete income reporters.

[3] Estimated.

graphic trends such as changes in average family size, age, and earner composition can also affect expenditures. The current, ongoing survey allows users to recognize trends more quickly than was possible in the past, and to identify trends that might have been missed altogether using data that were only infrequently available.

Tables 3 and 4 show Interview and Diary survey results from 1972–73 and 1982–83 and percent changes between the two periods. Also shown are CPI changes. The interview data show that gasoline and motor oil expenditures increased 166 percent from 1972–73 to 1982–83, while total expenditures rose 103 percent. This reflects the large increases in energy costs in the 1970's resulting from oil price increases. While the increase in gasoline and motor oil expenditures was somewhat higher than the increase in total expenditures, it was still well below the 232-percent price rise measured by the CPI. That was the result of consumers modifying their behavior in response to price increases by reducing their gasoline and motor oil consumption, and adjusting their longer term buying habits, as by purchasing more fuel-efficient automobiles.

Table 4. Characteristics and average weekly expenditures of urban consumer units, and percent change in consumer expenditures, Diary survey, and Consumer Price Index, July 1972–June 1974 and 1982–83

Item	July 1972–June 1974	1982–83[1]	Percent change	
			Consumer expenditures	CPI
Number of consumer units (in thousands)	59,159	71,356	—	—
Consumer unit characteristics:				
Income before taxes[2]	$187.46	$427.21	128	—
Size of consumer unit	2.8	2.6	—	—
Age of reference person	47.1	46.4	—	—
Number in consumer unit:				
Earners	1.3	1.3	—	—
Children under 18	.9	.7	—	—
Persons 65 and over	.3	.3	—	—
Average weekly expenditures:				
Food, total	$33.11	$56.16	70	104
Food at home, total	23.79	36.32	53	99
Cereals and bakery products	2.79	4.82	73	118
Meats, poultry, fish, and eggs	9.35	11.55	24	70
Dairy products	3.23	4.90	52	89
Fruits and vegetables	3.48	5.99	72	102
Other food at home	4.93	9.06	84	160
Food away from home	9.32	19.83	113	120
Alcoholic beverages	2.32	5.51	138	72
Tobacco products and smoking supplies	2.19	3.30	51	95
Personal care products and services	2.92	4.53	55	102
Nonprescription drugs and supplies	1.19	1.89	59	103
Housekeeping supplies	2.99	5.55	86	144

[1] Excludes students.

[2] Income before taxes is calculated using complete income reporters.

Although gasoline and motor oil expenditures rose sharply over the decade 1972–73 to 1982–83, they actually decreased by 10 percent from 1980–81 to 1982–83. This recent decline can be attributed to falling prices and conservation measures over that period. These are the kinds of trends that might have been missed had data for 1980–81 not been available.

Diary survey data show that average weekly expenditures for food increased 70 percent between 1972–73 and 1982–83, well below the 104-percent price rise for food measured by the CPI. Expenditures for food away from home increased 113 percent over the period, compared with a more modest increase of 53 percent for food at home. The changes in the expenditure data and the CPI for food away from home were quite similar (113 percent, compared with 120 percent), while there was a sharp difference in the changes for food at home (53 percent, compared with 99 percent).

Between 1972–73 and 1982–83, CPI-measured prices increased more than average expenditures for all food at home categories. Food categories with the largest price increases tended to have the largest expenditure increases. However, prices for meats, poultry, fish, and eggs rose 70 percent, while expenditures for those items rose only 24 percent.

While not presented in this article, expenditure data for specific products and services keep track of the speed with which new products are disseminated. Such data are available on public use tapes. The following tabulation shows mean expenditures from the Interview survey, for selected items:

	1980	*1981*	*1982*	*1983*
VCR	$ 8	$ 10	$ 23	$ 21
Cable TV	31	43	59	79
Child care and babysitting	76	91	91	108

This article has presented some of the ways of analyzing the consumer expenditure data. As speed and efficiency in processing the data improve, the uses of the data and the number of users are expected to multiply. The timeliness of this ongoing survey enhances its application not only in revising the CPI, but also as a valuable information source for public and private analysts examining the relationships of family characteristics, income, and expenditures. ☐

FOOTNOTES

[1] A consumer unit is defined as a single person or group of persons in a sample household, related by blood, marriage, adoption, or other legal arrangement, or who share responsibility for at least two out of three major types of expenses—food, housing, and other expenses.

[2] The distinction between complete and incomplete income reporters is based in general on whether the respondent provided values for major sources of income, such as wages and salaries, self-employment income, and Social Security income. Even complete income reporters may not have provided a full accounting of all income from all sources.

[3] For a more detailed discussion of aggregate expenditure shares, including data tables, see Kirk Kaneer, "Distribution of consumption examined using aggregate expenditure shares," *Monthly Labor Review*, April 1986, pp. 50–53.

BLS area wage surveys will cover more areas

Earnings data for blue- and white-collar occupations will be published for 90 areas instead of the current 70, but about two-thirds of the areas will be surveyed on a 2-year rather than 1-year cycle

LAURA SCOFEA

The Bureau of Labor Statistics will restructure the probability sample of labor markets for its area wage survey program to reflect changes in the number and geographic boundaries of the Nation's metropolitan statistical areas. The new area sample will be phased in over a 4-year period beginning in January 1987, and will contain 90 areas when fully implemented. The 32 largest areas in terms of nonfarm employment will be surveyed annually, and two groups of 29 areas will be surveyed in alternate years.

Currently, 70 areas are surveyed annually. Of these areas, 56 will remain in the program; geographic boundaries, however, will change for 34 of them.

This article gives a brief description of the Bureau's area wage survey program and the changes to be made in the probability sample of areas surveyed. The article covers area wage survey program objectives and program evolution from initial 1947–48 studies of pay for office clerical occupations in 11 large cities. It also describes the metropolitan area concept used in the program, reasons for changes in the area sample, the method for selecting the new sample, and the differences between the old and new area samples.

Program background

The Bureau's area wage survey program is designed to shed light on the level and structure of occupational pay rates within a local labor market by studying occupations common to many industries.[1] The areas surveyed are a representative cross-section of the wide variety of local labor markets found throughout the United States. The surveys, relating to specific payroll periods, focus on pay relationships among occupations, industries, and areas of the country. Successive survey findings are also useful in reviewing pay changes over time.

Using a standard set of job descriptions, the Bureau designs surveys which cover narrowly defined occupations selected from four categories—office clerical (such as secretaries, typists, and accounting clerks); professional and technical (for example, computer programmers and electronics technicians); maintenance, toolroom, and powerplant (maintenance electricians and stationary engineers); and material movement and custodial (order fillers and guards). Estimates of average straight-time hourly or weekly earnings and distributions of workers by their earnings are developed for each of approximately 50 occupations studied. (Fifteen of the occupations—for example, word processors, computer systems analysts, and guards—are divided into two work levels or more.)

In addition, every third year the surveys yield information on the prevalence of provisions for cost-of-living adjustments in pay rates; minimum entrance salaries for inexperienced typists and other inexperienced clerical workers; pay differentials for work on late shifts; work schedules; extent of collective bargaining agreement coverage; holiday, vaca-

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Laura Scofea is an economist in the Division of Occupational Pay and Employee Benefit Levels, Bureau of Labor Statistics.

tion, and other paid leave provisions; and the incidence of health, insurance, retirement, severance pay, and supplemental unemployment benefits. Data typically are developed separately for production and office workers; information on shift pay differentials, however, is restricted to production workers in manufacturing.

Findings for each area wage survey are published in a separate BLS bulletin.[2] To aid in interarea pay comparisons, average area pay levels in four employment groups—office clerical, electronic data processing, skilled maintenance, and unskilled plant jobs—are related to pay levels for all metropolitan areas combined, in index form, that is, all metropolitan area pay levels = 100. Results are published in an annual summary release.[3] Results of the individual surveys, after appropriate weighting to account for areas not surveyed, are also combined to develop pay levels for the narrowly defined occupations in all metropolitan areas combined; separate data are presented for major industry divisions and for four broad geographic regions.[4] Also, special articles appear in the *Monthly Labor Review*, with in-depth analyses of specific survey findings.[5]

The area wage survey program has grown considerably since it started in fiscal year 1948 as part of a restructuring of the Bureau's occupational wage survey activities. That year's surveys provided information on salaries in office clerical occupations in 11 large *cities*. In 1950, the geographic scope of the surveys expanded from cities to the larger metropolitan areas as defined by the U.S. Bureau of the Budget (now the Office of Management and Budget). A year later, professional and technical, maintenance, and custodial and material movement occupations were added.[6]

These developments roughly coincided with the outbreak of the Korean conflict. Resources for area wage surveys were expanded as a result of this emergency in order to provide data for administering wage stabilization policies. During the 1950's, between 11 and 40 areas of various sizes were studied in a given year, with the number depending on resources available for the program.

Current program emerges

In fiscal year 1960, the current program emerged when there was a conversion from studies in judgmentally selected areas to a statistically selected sample of areas chosen to represent all metropolitan areas in the contiguous 48 States. Consequently, findings of individual areas could be combined, after appropriate weighting, to yield national and regional estimates. The sample selected for fiscal 1960 contained 60 areas, representative of the 188 areas then in the scope of the program. A year later, the sample included 80 areas, and gradually grew to 85 areas, representing the 229 areas in scope for 1969.[7]

The major thrust of the 1960's expansion was a need for nationwide estimates of office clerical pay in private industry for use in evaluating Federal white-collar salaries. Data obtained for plant jobs in the individual areas surveyed also were used by the Department of Defense and other agencies in setting pay rates for their blue-collar "wage board" employees.

The most recent change in the program occurred after the Office of Management and Budget made major changes in its list of metropolitan areas, based on results of the 1970 Census of Population. The Bureau selected a new 70-area sample and introduced it in July 1974.[8] These 70 areas will continue as the area sample through December 1986, representing the 262 metropolitan areas (excluding those in Alaska, Hawaii, and Puerto Rico) recognized and defined by the Office of Management and Budget as of February 1974.

Changing metropolitan area definitions

With few exceptions, area wage surveys have been conducted since 1950 in metropolitan areas as defined by the Office of Management and Budget or its predecessor, the Bureau of the Budget.[9] Standard metropolitan area definitions were first developed by the Bureau of the Budget shortly before the 1950 census, primarily to provide a common set of geographic definitions for Federal statistical agencies.

The metropolitan area concept recognizes that large population concentrations often extend beyond the borders of a single city. Under this concept, a metropolitan area consists of one county or more, containing the area's main population center, and may also include adjacent counties that have close economic and social ties to the central counties. (In New England, metropolitan areas are composed of cities and towns rather than counties.) Areas are designated and defined by the Office of Management and Budget based on a set of criteria developed by the interagency Federal Committee on Standard Metropolitan Statistical Areas.

The number of recognized metropolitan areas has grown substantially, from 172 in 1950 to 288 as of January 1, 1980. In part, this growth stems from changes in the criteria for designating metropolitan areas that have been made at the time of each population census since 1950.[10] Although these changes have not significantly altered the basic metropolitan area concept, they have resulted in the recognition of new areas and in changes in the boundaries of existing areas. However, most of the growth in the number of metropolitan areas is the result of population growth and increased urbanization in the United States.

The most recent revision in standards for designating and defining metropolitan areas was published in the *Federal Register* on January 3, 1980.[11] The new standards introduced revised terminology. The existing term, "Standard Metropolitan Statistical Area" (SMSA), was replaced by "Metropolitan Statistical Area" (MSA) and "Primary Metropolitan Statistical Area" (PMSA). Areas such as San Antonio, TX (Bexar, Comal, and Guadalupe Counties), which are not closely related to other metropolitan areas, and are typically surrounded by nonmetropolitan counties, are called MSA's. PMSA's are components of larger "Consolidated Metropolitan Statistical Areas" (CMSA's). For example, Seattle (King and Snohomish Counties) and Tacoma (Pierce County) are PMSA's that jointly form the Seattle–Tacoma, Washington CMSA. CMSA's, not studied in the area wage survey program, have replaced the former "Standard Consolidated Statistical Areas" (SCSA's).

Restructuring the program

Using the new standards and data from the 1980 census, the Office of Management and Budget defined a total of 326 MSA's and PMSA's in the contiguous 48 States, as of October 31, 1984.[12] As a result, BLS' area sample for its area wage surveys became outdated.

A principal consideration in planning for a revised sample of areas was maximizing the usefulness of survey results, given the level of resources available for area wage surveys. The Bureau and its business and labor advisory groups explored three alternatives: (1) a 70-area sample of the 326 metropolitan areas within the scope of the program, each area to be surveyed annually; (2) a 70-area sample of the 155 areas with populations of 250,000 or more, surveyed annually; and (3) a 90-area sample of all 326 areas, the 32 largest areas of the United States to be surveyed annually and two groups of 29 smaller areas each to be surveyed in alternate years. Each of these options, requiring about the same level of resources annually, was designed to represent areas differing in employment size, industrial composition, and geographic location. Provision for probability sampling permitted the development of national and regional estimates each year as in the past.

The third option was chosen because it provides information for the largest number of areas with the resources available. Also, the burden on individual respondents is reduced by rotating between the two groups of 29 areas.

To select the sample of 90 areas, all 326 MSA's and PMSA's as of October 1984 were grouped into 90 statistical "cells." One area in each of the cells was then selected to represent all areas in the cell. The 32 largest areas in terms of nonagricultural employment were the sole occupants of their cells and thus were automatically included in the sample.

The 294 remaining areas were grouped into 58 (90 minus 32) cells according to the following criteria, which are listed in descending order of importance:

- Broad geographic region—Northeast, South, Midwest, and West;
- Similarity of manufacturing industries (with emphasis on similarity of average earnings of production workers);
- Approximate equality of total nonagricultural employment; and
- Boundaries of BLS regional offices.

One area was randomly selected from each cell. An area's chance of selection was proportionate to its share of the total nonagricultural employment in the cell. For example, an area with a quarter of the employment in its cell had a 1-in-4 chance of selection. A statistical technique known as Keyfitzing was used to obtain as much overlap as possible between areas in the current and new samples.[13]

Exhibit 1 shows the result of the 90-area selection. Fifty-six of the areas in the new sample have been surveyed since 1974; 34 have not. Geographic boundaries stayed the same in 22 of the 56 retained areas; in the remaining 34, new boundaries resulted in nonagricultural employment increases or decreases of fewer than 10 percent in 23 areas; between 10 and 20 percent in 8 areas; and decreases of more than 25 percent in Dallas, Huntsville, and San Francisco. (Decreases in Dallas and San Francisco reflect splits of the former Dallas–Fort Worth and San Francisco–Oakland areas. Two counties formerly in the Huntsville, AL, metropolitan area are now nonmetropolitan counties.)

The new sample, reflecting population shifts in the United States, contains a slightly higher proportion of Southern and Western areas than does the current sample. Among the additions to the area wage survey program are Phoenix, AZ, Riverside–San Bernardino, CA, and Tampa–St. Petersburg–Clearwater, FL, which now rank among the 25 most populated areas.

Implementing the new sample

The 90-area sample will be phased into the area wage survey program over a 4-year period, beginning in January 1987. Each year, surveys will be conducted in 61 areas—the 32 largest areas and half of the smaller areas.

In the largest areas, wage and benefit data will be obtained from surveyed establishments through personal visits by BLS field representatives once every 3 years. In the intervening years, collection (primarily by mail or telephone) will be limited to wage information.

The smaller areas will be divided into two groups of 29 areas. The groups will be surveyed in alternating years. Thus, an individual area will be studied twice in a 4-year cycle: a survey of wages and benefits will be conducted by personal visit one year; and a survey of wages only will be conducted by mail and telephone 2 years later.

As new areas enter the program, those no longer in the sample will be dropped. For areas retained in the program, changes in the geographic boundaries of metropolitan areas will be reflected in the year an area is surveyed by personal visit.

Most of the areas to be dropped from the area wage survey program will still be surveyed by BLS, but not as part of its own program. Each year the Bureau conducts about 100 locality wage surveys for the Employment Standards Administration of the U.S. Department of Labor.[14] Results from these surveys are used in administering the Service Contract Act, which sets minimum wages by occupation for employees of firms providing services to the Federal Government. ☐

Exhibit 1. Revised area sample for BLS area wage surveys

Northeast	South	Midwest	West
Areas retained in program			
Boston, MA[1] Buffalo, NY Hartford, CT Nassau–Suffolk, NY[1] Newark, NJ[1] New York, NY[1] Philadelphia, PA–NJ[1] Pittsburgh, PA[1] Portland, ME Poughkeepsie, NY Scranton–Wilkes-Barre, PA[3] Trenton, NJ Worcester, MA York, PA	Atlanta, GA[1] Baltimore, MD[1] Corpus Christi, TX Dallas, TX[1,2] Gainesville, FL Houston, TX[1] Huntsville, AL Jackson, MS Louisville, KY–IN Memphis, TN–AR–MS Miami–Hialeah, FL[1] New Orleans, LA[1] Richmond–Petersburg, VA San Antonio, TX Washington, DC–MD–VA[1]	Chicago, IL[1] Cincinnati, OH–KY–IN[1] Cleveland, OH[1] Columbus, OH Davenport–Rock Island–Moline, IA–IL Detroit, MI[1] Gary–Hammond, IN Indianapolis, IN Kansas City, MO–KS[1] Milwaukee, WI[1] Minneapolis–St. Paul, MN–WI[1] Omaha, NE–IA St. Louis, MO–IL[1] South Bend–Mishawaka, IN Toledo, OH	Anaheim–Santa Ana, CA[1] Billings, MT Denver, CO[1] Fresno, CA Los Angeles–Long Beach, CA[1] Portland, OR Sacramento, CA Salt Lake City–Ogden, UT San Diego, CA[1] San Francisco, CA[1] San Jose, CA[1] Seattle, WA[1]
Areas new to program			
Bergen–Passaic, NJ[1,4] Danbury, CT Lawrence–Haverhill, MA–NH Middlesex–Somerset–Hunterdon, NJ Monmouth–Ocean, NJ Pawtucket–Woonsocket–Attleboro, RI–MA[6] Rochester, NY	Augusta, GA–SC Austin, TX Bradenton, FL Charleston, SC Charlotte–Gastonia–Rock Hill, NC–SC Florence, SC Little Rock–North Little Rock, AR Longview–Marshall, TX Mobile, AL Nashville, TN Orlando, FL San Angelo, TX Shreveport, LA Tampa–St. Petersburg–Clearwater, FL[1] Wilmington, DE–NJ–MD	Appleton–Oshkosh–Neenah, WI Champaign–Urbana–Rantoul, IL Decatur, IL Elkhart–Goshen, IN Joliet, IL Kokomo, IN St. Cloud, MN	Boise City, ID Oakland, CA[1,5] Phoenix, AZ[1] Riverside–San Bernardino, CA Visalia–Tulare–Porterville, CA
Areas dropped from program			
Albany–Schenectady–Troy, NY Paterson–Clifton–Passaic, NJ Providence–Warwick–Pawtucket, RI–MA	Chattanooga, TN–GA Daytona Beach, FL Greensboro–Winston-Salem–High Point, NC Greenville–Spartanburg, SC Jacksonville, FL Norfolk–Virginia Beach–Portsmouth, VA–NC Oklahoma City, OK	Dayton, OH Green Bay, WI Saginaw, MI Wichita, KS	

[1] Surveyed annually. All other areas will be surveyed twice in a 4-year cycle.

[2] Formerly included Fort Worth, TX.

[3] Formerly titled Northeast Pennsylvania.

[4] Formerly included in New York, NY–NJ, and Paterson–Clifton–Passaic, NJ.

[5] Formerly included in San Francisco–Oakland, CA.

[6] Formerly included in Providence–Warwick–Pawtucket, RI–MA.

—FOOTNOTES—

[1] The surveys include establishments in six broad industry divisions: manufacturing; transportation, communication, and other public utilities; wholesale trade; retail trade; finance, insurance, and real estate; and selected services. Major exclusions from the survey are construction, extractive industries, and government. Establishments employing 50 workers or more are included except in the 13 largest areas where the minimum establishment size is 100 workers in manufacturing; transportation, communication, and other public utilities; and retail trade.

[2] See, for example, *Area Wage Survey: New York, New York–New Jersey, Metropolitan Area, May 1985*, Bulletin 3030–32 (Bureau of Labor Statistics, September 1985). Summaries of each of the 70 surveyed areas are also reported in a single volume. See *Area Wage Surveys: Selected Metropolitan Areas, 1984*, Bulletin 3025–72 (Bureau of Labor Statistics, June 1985).

[3] See *Wage Differences Among Metropolitan Areas, 1984*, Summary 85–7 (Bureau of Labor Statistics, June 1985).

[4] See *Occupational Earnings in All Metropolitan Areas, July 1984*, Summary 85–4 (Bureau of Labor Statistics, May 1985).

[5] See, for example, John E. Buckley, "Wage differences among workers in the same job and establishment," *Monthly Labor Review*, March 1985, pp. 11–16. An annual report compares wage levels in the areas surveyed. A more detailed description of the area wage survey program, including a discussion of uses and limitations of survey findings, is in *BLS Handbook of Methods*, Vol. I, Bulletin 2134–1 (Bureau of Labor Statistics, December 1982), pp. 67–73.

[6] Test surveys including blue-collar jobs were conducted successfully in 1949 in six cities.

[7] The program also included surveys in two nonmetropolitan areas—Boise, Idaho, and Burlington, Vermont—located in States without metropolitan areas. In addition, several surveys not part of the regular area program were conducted under contract.

[8] See Virginia L. Ward, "Area sample changes in the area wage survey program," *Monthly Labor Review*, May 1975, pp. 49–50.

[9] The Chicago survey was limited to Cook County and the New York survey to the five boroughs until 1963.

[10] At times, changes have been made between census years.

[11] They are also contained in the *Statistical Reporter*, December 1979, pp. 33–45. For background information, see Federal Committee on Standard Metropolitan Statistical Areas, "Documents Relating to the Metropolitan Statistical Area Classification for the 1980's," *Statistical Reporter*, August 1980, pp. 335–84.

[12] MSA definitions generally do not change except after the decennial census. Each year, however, a few new MSA's may be announced, usually because of population growth.

[13] See Nathan Keyfitz, "Sampling with Probabilities Proportional to Size: Adjusting for Changes in the Probabilities," *Journal of the American Statistical Association*, No. 46, 1951, pp. 105–09.

[14] See, for example, *Area Wage Survey: Fort Wayne, IN, June 1985* (Bureau of Labor Statistics, August 1985).

BLS and Alice Hamilton: pioneers in industrial health

In the early years of the century,
BLS contracted for and published studies
of industrial health and safety;
its most active agent was Alice Hamilton,
'special investigator for industrial diseases'

William T. Moye

In September 1910, Alice Hamilton, chief medical examiner for the Illinois State Commission on Occupational Diseases, was in Brussels attending the International Congress on Occupational Diseases, at which the Belgian delegate dismissed U.S. activities in the field of industrial hygiene with the comment, "Ça n'existe pas [They do not exist]".[1] But that condition had already begun to change, and at the International Congress, Hamilton met Charles P. Neill, Commissioner of Labor, one of the persons primarily responsible for the recent surge in publicity on industrial poisons. Shortly thereafter, Hamilton accepted Neill's proposal that she undertake investigations for the Bureau of Labor, launching a decade of cooperation in which she studied diseases and hazards associated with the lead, explosives, pottery, and dye industries.

Early career

Hamilton was born in New York City in 1869, but was raised in Fort Wayne, IN, one of four sisters with a much younger brother. From her youth, she was determined to be useful. Indeed, at one point, she hoped to become a medical missionary in Persia.[2] In her activities, she was able to combine her medical work with humanitarian services.

Upon graduation from medical school at the University of Michigan in 1893, she worked at hospitals in Minneapolis and Boston before returning to Michigan for graduate work. Then she went to Europe for a year of study, followed by a year at Johns Hopkins. In 1897, she accepted a teaching position in Chicago and made the crucial decision to live at Hull House, a settlement house where she found "an intense and humane concern for people, especially for those who had small chance in this world."[3] There she found activities that married her research interests with social concerns.

During a typhoid epidemic in 1902, Hamilton surveyed homes in the Hull House district, capturing flies around open, undrained privies. When her tests confirmed the presence of the typhoid bacillus, she published the results of her research in the *Journal of the American Medical Association*, and along with other Hull House residents, urged the Chicago Board of Health to clean up the area.[4]

In 1908, Hamilton published her first article on industrial hygiene in *Charities and The Commons*.[5] She had to turn to Great Britain and Europe for information on the subject, "as there is so little available in our own country where we are still too much absorbed in the industrial battle to stop and take stock of the killed and wounded."[6] Later that year, Charles S. Deneen, governor of Illinois, appointed the Illinois Commission on Occupational Diseases—Hamilton and eight men. She served on the commission for about 2 years, resigning to accept the post of medical investigator for the Commission's Survey of Occupational Diseases.

Hamilton later wrote that her visit to European factories in 1911 had been an eye-opener. She had previously thought that U.S. factories provided better working conditions and that American workers enjoyed better health and, therefore, less industrial poisoning. However, after studying the sick-

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William T. Moye, formerly a historian at the Bureau of Labor Statistics, is the command historian at the U.S. Army Laboratory Command.

ness records and dwellings of English and German workers, she realized that she had found "a far larger number of cases" during her Illinois surveys.[7]

According to Hamilton, when she entered the industrial-hygiene field, "You could have counted the published articles on industrial poisoning on the fingers of one hand." Employers eager to improve conditions could find but little advice from medical experts. Many supervisors simply relied on a large floating pool of foreigners and a high labor turnover rate to cut exposure time in hazardous trades.[8]

Efforts at the Bureau

Carroll D. Wright, first chief of the Bureau, had commissioned the first Federal report on industrial hygiene and published it in 1903. But the American awakening came later as part of the national push for social and economic reform known as the "Progressive Movement." Bureau activity in industrial hygiene was further spurred by the assumption of administrative functions under the Federal employees' compensation act of 1908. Neill placed special emphasis on industrial health and safety issues, and the Bureau participated in and encouraged research on these issues.

In 1909, the Bureau cooperated with the American Association for Labor Legislation in examining the effects of white phosphorus in the production of matches. The subsequent report, published by the Bureau in 1910, spurred the introduction of legislation banning phosphorus matches from interstate commerce and eventually resulted in passage of a law placing a heavy tax on such matches.[9]

In accepting Neill's proposal to associate with the Bureau of Labor, Hamilton assumed the title of "special investigator for industrial diseases," producing first "White-Lead Industry in the United States, With an Appendix on the Lead-Oxide Industry." She investigated 23 of the 25 U.S. factories known to manufacture white lead and discovered 358 specific cases of lead poisoning, 16 of them fatal, occurring between January 1910 and April 1911.[10] She then moved on to study problems of lead poisoning in potteries, tile works, and porcelain enameled sanitary ware, as well as in the painters' trade.

Royal Meeker, who succeeded Neill as Commissioner, lauded the results of Hamilton's work, "The studies of lead poisoning, made by the Federal Bureau of Labor Statistics, have induced some of the manufacturers of lead paints, pottery, tile, and storage batteries to eliminate or modify some of the most dangerous processes in their industries which subjected workers to needless hazards from lead poisoning."[11] Meeker wanted the Bureau to become a central clearinghouse, declaring, "This Bureau should be in a position to furnish at any time advice as to the best methods of preventing industrial accidents and occupational diseases."[12]

Hamilton's association with the Bureau continued, focusing first on problems in the lead industries, then the rubber industry, the printing trades, the manufacture of explosives, and the production of aniline dyes. She later wrote of the independence which Meeker allowed her and the support that he gave her: "I look back to my service under him with pleasure and gratitude. He gave me a free hand, but was always ready to help in any difficulty; he never edited my stuff and when nervous manufacturers asked to see it before publication, he would arrange a conference with them, call me in to defend my statements, and stand by me."[13]

Hamilton may have enjoyed the independence and freedom from red tape, but she suffered from a lack of reliable funding. She was employed by the Bureau on a contract, not a salary basis, selling each study for a negotiated amount. The Bureau itself suffered from limited appropriations, prompting Hamilton to write to her sister in 1914, "They are so poor they cannot make a contract with me for an investigation of rubber, but I mean to do it anyway and trust to their making it in July, the new fiscal year."[14] Preferring the freedom and variety afforded by her association with the Bureau, she turned down job offers carrying larger salaries but with more restrictions. However, she did supplement her income by writing articles for *The Survey*.[15]

Early on, Hamilton developed her techniques of "shoe-leather epidemiology." Of her experiences in Illinois, she said, "No one method of investigation can be adopted. One must simply grope and catch at anything which offers the least help." She noted that England and Germany kept official records of workers' sicknesses. By contrast, "In Illinois, one must simply grope again, and one must carefully check up and control every bit of information one gets."[16]

Hamilton's biographer wrote of her procedures: thorough investigation of factories, correlation of illness with specific industrial processes, and compilation of medically diagnosed cases of poisoning. Before heading to the field, she learned the technical side of an industry. Then, she would observe all processes, carefully check hospital and dispensary records, and talk to the workers in their homes and union halls—and saloons, if necessary.[17]

Hamilton wrote her sister of "the risky things one has to do" as part of an investigation of Arizona copper mines: "climb steep ladders down into black holes, or scramble up through low caves on one's hands and knees, or pick one's way over rails laid across a deep dump, or be hauled up a rock that has no foothold." She was 50 years old at the time.[18]

She adamantly defended her work. When one of her early studies was attacked by a company doctor who was also a member of the State board of health as "a striking example of exaggeration, either a false and apparently a malicious and slanderous report, or an erroneous one," Hamilton wrote her superior at the Bureau of her distress. She supported her findings, naming sources and doctors she had interviewed and listing the establishments she had visited.[19]

She readily adopted the Bureau's tradition of objectivity as the best way to ensure the good will of the business community—and, therefore, entrance to the plants, as no Federal law granted entry and businessmen gave access at their own discretion. (She later wrote that she could remember only two large factories refusing her entrance.) She made it a point to discuss her observations and criticisms with plant managers in private consultations.

Some plant managers did try to cover up poor conditions, for example, one lead works in the Middle West. Hamilton described that company's village as "the most depressing industrial community I have ever seen." One woman informed her, "We all knew you was coming. They've been cleaning up for you something fierce. Why, in the room where my husband works, they tore out the ceiling because they couldn't cover up the red lead. And a doctor came and looked at all the men and them that's got lead, forty of them, has got to keep to home the day you're there." When Hamilton told the management of her findings, the company admitted the fraud, showed her the doctor's report, and promised permanent improvements, including regular medical examinations for all employees.[20]

World War I brought new concerns to the fore, and Hamilton surveyed conditions in such war-related industries as munitions and airplace manufacturing. She also studied aniline and other coal-tar dyes, in which U.S. manufacturers were replacing the German products previously imported.[21]

In a 1917 article in *The Survey,* she discussed "a new form of industrial poisoning from the manufacture of airplane wings, which, so it appears, has caused a good deal of trouble in England." The BLS asked her to investigate the kinds of "dope" used to treat the wings of planes manufactured in the United States, and the conditions under which it was applied. She toured 18 factories and reported, "on the whole, my findings were reassuring."[22]

Because of the secrecy surrounding munitions plants, Hamilton herself had to discover where the plants were located and what they produced. For example, her search for picric acid led her to the marshes of New Jersey where she followed the chemical's characteristic fumes to their source, or she would spot the orange- and yellow-stained men, known as "canaries," who would then lead her to the site.[23]

The Bureau participated in joint projects with agencies in the War Labor Administration of the Department of Labor. For the Working Conditions Service, Hamilton chaired a committee of experts studying health problems arising from industrial poisons. The Bureau also worked with the Woman in Industry Service, teaming with the Public Health Service. Both Meeker and Hamilton participated in an investigation of conditions at Niagara Falls, where plants wanted to work women at night to speed deliveries to the military and other war industries, action prohibited by New York State labor law.

Hamilton worked with the Committee on Industrial Diseases, Poisons, and Explosives organized by the Committee on Labor of the Advisory Commission of the Council of National Defense. She also designed studies for the Committee on Industrial Poisons of the National Research Council's Division of Medicine and Related Services.

She was appalled by "the sight of men sickening and dying in the effort to produce something that would wound or kill other men like themselves."[24] However, she chose not to protest the war as conspicuously as she might otherwise so she could keep her job with the Bureau where she could continue to expose hazards and establish protective standards, characterizing her investigations as "a patriotic duty, as a piece of real war work and yet not the destructive side of war but the saving of life."[25]

After the war, Hamilton wrote, "England and France, facing an emergency infinitely greater than ours, took thought to protect their munitions workers, but we did not."[26] As one writer has said, Hamilton cast her lot with those institutions primarily concerned with "workers' welfare, not industrial productivity."[27]

The later years

The Bureau gradually lost control of Federal occupational health programs to the better financed and equipped Public Health Service. Hamilton, so active during the war years, hesitated to return to the peace-time Bureau, saying, "it will be too depressing to go back to general oblivion again."[28]

Fortuitously, during her wartime work, she had met David L. Edsall, dean of the Harvard Medical School, who had launched the first degree program in the United States in industrial hygiene. In 1919, Edsall offered Hamilton an appointment to teach industrial medicine, and she became the first woman on the Harvard faculty.

Edsall wrote the president of Harvard that Hamilton's studies were "unquestionably both more extensive and of finer quality than those of anyone else who has done work of this kind in this country."[29] Hamilton commented, "going to Harvard is very grand. If one could wear it as a decoration, like the Order of the Garter, I would love it."[30]

She worked only part time at Harvard, but she was so active on so many fronts that one writer labeled her "the Tinker Bell of industrial medicine."[31] She contributed articles to the *Journal of Industrial Hygiene*, edited at Harvard. In 1925, she published *Industrial Hygiene in the United States*, the first American textbook in the field, following it in 1934 with *Industrial Toxicology*. Also during that period, several lead companies, at Hamilton's initiative, agreed to fund a 3-year study of lead poisoning to be headed by a Harvard physiologist.[32]

Hamilton helped stimulate Federal action leading to two conferences, one on tetra-ethyl lead in 1925 and the other on radium in 1928. She praised the "informal and extra-legal method" of investigation, conference, and agreement between manufacturers and State and Federal health officials as "the only way a quick and effective reform can be brought about in several different States simultaneously." However, she warned, the method worked only on "a new striking danger which lends itself to newspaper publicity"—not old familiar dangers or newer, less spectacular poisons.[33]

Therefore, she continued to urge passage of adequate compensation laws as "the best preventive measure for industrial diseases," pointing to the powerful influence of insurance companies on employers with excessive numbers of claims because of poor conditions.[34]

Upon retirement from Harvard in 1935, Hamilton returned to the Department of Labor—whose chief was Frances Perkins, a fellow member of the social reform network. In accepting the part-time job as medical consultant to the Division of Labor Standards, she rejected a full-time offer from the BLS rival, the Public Health Service.

As consultant, she conducted surveys, offered advice, attended conferences, testified at hearings, and brought neglected problems to the Department's attention. Her most important work during the period involved a study of poisons in the manufacture of viscose rayon. Years earlier, she had discovered cases of carbon disulphide poisoning arising from the process for vulcanizing rubber. Yet, despite her efforts and considerable European literature on the subject, there had been no systematic investigation in the United States. In the face of industry opposition, Hamilton conducted a survey in Pennsylvania and extended the work to cover nine other States, resulting in *Occupational Poisoning in the Viscose Rayon Industry*, published by the Division of Labor Standards in 1940.[35]

Alice Hamilton died at her home in Hadlyme, Connecticut, September 22, 1970, a few months before the Occupational Safety and Health Act was signed into law. The previous year, on her 100th birthday, President Richard Nixon had praised her "lasting contributions to the well being of our people and of men and women everywhere."[36] ☐

——FOOTNOTES——

NOTE: Information on the Bureau of Labor Statistics comes from BLS files and publications, as well as Department of Labor archives.

Information on Alice Hamilton is based largely on two works: Barbara Sicherman, *Alice Hamilton: A Life in Letters* (Cambridge, MA, Harvard University Press, 1984); and Angela Nugent Young, "Interpreting the Dangerous Trades, Workers' Health in America and the Career of Alice Hamilton, 1910–1935" (Ph.D. dissertation, Department of History, Brown University, 1982).

[1] Alice Hamilton, *Exploring the Dangerous Trades, An Autobiography of Alice Hamilton, M.D.* (Boston, MA, Little, Brown & Co., 1943), p. 128.

[2] Barbara Sicherman, *Alice Hamilton: A Life in Letters* (Cambridge, MA, Harvard University Press, 1984), p. 33.

[3] Elizabeth Shepley Sergeant, "Alice Hamilton, M.D., Crusader for Health in Industry," *Harper's Monthly Magazine*, May 1926, p. 767.

[4] Jane Addams, *Twenty Years at Hull-House* (New York, The Macmillan Co., 1912), pp. 292–98; and Sicherman, *Alice Hamilton: A Life in Letters*, pp. 145–46.

[5] *Charities and The Commons* was published in New York by the Charity Organization Society, which consisted of social reform and settlement house leaders.

[6] Alice Hamilton, "Industrial Diseases, With Special Reference to the Trades in Which Women Are Employed," *Charities and The Commons*, Sept. 5, 1908, p. 655.

[7] Alice Hamilton, "Nineteen Years in the Poisonous Trades," *Harper's Magazine*, October 1929, p. 582.

[8] *Ibid.*, pp. 582–83; Alice Hamilton, "Occupational Diseases," *Proceedings, National Conference of Charities and Correction, 1911*, p. 198; and "Forty Years in the Poisonous Trades," *American Industrial Hygiene Association Quarterly*, March 1948, p. 9.

[9] John B. Andrews, "Phosphorous Poisoning in the Match Industry in the United States," *Bulletin of the Bureau of Labor*, January 1910, pp. 31–140.

[10] Alice Hamilton, "The White-Lead Industry in the United States, with an Appendix on the Lead-Oxide Industry," *Bulletin of the Bureau of Labor*, July 1911, pp. 189–259.

[11] Royal Meeker, "The Why and How of Uniform Industrial Accident Statistics for the United States," *Proceedings, International Association of Industrial Accident Boards and Commissions, 1919*, Bulletin 210 (Bureau of Labor Statistics, 1917), pp. 92–93.

[12] Woodrow Wilson Papers, Library of Congress, Manuscript Division. Royal Meeker to Joseph Tumulty, Feb. 6, 1914.

[13] Hamilton, *Exploring the Dangerous Trades*, p. 129.

[14] Sicherman, *Alice Hamilton, A Life in Letters*, p. 174; and Young, "Interpreting the Dangerous Trades."

[14] Sicherman, *Alice Hamilton, A Life in Letters*, pp. 182–83. *The Survey* grew out of the Pittsburgh survey and was published in New York by Survey Associates, Inc., a group of social reform and settlement house leaders.

[16] Hamilton, "Occupational Diseases," pp. 200–01.

[17] Sicherman, *Alice Hamilton, A Life in Letters*, pp. 166–67.

[18] *Ibid.*, p. 25.

[19] *Ibid.*, pp. 169–72.

[20] Hamilton, "Nineteen Years," pp. 583–84.

[21] For example, see *Industrial Poisons Used or Produced in the Manufacture of Explosives*, Bulletin 219 (Bureau of Labor Statistics, 1917); and *Industrial Poisoning in Making Coal-Tar Dyes and Dye Intermediates*, Bulletin 280 (Bureau of Labor Statistics, 1921).

[22] Alice Hamilton, "Dope Poisoning," *The Survey*, Nov. 17, 1917, p. 168.

[23] Sicherman, *Alice Hamilton, A Life in Letters*, p. 200.

[24] Hamilton, "Nineteen Years," p. 584.

[25] Young, "Interpreting the Dangerous Trades," p. 96.

[26] Hamilton, "Nineteen Years," p. 584.

[27] Young, "Interpreting the Dangerous Trades," pp. 82–83.

[28] *Ibid.*, pp. 42, 84, and 95.

[29] Sicherman, *Alice Hamilton, A Life in Letters*, p. 210.

[30] *Ibid.*, p. 237.

[31] Carey P. McCord, "Alice Hamilton," *Journal of Occupational Medicine*, February 1972, p. 101.

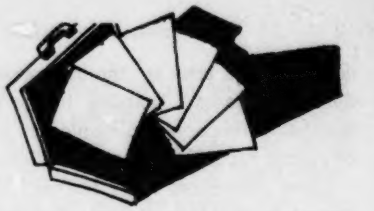
[32] Sicherman, *Alice Hamilton, A Life in Letters*, p. 238.

[33] Hamilton, "Nineteen Years," p. 587; and "Forty Years in the Poisonous Trades," p. 9.

[34] Hamilton comments in *American Federation of Labor Postwar Forum* (Washington, DC, American Federation of Labor, 1944), p. 38.

[35] Alice Hamilton, *Occupational Poisoning in the Viscose Rayon Industry*, Bulletin 34 (U.S. Division of Labor Standards, 1940).

[36] *The New York Times*, Feb. 28, 1969, p. 35.



Conference Papers

The following excerpts, closely related to the work of BLS, are adapted from papers presented at the Thirty-Eighth Annual Meeting of the Industrial Relations Research Association, December 1985, in New York.

The full text of the papers appears in the copyrighted IRRA publication, *Proceedings of the Thirty-Eighth Annual Meetings,* available from IRRA, University of Wisconsin, Social Science Building, Madison, WI 53706.

Labor-market data: supplementary sources

SANFORD M. JACOBY AND DANIEL J.B. MITCHELL

In the past, private organizations and State government agencies attempted to fill some of the statistical gaps left by the Bureau of Labor Statistics. Current evidence suggests that the same tendency still exists: if there is a market for data, some organization often steps in to provide them, either for reasons of public relations, or as a direct item for sale. In addition, State statistical agencies will provide information felt to be useful within their jurisdictions.

To illustrate these sources—and their pitfalls—two areas are discussed below: salary intention surveys and State industrial relations data.[1]

Salary intention surveys

Although it is possible to collect data on expectations and intentions (as the Commerce Department does with regard to plant and equipment expenditures), BLS has not collected data on *planned* pay adjustments. Some information is of potential use to pay setters and to economic forecasters, and some management consulting firms do survey such information.

As an example, data are collected by Hewitt Associates on pay adjustments planned and under way for salaried employees. We compared the Hewitt figures with realized wage adjustments for white-collar workers taken from the Employment Cost Index. It appears that surveyed personnel managers at first underestimated the degree of wage disinflation occurring in the early 1980's, but then stabilized their expectations in line with actual results. Thus, the Hewitt data provide insight into the shift of wage norms that developed during the economic downturn of 1980–82.

Unfortunately, use of salary intention surveys is hindered by the misunderstanding common among personnel managers concerning the cost of "merit" increases. Particularly among nonunion employers, there is often a confusion between the gross and net effects of merit pay awards. In a steady-state situation, a properly operated merit system (in which across-the-board adjustments are segregated from merit awards) should not raise average pay.[2] Yet respondents to the Hewitt and other surveys seem to include gross merit awards in their estimates, thus biasing up the figures by roughly 1 to 2 percent. These upward-biased estimates are then cited, giving a misleading indication of likely wage trends.[3] The merit problem illustrates the more general methodological weakness sometimes associated with private data suppliers.

State industrial relations data

Although some State labor statistics agencies predate the BLS, they have had a much less visible role collecting data in modern times. Often, data available from State agencies are derived from BLS or Census series. But in some States, the agency collects industrial relations data on its own. For example, the California Department of Industrial Relations puts out data on union wage settlements and union membership by industry and region.

It is unlikely, however, that State agencies will quickly fill gaps left by the reduction of BLS data collection. For example, eight States were reported to have issued union membership data during 1984, according to the *Statistical Reference Index*. But closer inspection reveals that all but three (California, South Carolina, and Wyoming) are still reproducing the now-discontinued BLS series from 1978 or 1980. States which collected their own membership prior to the BLS discontinuation continue to do so; the others have not been motivated to undertake the effort.

TO THE EXTENT that a market or a public relations value is perceived for collecting labor market data, private sector organizations often undertake the task. However, general availability of such data for research purposes can be a problem. And problems of methodology (sampling, precise

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Sanford M. Jacoby is an associate professor, Graduate School of Management, University of California at Los Angeles, and Daniel J.B. Mitchell is Director, Institute of Industrial Relations, UCLA. The full title of their IRRA paper is, "Alternative Sources of Labor Market Data."

definitions, technical explanations) are less likely to concern private suppliers than BLS. Private organizations have less authority than a government agency in requesting cooperation with surveys; potential respondents may have concerns about confidentiality and the use to which data will be put; and the users themselves may be less sophisticated than statistical technicians about methodological issues. These factors suggest that private collection—while playing a useful role in data provision—is really a complement to, rather than a substitute for, Federally collected data.

State government statistical bureaus do have a level of authority not found in the private sector. But they have tended to become reliant on breakdowns from Federal data sources for much of their output. And the statistical output which State agencies produce is largely applicable only within their borders. ☐

[1] References to non-BLS data sources can be found in Margaret A. Chaplan, *Labor Statistics: The BLS and Beyond* (Champaign, University of Illinois, 1984), Reprint 322; and Katherine I. Bagin and Kevin P. Barry, *Unexpected Sources of Information in Industrial Relations: A Current Awareness Approach* (Princeton, NJ, Princeton University, Industrial Relations Section, 1984).

[2] Imagine a formal progression plan with a series of defined merit steps. As long as the proportion of employees at each step is constant, the average wage will not change. In the steady state, the number of employees retiring from the top will be offset by those entering from the bottom. Thus, although existing workers may be receiving large merit increases (depending on the gap between steps), the average wage will remain constant. Confusion over this issue is rampant because managers are often given "merit budgets" as a control device to prevent them from finding "too many" employees to be especially meritorious. These merit budgets often are based on gross cost or may include what amounts to across-the-board money designed to raise the average wage. See Arnold R. Weber and Daniel J.B. Mitchell, *The Pay Board's Progress: Wage Controls in Phase II* (Washington, The Brookings Institution, 1978), pp. 89–93.

[3] Hewitt's questionnaire asks respondents to calculate a salary structure increase based on the movement of the midpoint of salary ranges and an average base salary increase. The former is essentially a rate range adjustment and should be free of any merit system "taint." The latter, defined as the increase in the average wage per employee, ought to include only the *net* cost of merit (which in the steady state should be zero). Yet, it is typically 1 to 2 percent higher than the former, suggesting respondents are using a gross cost of merit in their calculations. (When Hewitt asked its respondents in late 1984 whether they were following the precise instructions of the questionnaire, 70 percent said "yes," suggesting that the problem is based on inadvertent misunderstanding of the impact of merit pay.) Unfortunately, it is the base salary increase (and similar estimates from other surveys) that tends to be reported. (See, for example, Audrey Freedman and others, *Labor Outlook 1985* (New York, The Conference Board, 1984), p. 9.

Airline deregulation and labor relations

WILLIAM J. CURTIN

Over the past 6 years, the process of deregulation has placed great stress on the system of industrial relations in the airline industry. Numerous commentators have described the scenario by which deregulation has led to an increase in competition in the product market by encouraging new entrants and by allowing existing carriers to expand their routes. Some of the new entrants have successfully operated on a nonunion basis and, as such, have enjoyed significant cost advantages because of lower wages, lower benefit costs, and less stringent work rules.[1] This, in turn, has created industrial relations pressure on established carriers with unionized operations to seek significant concessions from unions in order to compete with the nonunion entrants.

Professor John T. Dunlop has properly asserted that the industrial relations problems created by deregulation have been exacerbated by the fact that, prior to deregulation, inadequate consideration was given to the question of how deregulation would impact the relevant labor markets and the process of collective bargaining.[2] Initially, the theoretical case for deregulation focused on the need for competition in the product market. Little attention was paid to the fact that collective bargaining in the airline industry traditionally operated as a form of labor market regulation that allowed unions to capture a portion of the monopoly profits generated by regulation of the product market. As a consequence, the disequilibrium that followed the withdrawal of product market regulation was not anticipated.

In examining the impact of deregulation on the airline industry, it is important to remember that much of the process of deregulation occurred during one of the worst economic recessions in recent memory. This economic downturn undoubtedly compounded the industrial relations problems.

Deregulation's early impact

Early in the process of deregulation, the disequilibrium described above presented a severe threat to the traditional economic power of certain airline unions. Additionally, there were events that caused some concern over the continuing viability of the process of collective bargaining under the Railway Labor Act.

The experience at Continental Airlines reinforced these perceptions. On September 24, 1983, Continental, the eighth largest passenger airline in the United States, filed a petition for bankruptcy under Chapter 11 of the Bankruptcy Code. Pursuant to its perceived powers under Chapter 11, Continental unilaterally implemented drastic changes in wages, benefits, and work rules.[3] In response, the Air Line Pilots Association, the International Association of Machinists, and the Union of Flight Attendants went on strike. Although these strikes dragged on for many months, they did not halt Continental's operations and they eventually were discontinued without a restoration of prepetition wages and benefits.

A surprising aspect of the Continental experience was that significant reductions in wages and benefits were imposed unilaterally and outside the traditional process of collective bargaining. To support the assertion that the Continental case was perceived as a threat to the entire process of collec-

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William J. Curtin is a senior partner in the law firm of Morgan, Lewis & Bockius, Washington, DC. The full title of his IRRA paper is "Airline Labor Relations Under Deregulation."

tive bargaining, one only need recall the vigor with which both National Labor Relations Act and Railway Labor Act unions sought Congressional action to amend the Bankruptcy Code to prevent repetitions of the Continental initiative.[4]

Moreover, union setbacks were not limited to bankruptcy context. During late 1983, the Allied Pilots Association, as representative of American Airlines' pilots, agreed to a two-tier wage scale. This scale reduced pay for new hires by nearly 50 percent.[5] In addition, the scales at American did not merge at any set time in the future. New hires remained permanently on a separate and lower scale.[6] In the wake of the American agreement, Eastern, Delta, Western, Republic, and Pan Am also sought concessionary packages.

More recent developments

Recently there have been significant developments in airline labor relations that may indicate a trend toward stabilization. First, it appears that Chapter 11 no longer exists as an easy method to reduce labor costs without undertaking the rigors of concessionary bargaining. In 1984, Congress amended the Bankruptcy Code by adding section 1113, regulating the rejection of collective bargaining agreements.[7] In a review of section 1113, two points are most significant. First, as a prerequisite to the rejection of any collective bargaining agreement, an employer must engage in collective bargaining with its union(s). The new statute specifically requires that an employer seeking rejection must (1) make a proposal to the union; (2) provide the union with information to evaluate that proposal; and (3) engage in good-faith negotiations prior to rejection.[8] Second, if this bargaining is not successful, an employer must seek court approval before unilaterally changing the contract.[9] In short, the type of swift, unilateral action undertaken by Continental Airlines is now impossible.

In addition to these changes in the applicable legal framework, there have been changes in the labor market, particularly for pilots, that would make it very difficult for another carrier to duplicate the coup accomplished by Continental. One of the keys to Continental's success in the face of the Air Line Pilots Association's strike was its ability to hire outside replacements.[10] Today, many airlines are experiencing a shortage of qualified pilot applicants. Indeed, the market is so tight that some carriers have been forced to reduce qualifications and increase pay.[11]

If a carrier were to attempt to reject its collective bargaining agreement in this type of labor market, the Air Line Pilots Association probably would be able to mount a more effective strike effort. Moreover, the recent experience at Wheeling-Pittsburgh[12] suggests that the rejection of a collective bargaining agreement under the Bankruptcy Code may not result in tremendous cost savings if a union is able to conduct an effective strike in the face of that rejection. Therefore, for both legal and economic reasons, it is unlikely that another carrier would be able to duplicate Continental's experience.

Other recent developments in airline bargaining indicate that airline unions may be regaining a measure of their former vigor and that it may become more difficult for carriers to exact cost-saving concessions. For example, since late 1984, the Air Line Pilots Association has undergone something of a transformation. Most significant in this regard is that the international union has attempted to assert greater control over the substance of collective bargaining agreements negotiated by Master Executive Councils, the subordinate Air Line Pilots Association groups existing at each carrier. To this end, the international union has adopted guidelines for crisis or concessionary bargaining.[13] The Association also amended its constitution to give its president the right to approve all pilot contracts before they take effect and to put dissident locals into trusteeship. Finally, the Association has undertaken a program to improve communications with members. During the recent strike at United Airlines, the Air Line Pilots Association engaged in a series of nationwide "teleconferences" to keep pilots informed about the latest developments and to secure support for the strike.

Some time ago, Professor John Dunlop predicted that the significant disruptions in airline labor relations caused by deregulation and concessionary bargaining would be concentrated in a transitional period.[14] The foregoing discussion indicates that the airline industry may be approaching the end of this transitional period and entering a new stage of relative stability. □

[1] See *In re: Continental Airlines Corp.*, No. 83-04019-H2-5, slip. op. at 4 (Bankr. S.D. Tex. Aug. 17, 1984). In addition, some new entrants have cost advantages that are not labor-related, for example, lower overhead due to their ability to use secondary airports. See address by John T. Dunlop, National Academy of Sciences, Transportation Research Board (Jan. 14, 1985) (hereinafter "Dunlop Speech").

[2] See "Dunlop Speech."

[3] For example, Continental decreased average earnings for pilot captains from $90,000 per year to $42,000 per year. Similarly, "hard hours" for captains were increased from 52 to 68 per month. See *In re: Continental Airlines Corp.*, Findings of Fact 30–38.

[4] See *Daily Labor Report*, No. 193, p. A-6 (Oct. 10, 1983).

[5] See *Daily Labor Report*, No. 217, p. A-7 (Nov. 8, 1983).

[6] The system at American Airlines was subsequently changed so that the two tiers of the wage scale merged after 17 years. See "The Pilots Are Finally Throwing Their Weight Around," *Business Week*, Oct. 28, 1985, pp. 36–37.

[7] See 11 U.S.C. § 1113 (1984 supp.).

[8] See *In re: Wheeling-Pittsburgh Steel Corp.*, 50 B.R. 969, 975 (Bankr. W.D. Pa. 1985). It is unlikely that the bargaining requirements under section 1113 will be interpreted to require exhaustion of the procedures under the Railway Labor Act prior to the rejection of a collective bargaining agreement.

[9] See 11 U.S.C. § 1113(f).

[10] See *In re: Continental Airlines Corp.*, No. 83-04019-H2-5, slip. op. at 23; see also Alton K. Marsh, "Continental Luring Passengers With Low Fares, Credit Plans," *Aviation Week*, Nov. 7, 1983, pp. 31–32 (describing hiring efforts by Continental).

[11] The shortage of pilots can be explained by a combination of two factors: (1) major route expansions and (2) a dramatic reduction in military training activities. See *The Wall Street Journal*, Aug. 5, 1985, p. 6.

[12] See *Business Week*, Aug. 5, 1985, pp. 26–27.

[13] See *Business Week*, Dec. 31, 1984, p. 49.

[14] See "Dunlop Speech."

The 1984 postal arbitration: issues surrounding the award

J. JOSEPH LOEWENBERG

The 1984 interest arbitration was the first time that the United States Postal Service (USPS) and its two largest unions, the American Postal Workers Union and the National Association of Letter Carriers, implemented the legislated impasse procedure of the Postal Reorganization Act of 1970 to resolve all economic issues raised in bargaining. As such, it represented a significant development in postal labor relations and resulted in an award for more than 500,000 employees, the largest number of workers involved in a single arbitration in the United States. It also raised questions about standards to be employed in wage-setting and in interest arbitration.

The 1984 negotiations

The 1984 postal negotiations were the first postal labor talks since the air traffic controllers' strike of 1981. The tone for the negotiations was set by a policy statement issued by the Board of Governors of USPS 2 weeks before the initial bargaining meeting which found that postal workers' compensation exceeded that of comparable private-sector employees and which therefore directed USPS management "to seek correction of this situation."[1] The mandate of the Board was reflected in management's economic proposals which included a two-tier wage structure, with the scale for new hires 33 percent below the current base.

The unions' Joint Bargaining Committee (JBC) believed that the USPS proposal was regressive and unwarranted by the economic success of USPS. Postal volume had continued to climb in spite of rate hikes and of doomsayers who had predicted a decline in hard mail copy. Annual productivity had also increased beyond that in the private sector in 7 of the last 10 years. USPS had accumulated more than $1.5 billion in surplus in 3 successive years, even though congressional subsidies had ended. Moreover, the unions claimed that employees had received an overly modest economic settlement in the 1981 agreement. JBC wanted significant improvements in wages and benefits.

Negotiations were unsuccessful. Impasse procedures were initiated. Another attempt at negotiations proved no more successful than the earlier one, leading the parties to mandated binding arbitration.

Interest arbitration

The statutory arbitration format is a three-member panel, with each party choosing one member and those two selecting a third; if the two are unable to agree, the director of the Federal Mediation and Conciliation Service designates the impartial neutral. The tripartite panel has 45 days in which to issue its award. In 1984, the statutory scheme was complicated by the presence of a joint bargaining team of two unions and by a time frame much shorter than the statute envisioned. The parties eventually agreed on a five-member panel: each union would nominate a member to the panel; USPS would nominate two members to balance the union representation; and one impartial chairman would be selected. Each representative arbitrator would cast a half vote; the chairman would be entitled to a full vote. The impartial chairman was Clark Kerr, an arbitrator and former chancellor of the University of California at Berkeley. The deadline for the arbitration award according to the statutory timetable was December 25. The hearings began December 11 and concluded on December 19.

The central question addressed by the parties during the arbitration hearings was the interpretation of Section 1003 of the Postal Reorganization Act of 1970:

> It shall be the policy of the Postal Service to maintain compensation and benefits for all officers and employees on a standard of comparability to the compensation and benefits paid for comparable levels of work in the private sector of the economy.

To demonstrate that postal employees were paid a premium over comparable private-sector employees, USPS presented expert witnesses to testify on econometric studies, job evaluation studies, occupational wage surveys, and package industry wage surveys. JBC denied that the statutory mandate should be the sole criterion guiding the arbitrators, but was willing to present evidence to counter that presented by USPS.

The key witnesses were Michael Wachter for USPS and Joel Popkin for JBC. Their testimony centered on the validity of their respective econometric studies about the existence and size of a premium of postal wages over private sector wages and about the applicability or utility of their findings to collective bargaining.[2] The importance attached to these witnesses and an unusual departure from typical arbitration hearing procedure was, following their testimony, a joint seminar before the arbitration panel to allow Wachter and Popkin to discuss their studies, point out areas of agreement, and challenge each other on areas of disagreement.

Wachter asked the research question, "What wage would a postal employee get in alternative sources of employment?" and concluded that USPS paid a premium of 19.8 percent over the private sector. If only the wages of unionized workers in the private sector were used as a comparison, the wage premium for postal employees would still be 12.2 percent. Wachter validated his results by looking at the large number of applicants for postal jobs, low quit rates, lack of unemployment, and a comparison of wages of new hires as postal mail handlers and material handlers in private industry.

Popkin noted that 20.5 percent of represented employees were nonwhite and 27 percent were women. He hypothesized that private industry discriminated in setting wages,

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J. Joseph Loewenberg is professor of industrial relations, Temple University. The title of his full IRRA paper is "What's 13 Billion Among Friends? The 1984 Postal Arbitration."

particularly against female and nonwhite employees performing work similar to that of white men. Given that USPS was not a discriminatory employer, the white-male wage comparison was the appropriate one for determining comparability. The addition of race and sex variables in the regression analysis accounted for the major portion of postal-private sector wage differentials. In addition, Popkin included variables for firm size, proportion of industry unionized, and tenure in current job, all of which had been shown to affect wage levels. He found no statistical significance between the wages of white men in USPS and those of white men comparably situated in the private sector.

The arbitration award provided for a 3-year agreement retroactive to July 20, 1984. The award increased the salaries in the current wage schedule by 2.7 percent annually for incumbent employees. New employees in the first seven grades would start at steps below those currently in the wage schedule: three new steps for grades 1–3 and two new steps for grades 4–7. The time for a newly hired employee to reach step 1 of the 1981-84 wage scale would be 272 weeks for grades 1–3, 184 weeks for grade 4, and 140 weeks for grades 5–7. To reach the top of scale would require from 13 years in grades 1–3 to 10.5 years in grades 5–7. The award added a new step at the top of the grade 8 wage scale and two new steps at the top of the wage scales for grades 9 and 10. The COLA formula and times of computation were maintained. COLA accumulated under the 1981-84 agreement would be rolled into the basic salary schedule in October 1987, except that employees eligible for retirement by 1990 could elect an earlier roll-in. Martin Luther King Day was added as a holiday beginning in 1986. The uniform allowance was increased 10 percent. No change was awarded in leave, benefit plans, and premium pay provisions. It was estimated that the award would add approximately $4 billion in postal costs.[3] Kerr explained the basis for the award:

> This award reflects a policy of "moderate restraint" . . . . This award interprets moderate restraint as a slowing of wage increases, as against the private sector, by 1 percent a year or for 3 percent in total over the life of this agreement.[4]

Issues raised

The 1984 postal arbitration raised fundamental questions about the interpretation of statutory provisions for wage-setting in USPS, the relative roles of these provisions and collective bargaining, and the criteria to be used by arbitrators. The issues were identified and discussed; all were not answered clearly.

Several aspects of Section 1003 of the Postal Reorganization Act may be ambiguous. First, the provision calls for USPS "to maintain" comparable compensation and benefits. Does this suggest a minimum, a general guide, or an absolute standard for setting compensation? As might be expected, JBC argued the first approach, while USPS adopted the last one. Second, what is the base period for comparisons? Wachter advocated 1969 because that was the last year before postal reorganization was discussed seriously by the Congress. Counsel for USPS used 1970 on the ground that the Congress awarded postal employees wage raises following the end of the 1970 strike to establish comparable rates. The unions adopted 1971 since that was the first time the parties bargained collectively and interpreted freely the meaning of the statutory language. The choice of a base period for comparisons affects the results, especially because postal wages rose significantly between 1969 and 1971. Third, how does one define "comparable levels of work in the private sector of the economy?" The USPS utilized a broad, all-inclusive definition to measure comparability. The unions preferred a more limited definition for comparative purposes.

Even if these thorny issues regarding interpretation of Section 1003 could be resolved, the question remains of the significance of the statutory standards for collective bargaining. Congress granted postal employees the right to bargain collectively on wages, hours, and conditions of employment. If wages were determined by an agreed-upon definition of comparability, what would remain for the negotiation of wages? Collective bargaining would then be subordinated to the interpretation of Section 1003 promoted by USPS at the arbitration hearings.

For the arbitrators, the issue was further compounded by that of appropriate arbitral standards. The USPS contended that comparability was the sole standard before the panel. The unions argued for a more flexible approach, suggesting that the arbitrators refer to past collective bargaining settlements between the parties as a guide in their decision. The award also raised additional questions. If postal employees had gained a premium of the amount suggested by Wachter, what reason could there have been to award incumbent employees any wage increase, let alone one more generous than the parties had negotiated in their prior agreement? How are the parties to interpret these results in future negotiations? And is it simply coincidental that the cost of the award was $4 billion, the same as that of the 1981–84 agreement and the amount USPS projected in its filings with the Postal Rate Commission earlier in 1984?

It is easier to raise questions than to fashion interest arbitration awards. Issuing an interest award 5 days after the end of hearings is an accomplishment. The Kerr panel indicated some directions, provided solace to the parties, and carefully avoided direct answers to fundamental questions. While neither side achieved all it had sought, each could live with the result. Perhaps no more should be expected from interest arbitration. □

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[1] Bureau of National Affairs, *Government Employment Relations*, No. 1058 (Washington, Apr. 9, 1984), p. 685.

[2] For earlier studies, see Michael Asher and Joel Popkin, "The Effect of Gender and Race Differentials of Public-Private Wage Comparisons: A Study of Postal Workers," *Industrial and Labor Relations Review*, October 1984, pp. 16–25; and Jeffrey M. Perloff and Michael L. Wachter, "Wage Comparability in the U.S. Postal Service," *Industrial and Labor Relations Review*, October 1984, pp. 26–35.

[3] Bureau of National Affairs, *Government Employment Relations Report*, No. 1095 (Washington, Dec. 31, 1984), p. 2329.

[4] "Arbitration Opinion and Award, U.S. Postal Service and National Association of Letter Carriers and American Postal Workers Union," Dec. 24, 1984, pp. 20–21.

Union membership trends: a study of the Garment Workers

SHULAMIT KAHN

Aggregation obscures. When union growth and contraction are studied on the national level, many systematic influences on union growth within particular industries are lost. This is both because union membership's sensitivity to these influences differs widely among industries, and because changes in the influencing factors are often distributed very unevenly among industries.

One factor that will be particularly difficult to consider on a nationally aggregated level is imports. Imports have been blamed for the last decade's sharply decreasing unionization rate. To evaluate this assertion empirically, it is necessary to study the impact of imports in particular industries rather than the impact of the overall U.S. balance of trade on the national unionization rate. A related reason to study union changes within specific industries is to separate the two kinds of factors that influence aggregate union membership: changes in the size of heavily unionized industries versus the strength of the unions within the industries.

This paper studies changes in the size of one specific industry and union, the International Ladies' Garment Workers' Union (ILGWU). The ILGWU is a mature union both with regard to age and waning strength, and is located in an industry undergoing many changes that have weakened the union's position. Membership in the ILGWU has decreased sharply since 1970, both absolutely and as a percentage of industry employment.

Modeling membership in the ILGWU

Econometric studies of aggregate union membership began with Orley Ashenfelter and John H. Pencavel's seminal 1969 paper,[1] which considered the impact of both economic and political factors. Numerous subsequent studies attempt to test this model and to increase explanatory power by changing both the dependent and independent variables. Do these aggregate models explain ILGWU membership adequately?

Equation 1 of table 1 replicates for the ILGWU a model similar to Ashenfelter and Pencavel's, but incorporates some modifications from the later literature.[2] The period covered is limited to post-1950, because of data availability.[3] In equation 1, the rate of change in ILGWU membership is modeled as a function of: a) the rate of change in the Consumer Price Index (PCCPI); b) separate variables for the percentage increases (UP) and decreases (UN) in the nondurable manufacturing unemployment rate[4]; c) the density or saturation of the industry (lagged 1 year),[5] measured as the inverse of the level of union density, or [ILGWU membership/employment in the women's apparel industry]$^{-1}$; and, d) a political variable, DEMOC, the percent of Democrats in the House of Representatives.

Because equation 1 exhibits substantial serial correlation, the Cochrane-Orcutt technique was used to correct for first-order autocorrelation.[6] The reestimated version appears as equation 2.

Neither model explains a large proportion of the changes in ILGWU membership, with adjusted R^2's of 30 percent and 43 percent, respectively. In contrast, the Ashenfelter-Pencavel model and other subsequent studies of aggregate union growth explained as much as 75 percent of the 20th century variation in U.S. union membership. Possible reasons for the relative success of the latter models are presented in the paper from which this discussion is excerpted.

We can explain far more of the growth in ILGWU membership by including other industry-specific factors in the equation. To this end, the results of several alternative models of

Table 1. Results of regression analysis of Ladies' Garment Workers' Union membership, 1953–81

Independent variables[1]	Dependent variable and equation number					
	%CMEM					C%CEM
	1[2,3]	2[3]	3	4	5	6
CONSTANT . . .	0.062 (0.82)	0.076 (1.44)	−0.170 (−1.59)	−0.106 (−2.58)	−0.112 (−2.93)	−0.065 (−2.01)
UP	−0.0011 (−2.02)	−0.0010 (−2.11)	−0.0020 (−3.34)	−0.002 (−4.20)	−0.002 (−4.59)	−0.0016 (−4.20)
UN	0.0002 (0.39)	0.0001 (0.20)	0.0008 (1.43)	0.0008 (1.53)	0.0007 (1.44)	0.0005 (1.40)
PCEMP	−0.036 (−0.29)	−0.009 (−0.09)	−0.068 (−0.38)	−0.153 (−1.26)	−0.112 (−1.18)	−0.926 (−11.76)
$\text{PCCPI}_{(-1)}$	−0.403 (−1.86)	−0.412 (−2.63)	0.298 (0.85)	0.317 (0.93)	—	—
$\text{PCCPI}_{(-2)}$	—	—	−0.264 (−0.84)	−0.267 (−0.89)	—	—
$\text{DENSITY}_{(-1)}$ . .	−0.003 (−0.05)	−0.026 (−0.73)	0.056 (0.85)	—	—	—
DEMOC	−0.0007 (−0.68)	−0.0005 (−0.65)	0.0002 (0.23)	—	—	—
$\text{IMPORTS}_{(-1)}$.	—	—	−0.492 (−2.34)	−0.354 (−3.34)	−0.373 (−4.84)	−0.216 (−3.28)
$\text{K/L}_{(-1)}$	—	—	0.638 (3.06)	0.609 (3.20)	0.655 (3.80)	0.368 (2.53)
$\text{LC/TC}_{(-1)}$	—	—	1.452 (2.66)	1.607 (3.18)	1.660 (3.47)	1.026 (2.54)
$\text{PCNW}_{(-1)}$	—	—	−0.476 (−1.47)	−0.545 (−1.80)	—	—
$\text{PCNW}_{(-2)}$	—	—	0.472 (1.45)	0.544 (1.94)	—	—
$\text{PCRW}_{(-1)}$	—	—	—	—	−0.495 (−1.77)	−0.308 (−1.33)
$\text{PCRW}_{(-2)}$	—	—	—	—	0.431 (1.97)	0.215 (1.17)
Adjusted R^2 . . .	.30	.43	.64	.66	.69	.87
Durbin-Watson statistic	2.78	2.54	2.51	2.59	2.69	2.57

[1] Subscript indicates number of periods for which the variable is lagged.

[2] Equation 1 is not corrected for first-order autocorrelation.

[3] Results pertain to the period 1951–81.

NOTE: t statistics in parentheses.

Shulamit Kahn is assistant professor of economics at the University of California, Irvine. Her full IRRA paper is entitled, "Trends in Union Membership in the Postwar Period: The Case of the ILGWU."

ILGWU union membership also are presented in table 1. There are two versions of the dependent variable: the first is the percentage change in union membership (%CMEM), which is used by most aggregate time series models; the alternative is the change in the percentage of all (production) workers in the female garment industry who are unionized (C%MEM). The latter is conceptually a better measure of the unionization of the industry, because it focuses on the percentage of the industry unionized. However, movements in this variable are generally caused by short-term cyclical shocks in the denominator, the employment level, which varies more than union membership. Therefore, because C%MEM may simply be measuring movements in employment, I concentrate on the alternative dependent variable, %CMEM. The models reported also differ in the explanatory variables included. (All of the alternative versions correct for first-order serial correlation.)

Of central interest here are the explanatory variables that do not appear in studies of aggregate time series union growth and are expected to affect the elasticity of demand for labor in the ladies' garment industry. The first of these is the level of imports, which is claimed to affect unionization adversely. Imports are measured as the ratio of clothing imports to the total value added in the U.S. apparel manufacturing industry, lagged 1 year to avoid simultaneity problems. All of the model specifications corroborate the widely held perception that foreign competition has substantially weakened the ILGWU. The coefficient on IMPORTS is large and statistically significant in all equations. Indeed, if *only* imports are included in the regression, 25 percent of the variance in the change in union membership is explained.

A second factor that can weaken unions is the substitutability of capital for labor. There is no straightforward way to measure this substitutability. However, the capital/labor ratio may indicate future opportunities for substitution, because if the capital/labor ratio is already high, future capital substitutability is not a substantial threat. Thus, the capital/labor ratio is expected to be positively correlated with union membership. The variable used to measure the capital/labor ratio, K/L, is the lagged change in the capital stock of the industry divided by the employment level.[7] The expected positive relationship is confirmed by all model specifications.

A third factor that should affect the elasticity of demand for labor, and thereby have an influence on union strength, is the ratio of labor costs to total costs. Unions have more strength when the demand for their labor is inelastic, and a smaller ratio of labor costs to total costs is one factor that leads to inelastic demand for labor. Therefore, we expect a negative relationship between the (lagged) ratio of labor costs to total cost (LC/TC) and union membership. However, the empirical results measure a significant positive relationship. One possible explanation for this result is that firms may hire more workers when they anticipate that union strength may be growing, in order to dilute union gains.[8] Alternatively, the LC/TC variable may be measuring an unemployment effect in the apparel industry that is not already being captured by the less specific nondurable manufacturing unemployment rate variables.

Equation 3 also includes all variables in the Ashenfelter-Pencavel model. As in the simpler specifications, a positive increase in unemployment rates consistently causes ILGWU membership to fall, while decreases are never significant. Increases in unemployment rates deter unionization both because workers are concerned about being laid off in the downturn and because they realize that the chances of finding a job if laid off are lower when unemployment rates are higher.

The sign on the lagged saturation (or density) variable used by Ashenfelter-Pencavel, defined above, is positive as expected, but not significant at any conventional level. Both because of the insignificant result and because there are theoretical problems in using and interpreting this variable, which is basically a lagged version of the dependent variable (percent unionized), it was not included in subsequent specifications. The Democratic percentage of the House has no effect on ILGWU membership, so it too was dropped from further specifications.

As in many of the aggregate time series studies, a measure of actual wage levels (in women's outerwear) was included. The variable PCNW denotes percentage change in the nominal wage in the industry, while PCRW is the percent change in the real wage. In specifications 3 and 4, nominal wages and prices are included in the specification separately, allowing nominal and real wages to have differing effects. In specifications 5 and 6, only real wages appear, thus constraining nominal wages to have no separate effect. This constraint cannot be rejected, that is, real wages are the only wage variable that significantly affects ILGWU size.

Both definitions of wages are lagged to avoid measuring the direct effect of unionization on workers' wages. Rising prices erode workers' earning power and are expected to create incentives to unionize; falling wages in the apparel industry may have the same effect. However, in a heavily unionized industry, falling wages may indicate that the union has not been successful in achieving its goals, and inhibit further unionization. In fact, results in specifications 3 through 6 weakly indicate that last year's wages may be negatively related to union membership change, while wages 2 years ago may be positively related. (Recall that with the degrees of freedom in the model, for .95 significance the t statistic must be larger than 2.1.)

The percentage change in industry employment, PCEMP, has a different interpretation and expected sign with the two different dependent variables. When %CMEM, the percentage change in union membership, is the dependent variable, the change in employment measures the increase in potential membership. It is expected to have a positive sign, yet is insignificantly different from zero in specifications 1 through 5. Other specifications not reported in table 1 also included a 1-year lagged percentage change in industry employment, or $\text{PCEMP}_{(-1)}$; this coefficient was also indistinguishable from zero at any conventional significance level. These results suggest that during the postwar period, increases and subsequent decreases of ILGWU membership were not affected by changes in the available pool of unionizable workers. People entering the industry did not immediately enter the union, and new plants were not immediately organized. Instead, the size of the membership depended completely on prospects for the union's bargaining strength.

In equation 6, the dependent varible is C%MEM, the change in the percentage of the industry unionized. This equation includes the independent variable PCEMP, percentage change in industry employment, to capture changes in the denominator of C%MEM caused by short-term fluctuations in the employment level. The sign, as expected, is negative—that is, higher industry employment increases the denominator of the dependent variable. ☐

[1] Orley Ashenfelter and John H. Pencavel, "American Trade Union Growth: 1900–1960," *Quarterly Journal of Economics*, August 1969, pp. 434–48.

[2] See, for example, Jack Fiorito and Charles R. Greer, "Determinants of U.S. Unionism: Past Research and Future Needs," *Industrial Relations*, Winter 1982, pp. 1–19.

[3] The lack of prewar data for individual industries is a major drawback in moving to a disaggregated level to study union membership. It cannot be presumed that the model developed here would necessarily predict the prewar growth of the ILGWU.

[4] This variation on the Ashenfelter-Pencavel model was introduced in Farouk Elsheikh and George S. Bain, "American Trade Union Growth: An Alternative Model, *Industrial Relations*, February 1978, pp. 75–79.

[5] The structure of this variable follows the Ashenfelter-Pencavel variable.

[6] For a discussion of this technique, see J. Johnston, *Econometric Methods*, 3rd edition (New York, McGraw-Hill, 1984).

[7] The exact measure is new capital expenditures on machines and equipment in women's outwear, deflated by the GNP deflator for nonresidential fixed investment in producers' durable equipment and divided by employment in the women's outerwear industry.

[8] See William T. Dickens, "Wages, Employment, and the Threat of Collective Action by Workers," paper presented at the North American Meeting of the Econometric Society, December 1984.

Labor market segmentation in Japan: how rigid is it?

KOJI TAIRA

In Japan, segmentation largely refers to two sets of firms, large and small, rather than to two sets of jobs, primary and secondary, as in the United States. The size of a firm in Japan is an unusually powerful factor that makes firms and employees behave differently. These differences are observable in all aspects of management, technology, and human resource utilization. Large firms are characterized by elaborate rules, procedures, and processes of "internal labor markets." They can therefore be considered constituting an "internal labor-market sector." This syndrome is entrenched in firms large enough to employ 1,000 or more workers; however it may begin to appear in firms with 500 or so employees. Five or six hundred workers are considered about the maximum size of work force that an owner-manager or a general manager can personally manage.

Three distinct features of employment practices in the internal labor-market sector are already well-known: lifetime employment, seniority wages, and enterprise-based and -confined labor unions. Quantitatively, firms in this sector show a higher degree of employment security and a more powerful role of the length of service as a wage determining factor than their U.S. counterparts. The prominence of the sector relative to the rest of the economy may be seen from more pronounced productivity and wage differentials by size of firm in Japan than in the United States (manufacturing census figures). These defining characteristics of labor market segmentation are not free of controversy, but a brief look at past events would leave far less doubt for Japan than for the United States about the plausibility of labor market segmentation as a real phenomenon.

Japan in 1920 was one of the five leading powers of the world. Its development was certainly that of a market economy, though with State guidance and participation. However, it was not yet a full-fledged "capitalist" development: the tardy growth of the labor market limited the growth of a proletariat much needed for exploitation by the capitalists. Japan's difficulty in generating a proletariat appropriate to a capitalist economy was attributed in large part to the nature of Japan's absolutist state under the imperial Constitution (1889–1947) as a family system, "meaning a [state] system of legal and political organization whereby the family is the major unit of social organization, is a legal personality in which property rights and duties are vested, and is represented externally by a family head who exercises wide powers of control over family members."

Before the Second World War, many large Japanese firms were family-owned or controlled. Their organizational form was *Zaibatsu*, a conglomerate of diversified enterprises held by interlocking directorates under a family-controlled holding company (or its equivalent). The four largest *Zaibatsu* were household names throughout the world: Mitsui, Mitsubishi, Sumitomo, and Yasuda. How families control giant firms even today can be seen from the examples of Matsushita and Toyota.

Company acculturation

During the postwar period into the 1970's, the transaction-cost minimizing advantages of "the family" metaphor weakened, and management could no longer depend upon worker incentives and discipline resulting from the shared image of the company as a family. Furthermore, the postwar family was no model for any organization that

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Koji Taira is professor of economics and industrial relations at the University of Illinois, Champaign-Urbana. His full IRRA paper is entitled, "Labor Market Segmentation, Human Resource Utilization and Economic Development: The Case of Japan in Historical Perspective."

required authority and responsibility for getting work done.

The Japanese employment system that emerged from the consolidation of labor market may well be called "management by company culture." Culture now takes the place of erstwhile paternalism. It is well known that well-run Japanese companies are making constant efforts to shape and maintain a corporate identity that is distinct and unique enough to motivate employee identification with it. The culture-conscious Japanese companies devote enormous attention to the recruitment of compatible employees. The general practice is to recruit employees once a year in the spring, fresh out of schools or colleges, according to careful long-run manpower plans. These companies regularly hire from the nation's best universities and maintain a stable mix of employees by university origin. Blue-collar recruitment also runs by school or regional origin. Informal groups formed by college, school, or regional ties mesh with formal work groups. The "old boys" network is automatically stratified by year of graduation and can be used as an instrument for orderly acculturation and training of employees through senior-junior (*senpai-kohai*) relationships. Several "old boys" groups in a company also generate competition for performance among them. Each group probably desires to maximize its share in good positions and promotions. So long as personnel procedures and evaluations are objective and unbiased, competition among these groups may be channeled into higher aggregate performance (although it might also degenerate into dysfunctional office politics). The role of a company culture is to integrate competing groups and individuals into a harmonious whole to ensure the aggregate vitality of the firm.

The enterprise labor union also facilitates this cultural integration by taking up all nonmanagerial white-collar and blue-collar workers, regardless of their educational backgrounds. The union then can be viewed as a crucible of social democracy within the enterprise, although managers and organized employees of the internal labor-market sector as a whole constitute an elite of the labor force vis-a-vis the rest of the working population of the national economy.

Large versus small and medium

The modernization of "the family" and interpersonal relations within it since the postwar democratic revolution has proceeded unevenly in different socioeconomic strata. Studies of lower middle-class merchants and artisans indicate a strong survival of the prewar type of family and its application to employment relationships. Generally, small and medium-sized enterprises contitute a noninternal labor-market sector (the dual of the internal labor-market sector where the Japanese employment system obtains) and labor-market indicators like labor turnover, length of service, cyclical sensitivity of employment, and so forth which are those of relatively open, fluid labor markets. These enterprises obviously make up for the lower wages and less attractive working conditions than in the internal labor-market sector by offering a "psychic income" of a family atmosphere, familiar to their employees. Furthermore, employees in the noninternal labor-market sector are, in a sense, residuals, dropouts or failures vis-a-vis their peers picked by firms in the internal labor-market sector.

They are likely to be from the social strata which, because of their relative backwardness, have lagged in modernization and still retain relatively greater doses of traditional values and practices. The familiar syndrome of factors that generates "occupational inheritance" is also observed in Japan.

From a different point of view, the employers and employees in small and medium-sized enterprises are the average Japanese, and those in the internal labor-market sector, an exception. On the basis of employment statistics by establishment size, regular employees in private establishments (employing 500 or more regular employees), public enterprises, and civil service amounted to 16 percent of the Japanese labor force in 1981. This is roughly the size of the internal labor-market sector in Japan by sheer head count (9 million). The smallness of this sector enables it to choose the cream of the crop. The employees of this internal labor-market sector themselves are also conscious of their elitist position. The labor market segmentation of this kind does not generate the classic classes of capitalists (or corporations) and workers with distrust, misgivings, or even animosity between them. The major divide is between large bureaucratized firms in this sector and the small and middling enterprises, mostly family-run or -controlled, in the noninternal labor-market sector. Tensions exist and occasionally flare up between large firms and small firms as in the case of an organized protest by local store owners against the plan of a large national distributor to open a branch in their midst. Large firms have long since realized the limits to direct expansion at the expense of smaller firms and, instead, actively organized the smaller ones into networks of close business relationships known as *Keiretsu* (lining them up). However, the transaction costs in getting things done through a *Keiretsu*, involving hundreds of smaller, but independent firms, are apparently lower than the large firm itself expanding in the equivalent scale to internalize the network. Thus, some workable peace obtains between large and small firms. It is noteworthy that resilience and political sophistication of small firms limit the physical growth of large firms and direct the attention of the latter to "social" leadership over a multiplicity of lesser firms.

The employees of the internal labor-market sector are organized into enterprise employee unions and largely coopted into a sharing system of the elite sector through collective bargaining and joint consultation. Enterprise unions see no community of interest with the unorganized employees of smaller enterprises as exemplified by an almost total absence of effort on the part of the established unions to organize the unorganized. The basic behavioral determinant is the union's "enterprise consciousness" meaning that for their well-being, employees depend on their employer's prosperity and that the union's role is to ensure a "fair share" in the employer's prosperity.

With no horizontal (class) solidarity among workers, employees in the noninternal labor-market sector perceive themselves as being in the employee status only as long as they learn the skills and accumulate the resources to strike out on their own. This "Japanese dream" does not become a reality for a majority of wage-earners in this sector, but it does for a substantial number of them, who set and maintain the entrepreneurial propensity. For a major capitalist-market economy, Japan still has an unusual proportion of the labor force in self-employment (together with family workers, 27 percent of the labor force in 1981) and an unusual proportion of the nonagricultural private regular employment in the smallest establishments with fewer than 30 employees (48 percent in 1981).

For more than half of Japan's economically active population, "employer" and "employee" do not imply sharp status differences, let alone "class consciousness." Where class consciousness should have arisen, and did for a while after the war, namely the internal labor-market sector, *employees* are the secure members of the nation's elite. Labor market segmentation has thus created in Japan a social stratification that the known formulae of differentiation have difficulty in explaining. However, the upshot of certain developments in Japan: inflation; employment cutbacks, despite lifetime employment; more extensive use of part-time, temporary, or seasonal workers; equal employment opportunity legislation for women; the raising of the mandatory retirement age from 55 to 60; and weakened union activity at the enterprise level (causing them to turn to national consolidation and economic policy) is the prospect of less segmentation. The internal labor markets of major firms cease to be the monopoly of standard male regular workers, recruited fresh out of schools and colleges with expectations to serve out their term until mandatory retirement. ☐

How do Australian unions maintain standing during adverse periods?

JOHN NILAND

Australian unions are organized on a craft or occupational basis, much more than along industry or enterprise lines as in the United States. Because unions typically enroll members from more than one industry, workers in a medium-sized factory of 500 or so typically will be covered by 5 to 10 unions: the production or process workers gravitate to 1 or 2 unions, white-collar and clerical people go to another, and maintenance personnel join a further group of unions. Also, supervisors and front-line managers increasingly have been joining trade unions, primarily from fears generated by increased redundancy and corporate rationalization, but also as a defense mechanism against the growth in industrial democracy practices which supervisors often perceive as a challenge to their own job territory. Overall, 320 unions are registered within the tribunal system.

Australian trade unionism has continued to be a numerical force in the past decade, although the two main sets of official statistics indicate marginally contradictory trends. One set of data is based on a labor market survey of employees in 1976 and again in 1982. Unionization declined slightly from 51 percent to 49 percent, with women maintaining a rate at 43 percent and that for men decreasing from 56 percent to 53 percent. The alternate official series, with statistics collected annually from the trade unions themselves, shows that the overall union participation rate increased slightly from 56 percent in 1975 to 57 percent in 1982.

Unionization by industry

An analysis of industry shift in unionization between 1976 and 1982 reveals that, as in some other industrialized market economies, the manufacturing sector is in some difficulty with a drop of 3 percentage points, entailing a loss of some 45,000 unionists. Debate over the causes covers many possibilities, including deindustrialization through crowding out by the nonmarket sector or through the influence of multinational companies; the Gregory Thesis of booming minerals sector deindustrialization; and the Cambridge Effect, involving exports and balance of payments problems. These lines of argument have little to do with unions directly, although two other schools of thinking do: the rise of inefficient protection policy which itself is linked to wages policy that emphasizes standardization and uniformity; and the real wage overhang effect through which many wage rises in the past decade have outstripped appropriate productivity movements. Whatever the primary cause, unionism in its most important sector has lost ground. However, this is almost offset by a 3-percentage-point rise in the incidence of community services employment. Unionism has made distinct gains in the wholesale/retail area, and has held its own in the finance/insurance business services sector. In both cases, negotiation of compulsory unionism agreements has been important. For example, the union participation rate in the private banking industry had been 57 percent in 1973, but toward the end of that decade it had risen to 84 percent with the introduction of a closed shop arrangement.

The labor market

The unionization picture is particularly noteworthy in the light of movements in Australian unemployment figures. From a rate of 2.4 percent in 1974, unemployment peaked in 1983 at 9.9 percent, thereafter dropping to 7.9 percent in

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John Niland is a professor and head of the Department of Industrial Relations, University of New South Wales, Australia. His full IRRA paper is entitled, "Gaining Against the Tide: Australian Unionism in the 1980's."

1985. As one researcher points out, few Australian unions provide advantages that would encourage displaced workers to maintain membership:

> . . . unlike some United States unions . . . few Australian unions act as employment centers; nor do they provide unemployment or other benefits. This, together with the fact that most forms of . . . union shops are confined to a small number of industries, means that unemployed workers usually see little point retaining union membership.

However, Australian unions have held their membership coverage despite considerable erosion of their recruitment base by unemployment. Indeed, a leading school of thought contends that unions have preserved their position at the expense of the unemployed, particularly the hardest hit category of youth, whose rate of unemployment rose from 5.8 percent in 1974 to 22.6 percent in 1983.

The age profile on unionization trends is important in the sense that disenchantment among the young could herald future difficulties. At first sight, Australian unions might well be concerned on this score, as the membership incidence varies sharply with age cohort: the figure in 1982 for youth (15 to 19 years) was 31 percent, compared with 44 percent for young adults (20 to 24 years) and 53 percent for adults (25 and over). However, up to 5 percentage points of the gap between youth and adult unionization may be accounted for by the fact that apprentices (an avenue through which 25 percent of all boys enter the labor market) traditionally are nonunionized. Another factor is the tendency for youth to concentrate in low unionized sectors, such as wholesale/retail trade and entertainment: "If manufacturing is excluded, differences in the employment composition between teenagers and adults account for half the difference in their unionization." Finally, high turnover rates among young employees, who in adulthood presumably will settle down, is also a significant factor for lower youth unionization rates.

Wages and conditions

The Australian system of industrial regulation is based on the process of conciliation and arbitration which entails government-appointed tribunals determining wages and other conditions of employment. Because the industrial tribunals have official standing and operate in a semijudicial environment, the propensity for standardization and centralization is strong. These pressures have been particularly pronounced in the past decade.

Commencing in March 1975, the Australian Conciliation and Arbitration Commission (hereafter Arbitration Commission) has awarded wage increases to closely reflect movements in the Consumer Price Index, the main indicator of inflation. Of the 19 National Wage Case decisions in the Indexation Era, the Arbitration Commission awarded full CPI adjustments on 7 occasions, with the remainder producing either partial percentage adjustment or some plateauing arrangement in which only those from lower paid classifications received real wage maintenance. Inevitably, this led to compression of skill margins, particularly as it was the stronger unions covering such groups as transport workers and open cut coal miners rather than those covering trade classifications which managed to breach the Arbitration Commission's "substantial compliance" guideline, and negotiated privately to achieve wage increases beyond the national minima. In the end, too many groups were running outside the national guidelines, and in July 1981, the Arbitration Commission abandoned the Indexation Era, leaving the parties to a form of disheveled bargaining.

Indexation had been introduced in 1975 to help spike wage expectations which at that time were beginning to run rampant. Fears were held of a repetition in 1982, and with all parties increasingly cautious in light of a forthcoming election, the Federal Government managed to sell the idea of a wage pause. So crucial are industrial relations issues to political fortunes in Australia that the subsequent success of the Australian Labor Party in the March 1983 election owes much to its deal with the Australian Council of Trades Unions to re-introduce an orderly wage fixing arrangement. The Prices and Incomes Accord provided the way for a return to centralized wage fixing, and by September 1983, the Arbitration Commission had worked out a set of guidelines to put the arrangement into operation. This virtually guaranteed full CPI wage adjustment, although now the interdiction on groups negotiating private deals beyond the national standard became much more effective. Even so, classification creep and some increase in overtime enabled average weekly earnings to keep ahead of inflation. The period between 1971–72 and 1982–83 saw substantial wage increases, with money wage aggregate growth of 129.9 percent well outstripping the aggregate CPI growth of 111.1 percent.

A significant development in the decade to 1985 has been the growing authority of the Australian Council of Trade Unions in national wage policy. In the mid-1970's, this peak union body resisted, unsuccessfully, maneuvers of the Whitlam Labor Government and the Arbitration Commission to locate wage fixing back within the Arbitration Commission. Initially, wage indexation meant holding wage increases below their recent trend line; 10 years later, with rising unemployment and the salutory effect of the economically awkward Whitlam years (1972–75), the council came to see considerable merit in CPI-linked wage adjustment, particularly as it became the joint-administrator in the transformed central system.

These developments hardly suggest a labor movement losing ground in the face of economic adversity, as much as theory might suggest such would be the outcome. What is perhaps more important, the growth of real wages in such difficult times was not achieved through trading off other conditions: not since the early 1930's have the industrial tribunals attempted to meet unemployment concerns with across-the-board reductions in industrial conditions, and only in isolated instances do they now roll back provisions for particular firms in trouble. Indeed, over the past decade, unions have made gains in various nonwage conditions, which further reflect unionism's enhanced standing. Perhaps most important has been the 35-hour week campaign. Begun in the mid-1970's, shorter hour gains were widespread by the early 1980's, although many groups eventually had to settle for 38 hours as their new regular working week. This is now the standard accepted by the Arbitration Commission, although cost savings through revised work practices are a mandatory quid pro quo. This arrangement—the linking of work efficiency to further reduced hours—is perhaps one of only two developments in the formal industrial relations system over the past decade with appeal to employers. The other is the emergence of the no-further-claims clause by which unions agree to hold the line on wage claims for a designated period, and in other ways, to abide the agreements.

Several other sets of improved conditions should also be mentioned. While Australia lagged much of Europe in the provision of job protection, advance notice of redundancy, and compensating termination packages, a 1984 decision of the Arbitration Commission in the Termination Change and Redundancy Case, changed the picture somewhat. Also, as part of its accord commitments, the Australian Government in 1984 established the National Occupational Health and Safety Commission to "develop national standards and priorities, upgrade research and training efforts, and provide a basis for unions and employers to work together to make workplaces safer." Another development linked to the accord is the program to more widely infuse industry with the precepts and practices of industrial democracy, although here the main initiatives will be in the Accord Mark II (1985–87) more than in the Accord Mark I (1983–85). The same can be said for the introduction of nationwide superannuation schemes, due to start in July 1986, where all unionists will have 3 percent of their wages paid by their employer into the pension fund of the worker's choice. The arrangements for pension trust management, yet to be finalized, could give unions the basis for further enhanced standing. □

Research Summaries

Aggregate export price comparisons developed for U.S., Germany, Japan

DAVID S. JOHNSON

In February 1986, the Bureau of Labor Statistics began producing aggregate export price index comparisons between the United States and Japan and the United States and Germany on a quarterly basis. Previously, BLS had been producing export price index comparisons only for detailed commodity categories.

Export price comparison measures are ratios of the foreign export price indexes in dollar terms to specially calculated U.S. export price indexes. The measures, in index form, are designed to show relative price movements between the United States and Germany and the United States and Japan for designated market baskets of products.

An increase in a comparison index represents an increase in the price of the foreign export basket of goods compared to the U.S. price of an export basket consisting of the same volume and similar types of commodities. The opposite is true in the case of a decrease in an index. Changes in relative price movements are of interest because of their influence on changes in relative export quantities.

Comparison measures are calculated by first translating the foreign export price indexes into dollar terms and then dividing these indexes by the special U.S. export price indexes matching the foreign export categories.[1] The exchange rates used in converting the foreign price indexes to dollar terms are monthly averages of certified noon buying rates in New York as published by the Federal Reserve Board.[2]

The indexes for periods in which different export value weights were used have been linked together. The German-U.S. export price index comparisons use 1970 German export value weights from June 1970 through March 1976; 1976 weights from June 1976 through December 1979; and 1980 weights from March 1980 to the present. The Japan-U.S. export price index comparisons have been calculated using 1975 Japanese export value weights from June 1970 through December 1979, and 1980 weights from March 1980 to the present.

The comparison measures have been aggregated according to foreign country export trade weights in order to match the classification systems of the published foreign export price indexes.[3] Other weighting schemes, such as the use of U.S. export trade weights or world trade weights, would produce different results. Aggregating according to other weighting schemes would require access to price data for individual export commodities from Germany and Japan which are not available at the present time.

German export price indexes are published by the Statistisches Bundesamt [Federal Statistical Office] of the Federal Republic of Germany in the monthly publication, *Preise und Preisindizes fuer die Ein- und Ausfuhr* [*Prices and Price Indexes for Imports and Exports*]. The German export price indexes used in the comparison measures are taken from table 2.6 for the detailed product categories and from table 2.5 (SITC, Rev. II) for the aggregate categories. Currently, Germany calculates its export price indexes from approximately 6,100 individual export price series. These prices refer to export transactions concluded during the reporting month for specified commodities on an F.O.B. (free on board) German border basis, and are adjusted for quality changes. Individual price relatives are aggregated by means of the Laspeyres formula using export value weights.

The Japanese export price indexes used in the comparison measures are taken from Section II, table 3 of *Price Indexes Monthly*, published by the Bank of Japan. This table contains 319 export categories at different levels of aggregation. Approximately 530 export prices are surveyed by the Bank of Japan on a monthly basis. These prices are contract prices on an F.O.B. port basis and are adjusted for quality changes. The individual price relatives are aggregated as above using Japanese export value weights.

The specially constructed U.S. export price indexes used in the comparison measures have been designed to match the commodity coverage of the German and Japanese published export price indexes. The price series used in these indexes have been selected from approximately 7,700 export prices collected from U.S. exporters by the Bureau of Labor Statistics' International Price Program. The prices collected are either F.O.B. or F.A.S. (free alongside ship) transaction prices which are adjusted for quality changes. The individual price relatives are aggregated by means of the Laspeyres formula using the respective foreign export trade weights.

The Statistisches Bundesamt, producer of Germany's export and import price indexes, has furnished BLS with a table

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David S. Johnson is an economist in the Division of International Prices, Bureau of Labor Statistics.

of weights and subclassifications within its published export price index categories. By using this information along with the description of Germany's Commodity Classification for Industrial Statistics (WI),[4] it was possible to select export products collected by the BLS International Price Program which were judged to be similar to the products represented in the German published series. A similar procedure was used for the correct classification of U.S. products within the Japanese classification scheme. The Bank of Japan supplied BLS with a complete listing of product specifications used in the production of Japanese export price indexes. From this listing it was possible to construct special U.S. export price indexes with comparable commodity coverage.[5]

In regard to product coverage, it should be noted that the BLS export price data base is a sample designed to represent U.S. export price trends at the level of 4- or 5-digit SITC (Rev. II) product categories. Although a selection of export prices from this data base has been used to produce the special U.S. export price indexes for the comparison measures, the product samples were not originally drawn for this purpose. However, the mappings of products to foreign export categories have been thoroughly examined to ensure the fullest product coverage possible.[6] □

FOOTNOTES

ACKNOWLEDGMENT: The author gratefuly acknowledges the helpful comments of Kim Zieschang of the Bureau's Division of Index Number Research, and William Alterman and John Goth of the Division of International Prices.

[1] FXPI*ER/USXPI, where FXPI is a foreign published export price index series; ER is the exchange rate; and USXPI is the U.S. export price index calculated to match the commodity coverage of the foreign published index series.

[2] Data are published monthly in the *Federal Reserve Bulletin*; and *Statistical Release G.5: Foreign Exchange Rates* (Board of Governors of the Federal Reserve System).

[3] Three levels of aggregation above the detailed commodity level were developed for Germany, and four levels were developed for Japan.

[4] *Systematisches Warenverzeichnis fuer die Industriestatistik*, Ausgabe 1975 [*Commodity Classification for Industry Statistics*, 1975 Edition] (Wiesbaden, Statistisches Bundesamt, 1976).

[5] "List of Commodity Descriptions of 1980-Based Price Indexes" (Tokyo, The Bank of Japan, Statistics Department).

[6] *Comparisons of United States, German, and Japanese Export Price Indexes*, Bulletin 2046 (Bureau of Labor Statistics, 1980).

Research Notes

Measuring wage premiums for job risks

During the past 10 years, a large amount of research has been devoted to measuring the wage premiums which workers receive as a result of bearing additional occupational injury and illness risks. Improved estimates of the premiums are of value for policy evaluation because they are used to assess the benefits of proposed occupational safety and health regulations.

The motivation for this research is the idea that, in general, if a worker has a choice between two jobs of different riskiness, he will choose the riskier one only if it pays a sufficiently higher wage. The wage premium for bearing extra risk is known as a compensating wage differential, because the premium is viewed as being paid to compensate for the additional riskiness. A compensating differential should not be confused with workers' compensation benefits. The former is paid as a component of wages, while the latter is an indemnity benefit paid only if a worker is injured. They are related, however, in that both are paid to compensate a worker for the costs he bears in the event of an injury or illness.

Research on measuring compensating differentials endeavors to explain observed variations in wages by means of an equation which relates worker and job characteristics to wage levels. Let W represent the wage level, X represent worker and job characteristics known to affect wages, such as education or experience, and let R represent the riskiness of a job. It is hypothesized that wages are related to X and R through the equation

$$W = a + bX + cR$$

where b and c are coefficients which indicate by how much wages change with unit increases in X and R. For example, suppose that R measures the number of injuries and illnesses incurred by 100 workers in 1 year, that W measures weekly wages, and that c has a value of 5. Then the equation indicates that an increase in the riskiness of a job of 1 case per 100 workers per year is associated with an increase in weekly wages of $5. The object of empirical work on compensating differentials is to obtain better estimates of c from data sets containing information on wages and worker and job characteristics.

In a recent paper, we examine two issues in the measurement of compensating differentials. First, we study to what extent the differentials differ for men and women and for union and nonunion workers. Second, we analyze the impact of including a measure of workers' compensation benefits in the wage equations used to estimate the differentials.

The primary source of the data was a sample of private nonagricultural blue-collar and service workers drawn from the May 1980 Current Population Survey. Separate wage equations were estimated for union men, nonunion men, union women, and nonunion women. Standard education, experience, and demographic characteristics were included as X variables in the wage equations. In addition, two measures of job risk and a measure of workers' compensation benefits were included as variables explaining wage variations. The job risk variables, obtained from the Bureau of Labor Statistics' 1980 Annual Survey of Occupational Injuries and Illnesses, measure the number of lost workday injury and illness cases per 100 full-time workers and the number of lost workdays per lost workday case. These measure the frequency and severity of injury and illness cases by industry, respectively. The workers' compensation variable measures the proportion of weekly wages replaced by total temporary disability benefits. It was imputed from information on the workers' weekly wages and characteristics and the State laws regarding benefit payments.

Three principal conclusions emerge. First, there is strong evidence of compensating wage differentials for both union and nonunion men. Men receive higher pay to work at riskier jobs; for women, however, the evidence is not as conclusive. Only female union members appear to receive higher wages for riskier jobs, and even here the evidence is not as strong as for men. It is conceivable that the lack of evidence for women suggests that they indeed do not receive wage premiums for job risk. It is equally possible, however, that the poor results for women suggest that the industry job risk variables, which are not available by sex, do not adequately represent the job risks faced by female employees of high-risk industries. Women tend to be underrepresented in these industries and, within them, they tend to work in the low-risk occupations.

A second finding of the research is that, everything else being the same, an increase in the proportion of wages replaced by workers' compensation income benefits leads to a drop in the wage level. This result is stronger for women than for men. A final surprising result is that the inclusion of the workers' compensation benefit variable in the wage equations has no effect on estimated compensating wage differentials. Also, coefficients on the interaction of workers' compensation benefits with the risk variables are generally statistically insignificant.

The study and its results are described in full in the paper "Workers' Compensation Benefits and Compensating Wage Differentials," by John W. Ruser, BLS Working Paper No. 153.—*John W. Ruser, Office of Research and Evaluation, Bureau of Labor Statistics.* □

Interview group bias

In the Current Population Survey, like many data sets used in studies of labor force behavior, respondents are interviewed repeatedly. Previous research has shown that responses systematically differ with the number of times that individuals are interviewed. With the current and growing emphasis on dynamic models of labor force behavior and the increasing use of panel data, it is important to examine the quality of the data and potential survey response error that can be confounded with the measurement of systematic changes in behavior over time.

Empirical estimates of time-related bias in the Current Population Survey (CPS) have grouped together all respondents who enter the sample at the same time. In the CPS, these groups are referred to as rotation groups. This procedure requires the implicit assumptions that respondents never miss interviews and that there is no mobility in and out of the sample. If these assumptions are not supported by the data, they can lead to significant underestimates of time-related effects on reported labor force status.

Microdata from the CPS are used to provide empirical evidence of the effects of repeated interviewing on survey responses. Using 3- and 4-month matches of three different rotation groups from the CPS, we found that a substantial number of respondents have not been surveyed in every month. Respondents who have been interviewed the same number of times are classified as members of the same interview group. Estimates of the magnitude of bias within these rotation groups of the CPS show that the unemployment rate for respondents interviewed for the first time can be more than 50 percent higher than for respondents interviewed for the fourth time. The paper includes a discussion of the relative importance of rotation group bias and interview group bias in the CPS and concludes that interview group bias can explain the patterns of rotation group bias commonly observed. While this research focuses only on the CPS, the same types of problems may arise in any panel data set.

The study and its results are described in full in the paper "Interview Group Bias: Effects of Repeated Interviewing on Estimation of Labor Force Status," by Janice Shack-Marquez, BLS Working Paper No. 154.—*Janice Shack-Marquez, Office of Research and Evaluation, Bureau of Labor Statistics.* □

Major Agreements Expiring Next Month

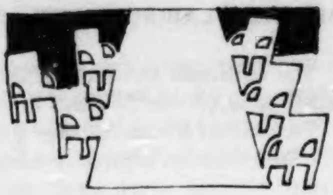
This list of selected collective bargaining agreements expiring in July is based on information collected by the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more. Private industry is arranged in order of Standard Industrial Classification.

Employer and location	Industry or activity	Labor organization[1]	Number of workers
Private			
Iron Ore Mining Companies (Interstate)	Mining	Steelworkers	3,000
Climax Molybdenum Co. (Climax, CO)	Mining	Oil, Chemical and Atomic Workers	2,000
Nassau and Suffolk Contractors Association (New York)	Construction	Laborers	2,000
Association of Mechanical Contractors (Georgia)	Construction	Plumbers	1,150
Construction Industry Combined Committee and 2 others (St. Louis, MO)	Construction	Iron Workers	1,200
Mechanical Contractors Association (Utah)	Construction	Plumbers	1,000
Miller Brewing Co. (Milwaukee, WI)	Food products	Brewery Workers	1,000
Michigan Sugar Co. (Michigan)	Food products	Grain Millers	1,200
E.J. Brach & Sons, Inc. (Chicago, IL)	Food products	Teamsters (Ind.)	3,000
Winery Employers Association (California)	Food products	Distillery Workers	3,500
Southern California Cabinet Manufacturers (California)	Furniture	Carpenters	1,500
Kimberly-Clark Corp. (Tennessee)	Paper	Paperworkers	1,000
Weyerhaeuser Co. (Plymouth, NC)	Paper	Paperworkers	1,600
James River Co., KVP Division (Michigan)	Paper	Paperworkers	1,000
James River Co., Board and Carton Division (Michigan)	Paper	Paperworkers	1,200
Hammermill Paper Co., Thilmany Pulp & Paper (Wisconsin)	Paper	Paperworkers	1,250
Phoenix Steel Corp. (Interstate)	Primary metals	Steelworkers	1,000
Armco Steel Corp. (Butler, PA)	Primary metals	Butler Armco Independent Union (Ind.)	2,000
Armco Steel Corp. (Ohio)	Primary metals	Armco Employees Independent Federation (Ind.)	4,800
Martin Marietta Aluminum Inc. (Interstate)	Primary metals	Steelworkers	1,900
FMC Corp., Northern Ordnance Division (Fridley, MN)	Fabricated metals	Auto Workers	2,200
Briggs and Stratton Corp. (Milwaukee, WI)	Machinery	Industrial Workers	8,200
Caterpillar Tractor Co. (Joliet, IL)	Machinery	Machinists	1,300
Sealed Power Corp. (Muskegon, MI)	Machinery	Auto Workers	1,000
Eltra Corp., Prestolite Division (Interstate)	Electrical products	Auto Workers	1,200
Hayes International Corp. (Birmingham, AL)	Transportation equipment	Auto Workers	2,200
Pacific Coast Shipbuilding and Ship Repair Firms (Interstate)	Transportation equipment	Various	10,000
Rouge Steel Co. (Michigan)	Transportation equipment	Auto Workers	15,000
Frontier Airlines, agents (Interstate)[2]	Air transportation	Air Line Pilots	2,400
Brooklyn Union Gas Co. (New York)	Utilities	Transport Workers	2,200
Ohio Edison Co. (Ohio)	Utilities	Various	2,100
Food Employers Association, Inc., warehouse (Oregon)	Wholesale trade	Teamsters (Ind.)	1,700
Montgomery Ward Co. (Interstate)	Retail trade	Teamsters (Ind.)	9,600
Fred Meyer Inc. (Portland, OR)	Retail trade	Food and Commercial Workers	1,700
Association of Private Hospitals (New York, NY)	Hospitals	Service Employees	7,000
Public			
Illinois: Cook County Community College, faculty	Education	Teachers	1,400
Maryland: Baltimore police	Law enforcement	Police	2,500
Iowa: Des Moines Independent Community School District, professionals	Education	Education Association (Ind.)	2,000
Michigan: Wayne State University, faculty	Education	University Professors (Ind.)	1,400
Tennessee: Chattanooga Board of Education, teachers	Education	Education Association (Ind.)	1,500
Texas: Houston Metropolitan Transit Authority	Transit	Transport Workers	1,450

[1] Affiliated with AFL-CIO except where noted as independent (Ind.).

[2] Information is from newspaper reports.

Developments in Industrial Relations



First of the steel contracts

The first round of negotiations in the steel industry since the 1985 breakup of the Coordinating Committee Steel Companies, the industry's pattern-setting bargaining association, led off with settlements at LTV Steel Co. and National Steel Corp. In keeping with the Steelworkers acknowledgment that the severity of problems afflicting the industry varies among the companies, the union agreed to different terms at LTV Steel and National Steel.

In the past, the Coordinating Committee Steel Companies, comprising U.S. Steel Corp. and other large companies, had negotiated uniform terms that were followed by nonmember companies. Deviation from the pattern terms occurred in 1985 when Wheeling–Pittsburgh Steel Corp. negotiated a substantial permanent cut in wages and benefits. Afterwards, U.S. Steel and other producers said that in their 1986 negotiations, they would seek similar compensation cuts in order to maintain production cost parity with Wheeling–Pittsburgh. Steelworkers' President Lynn Williams said the union would tailor each settlement to the condition of the particular company.

At LTV Steel, which has suffered $1.7 billion in operating losses since 1982, including $227 million in 1985, the union agreed to a $3.15 cut in hourly compensation—a $1.14 cut in pay and a $2.01 cut in benefits. The company estimated that an additional 45 cents an hour would be saved in indirect costs because it will pay less social security and other taxes and benefits from lower administrative costs, bringing its total savings to $3.60. In addition to the pay cut, the employees will forgo the final increment of the pay restoration required to bring wages back to the level that prevailed prior to the 1983 settlements, which called for a temporary pay cut of $1.25 an hour. The final increment (45 cents an hour) was restored to employees of the other companies on February 1, 1986, as scheduled, but the payment date had been postponed to April 1, 1986, at LTV Steel as a result of a 1986 contract modification. (See *Monthly Labor Review*, April 1986, p. 57.)

In return for the $3.15 in direct savings, LTV agreed to a Profit-Sharing and Stock Ownership Plan that will give the employees a "dollar-for-dollar payback in equity" for their sacrifice. A union official noted that the accord provides for "guaranteed job security opportunities and more worker involvement in decisionmaking at all levels of company policy."

Other cost cuts accepted by the union include:

- A reduction in shift premiums to 20 cents an hour, from 30 cents, for the second shift and to 30 cents, from 40 cents, for the third shift.
- Suspension of the cost-of-living pay adjustment provision.
- Elimination of 3 of the 10 paid holidays.
- Elimination of 1 week of paid vacation for all employees currently eligible for at least 2 weeks.
- Elimination of vision care benefits.
- A reduction in sickness and accident benefits, to a range of $175–$229 a week.

Employees weekly pay statements will now indicate their accumulating wage and benefit sacrifices. In April of each year, they will receive the accrued value from company profits, if any. The cash available for distribution will equal 10 percent of the first $100 million of LTV Steel profits plus 20 percent of all profits in excess of $100 million. If profits are insufficient, workers will receive the balance in dividend-bearing shares of the LTV Steel preferred stock. After 2 years, the shares can be sold or exchanged (at $16 a share) for common shares of the parent LTV Corp.

One of the major issues in the negotiations was resolved by adoption of a restriction on subcontracting of work (except construction) if it can be performed by members of the bargaining unit. To bypass this restriction, the company must prove that proposed subcontracting is consistent with past practice and the work must pass a "reasonableness test," excluding comparisons of costs.

Also in return for the wage and benefit cuts, LTV Steel agreed to a program of monitoring overtime levels and to give the local union a monthly accounting of the amount and reasons for overtime work.

In a related job security provision, the company agreed not to sell or transfer a plant covered by the agreement unless the new owner recognizes the unit as bargaining agent. Also, the new owner must negotiate an agreement acceptable to the union before the sale can be completed.

"Developments in Industrial Relations" is prepared by George Ruben of the Division of Developments in Labor-Management Relations, Bureau of Labor Statistics, and is largely based on information from secondary sources.

The settlement covered 30,500 employees—including 8,500 on layoff—in 24 plants in seven States.

The contract at National Steel differed markedly from the LTV Steel contract, apparently reflecting National's smaller losses. National, which is half owned by the Nippon Kokan KK steel company of Japan, lost $88 million in 1985, including $27.2 million in the fourth quarter. Reportedly, National Steel did not require compensation cuts as large as LTV Steel because National has already closed a higher proportion of its inefficient facilities.

The 39-month accord provides for a 42-cent-an-hour pay reduction, including suspension of the 11 cents cost-of-living adjustment that was effective February 1, 1986. The employees will receive no further cost-of-living-adjustments during the agreement, but will receive annual bonuses under a new profit-sharing plan. The distributions will range from 50 cents per hour worked during the year if the company loses money to a maximum of $1.75 per hour if its net income is $300 million or more.

The workers also will be eligible for quarterly bonuses based on future increases in productivity. The separate plans at each of the three locations are based on any local increase in tons shipped per worker, local cuts in the work force, and corporate-wide cuts in the work force. These three factors, weighted 30, 20, and 50 percent, will be compared with a base level to determine possible improvements in productivity. The quarterly payouts will range from 1 percent of each employee's pay if productivity rises 1 to 5 percent to 17 percent if the rise is 60 percent.

From the union's viewpoint, probably the most important contract provision is a new employment security plan which prohibits layoffs during the contract term. Workers who would otherwise have been laid off will be placed in an employment security pool for retraining or for a new assignment.

In another change important to the employees, the contract provides that "work capable of being performed by bargaining unit members shall be performed by [them]." Further, the company cannot contract out work "unless it demonstrates that such work meets one of the [limited] exceptions." Similarly, contractors can not perform work in the National Steel plants unless the work has consistently been performed by contractors in the past and the company can prove that it is more reasonable for the contractor than plant employees to perform the work.

Other contract terms include—

- Tighter restrictions on use of overtime.
- Assurances that sacrifices of employees not in the bargaining unit will equal those made by employees in the unit.
- Personnel reductions only by mutual agreement and then only by attrition.
- A Cooperative Partnership Agreement calling for the creation of joint committees to solve problems quickly and in a cooperative manner.
- Adoption of a cost containment program for health care benefits.
- Elimination of the company's 25-cent-an-hour payment into the Supplemental Unemployment Benefits fund until it is drawn down to its required level. At the time of settlement, the fund was at 200 percent of the required level.

Although not a part of the basic agreement, another important development during the negotiations was National Steel's confirmation that it planned to continue a 5-year, $1.2 billion capital investment plan started in 1985.

The 7,200 workers covered by the accord are employed by three National Steel subsidiaries located in Illinois, Indiana, and Michigan. They are Midwest Steel, Great Lakes Steel, and Granite City Steel.

General Telephone contract 'concession-free'

The first settlement in the 1986 round of bargaining in the telecommunications industry occurred when General Telephone Co. of California and the Communications Workers of America (CWA) agreed on a 3-year contract for 20,000 workers. Based on past practice, the settlement was expected to set a pattern for 30,000 employees of other General Telephone companies. It also could influence the CWA's current bargaining with American Telephone and Telegraph Co. and the various operating and manufacturing companies resulting from the court-ordered 1984 breakup of the Bell Telephone System. CWA President Morton Bahr said the most important aspect of the accord was its "concession-free" nature, which would also be the guiding principle in the union's talks with the former Bell System companies.

Bahr said the key to the settlement was General Telephone's withdrawal of its demands for adoption of a two-tier pay system and a provision automatically raising employee deductibles under the health care plan as premiums rise. Instead, deductibles were raised by a fixed amount and a joint health care cost containment committee was established.

The contract, running to March 5, 1989, provides for wage increases of 3 percent retroactive to March 5, 1986, and 2 percent in September of 1987 and 1988. Some employees will receive additional increases as a result of job reclassifying.

More railroad accords

The prolonged round of bargaining in the railroad industry inched closer to a conclusion when the Brotherhood of Railway and Airline Clerks (BRAC) settled with the 25 major carriers represented by the National Railway Labor Conference. The 4-year accord provided for smaller general wage increases but larger lump-sum payments than those negotiated in October 1985 by the United Transportation Union. (See *Monthly Labor Review*, January 1986, pp. 7–8.)

Announcing that 85 percent of BRAC members had voted in favor of the 4-year contract, union president Richard I. Kilroy called the negotiations "the toughest. . . I've ever had in my years in rail labor. I believe this contract is the absolute best we could obtain in today's tough economic and political climate."

The contract is retroactive to the June 30, 1984, date when wage and benefit terms were subject to change. It provides for lump-sum payments of $565 within 60 days of ratification, $335 on December 15, 1986, and $217 on June 15, 1988. The specified pay increases are 2 percent retroactive to December 1, 1985, and 2.25 percent on December 1 of 1986 and 1987. The increases will raise the average hourly clerical pay rate to $13.94, from $13.08. The 85,000 workers covered by the accord also will continue to be eligible for possible semiannual cost-of-living pay increases of up to 8 percent a year, offset by the value of the specified pay increases and lump-sum payments during the year.

New employees will start at 75 percent of the standard rate for their job and progress to the standard rate in annual 5-percentage-point steps. Previously, workers started at 80 percent and attained the standard rate after 2 years of service. In a related action, a commission was established to determine if current clerical pay rates are too high or too low.

Other provisions included the formation of a joint committee to study health care cost containment.

It was not clear when the other 11 unions would settle with the carriers. The Brotherhood of Locomotive Engineers, which had rejected an earlier tentative accord, was in arbitration under provisions of the Railway Labor Act, and the other unions were negotiating.

Growers, pickers end 8-year dispute

A dispute noted for its duration and the number of parties involved ended when Campbell Soup Co., tomato and cucumber growers in Ohio and Michigan, and the Farm Labor Organizing Committee agreed on new labor contracts for 550 workers. The dispute began in 1978, when the Committee began pressing Campbell Soup to support its efforts to organize employees of the growers, who sell their crops to Campbell. Campbell disagreed, contending that any collective bargaining relationship should be strictly between the farmers and the Committee.

As a result, the Committee instituted a boycott of Campbell products that was joined by the AFL-CIO and other organizations. The boycott was ineffective, according to a company public relations director, but in 1985, the company and the Committee agreed on elections in which the workers voted to be represented by the Committee. Contract negotiations then began, assisted by a five-member mediation panel headed by former Secretary of Labor John T. Dunlop. The panel was selected by the National Council of Churches, which will continue to assist the bargainers during the course of the new contracts by conducting representation elections at growers not now covered by the agreements. Expenses of the panel were covered by the Carnegie Corp. and further expenses will be covered by a grant from the William Penn Foundation.

The nearly 3-year agreement signed by Campbell, the Farm Labor Organizing Committee, and the Campbell Tomato Growers Association provides for wage rates for hand pickers to be set through further negotiations, and referred to the Dunlop panel if not settled by June 15, 1986. Machine harvesters receive $4.50 an hour for the 1986 season, increasing to $4.60 for the 1987 season. Other terms for the 150 employees in Ohio cover grievance procedures, dues checkoff, union recognition, housing conditions, day care, health and safety programs, and a joint study of the effect of pesticides.

A nearly 4-year cucumber contract between Vlasic Foods, Inc. (a Campbell subsidiary) and the Committee covers 400 workers in Michigan. It includes grievance procedures, dues checkoff, and other terms similar to the tomato contract.

The cucumber pickers will continue to receive basic pay equal to 50 percent of the gross value of the crop. In addition, they will now receive bonus compensation, contingent on a rise in cucumber prices. The size of the bonus will increase over the term. For the 1989 season, the possible bonus will range from 6 to 9 percent of basic pay.

Transportation Union leaves AFL–CIO

The United Transportation Union has disaffiliated from the AFL–CIO. In the letter of withdrawal to AFL–CIO President Lane Kirkland, Transportation Union President Fred A. Hardin attributed the action to a recent decision against the union under the Federation's procedures for resolving interunion disputes over organizing workers; the election of a Federation official to head a group supporting coal-slurry pipelines, which the union opposes; alleged Federation support of a plan for purchasing Conrail that the Transportation Union did not favor; the Federation's adoption of new regulatory procedures viewed as inimical to the union's organizing efforts; and opposition to some of the Federation's political endorsements.

In response, Kirkland contended that the Transportation Union had misconstrued the Federation's position on some of the points, or that the position was not a major threat to the union. He maintained that their differences are reconcilable and that he was hopeful that the Transportation Union might someday rejoin the Federation.

Company pays premium to bilingual employees

The Chemical Workers Union and the Utility Workers Union of America jointly negotiated a 2-year contract with

Southern California Gas Co. for 7,200 workers. The new agreement provides for a 4.5-percent wage increase effective April 1, 1986. On April 1, 1987, the workers will receive a 3.5-percent guaranteed increase and an additional possible increase of up to 2.5 percent, contingent on the movement of the Consumer Price Index.

A new provision the company characterized as unique to the industry provides for a 32-cent-an-hour premium for about 40 bilingual employees who answer telephone inquiries from persons who do not speak English.

In a cost-containment move, doctors planning to hospitalize an employee or dependent covered by the health insurance plan will have to clear the action with doctors hired by Southern California Gas. In other benefit changes, two free teeth cleanings per year were added to dental coverage and the amount of vacation time that can be carried over from year to year was increased to 3 weeks, from 2 weeks.

Philadelphia transit workers end strike

In the Philadelphia area, a 5-day transit strike ended when the Southeastern Pennsylvania Transportation Authority and the Transport Workers agreed on a contract.

"Harassment" by supervisors, the most significant issue from the workers' viewpoint, was dealt with by adoption of a provision requiring the Transit Authority to pay the cost of grievance arbitration proceedings in which the arbitrator rules in favor of the union. If the ruling favors management, the union pays the full cost. If there is no clear winner, the arbitration costs will be paid from a $50,000 a year fund that Philadelphia Mayor Wilson Goode promised to set up. Any unexpended portion of the annual allocation will be used to provide joint labor-management training for supervisors and stewards. Under the prior agreement, all arbitration costs were shared by the Transportation Authority and the Transport Workers.

According to a union official, the 5,100 members of the bargaining unit were involved in about 10,000 informal grievance filings per year, with about 1,200 of them ending as formal grievances and 120 going to arbitration.

The accord did not provide for a pay increase during the first year, but the employees will recieve four increases totaling $1 an hour during the balance of the 3-year term. Their pay, which reportedly averaged $11.12 an hour at the time of settlement, also will be subject to possible changes during the second and third years as a result of the continuation of the provision for cost-of-living pay adjustments.

The major change in benefits was liberalization of the pension formula for early retirement. Now, pensions will be reduced by 4 percent for each year an employee is under age 65 at retirement. Previously, the reduction factor was 6 percent.

Electric workers negotiate wage increase

On the East Coast, three unions negotiated 3-year agreements for 3,300 employees of the New England Electric System. The contracts, which contained similar terms, provided for wage increases of 4.3 percent in March 1986, 4.2 percent in March 1987, and 4.1 percent in March 1988.

The normal annual pension was raised to 1.8 percent (from 1.7 percent) of average annual earnings during the highest consecutive 5 years of the final 10 years of service, multiplied by years of service to a maximum of 30. Also, the early retirement age requirement was reduced to age 60, from 61.

Other terms included an increase in employer financing of health insurance and continuation of a program to contain premium costs; and a 5- to 12-cent-an-hour increase in shift premiums, varying by job category and union.

The three unions are the Brotherhood of Utility Workers of New England, representing 1,600 workers, the Utility Workers Union of America (525 workers), and the International Brotherhood of Electrical Workers (1,050 workers). New England Electric comprises Granite State Electric, Co., Massachusetts Electric Co., Narragansett Electric, New England Power Co., and New England Power Service. The companies provide electrical service in Massachusetts, New Hampshire, and Rhode Island.

Grocery clerks get five lump-sum payments

In Northern California, 40,000 grocery clerks were covered by a contract between several grocery store chains and 13 locals of the United Food and Commercial Workers. Over the 3-year term, employees will receive five lump-sum payments based on their hours worked (up to 40 hours per week) during the preceding 6 months. The first payment will be calculated at 25 cents for each hour worked during March 1 to August of 1986. The four succeeding payments will be calculated at 42 cents per hour worked by top-rated clerks, 28 cents for general merchandise clerks, and 20 cents for courtesy clerks. All five payments for courtesy clerks hired after the effective date of the contract will be calculated at 15 cents per hour worked.

On the last day of the contract, February 28, 1989, there will be a wage increase of 25 cents for general merchandise clerks, 30 cents for top-rate clerks, and 35 cents for head clerks.

The terms, which were similar to those negotiated by the union's meatcutters locals with the same companies in 1985, also include an $800,000 increase in major medical coverage (to $1 million) and a new individual retirement account plan supplementing the regular pension plan.

Spiegel contract contains 'no move' provision

About 2,800 catalogue sales employees in the Chicago area were covered by a settlement between Spiegel, Inc., and local 743 of the Teamsters union. General wage increases total $1.15 over the 3-year term, with 700 workers under the company's production bonus system being eligible to earn about a third more than $1.15.

Other terms included continuation of the provision for annual cost-of-living pay adjustments calculated at 1 cent an hour for each 0.4-point movement in the Consumer Price Index for the Chicago area; a $50 bonus for full-time employees and $25 for part-timers; a $2 increase in the pension rate to $10 a month for each year of credited service; and continuation of a "no-move" provision, requiring the company to operate the covered facilities until February 29, 1991.

Department store workers in DC area settle

In the Washington, DC–Baltimore, MD, area, 5,500 department store employees were covered by a settlement between Woodward & Lothrop, Inc., and the United Food and Commercial Workers. The 39-month contract, scheduled to run to May 1, 1989, provided for hourly paid employees to receive three wage increases over the term, each averaging about 5 percent. According to the company, the increases will range from 55 cents to $1.70 an hour, varying by job classification.

Rates were not changed for employees paid on a commission basis, but they received a lump-sum bonus equal to 1.5 percent of their 1985 earnings.

Benefit changes for all employees included a 5-percent increase in pension rates for past service and a 25- to 30-percent increase for future service; adoption of changes in the health insurance plan intended to slow the rise in costs; increases in sick leave pay; and increases in premium pay for Sunday work.

Minneapolis grocery workers get new contract

A wide-ranging 3-year contract between Minneapolis grocery chains and the United Food and Commercial Workers provided for a two-tier pay system for part-time workers, lump-sum payments for all 8,000 workers, a joint committee to consider the introduction of new meat department sales items, changes in job rules and duties, and additional employee protection against layoffs.

During the first contract year, the workers will not receive a pay increase, but in the second year they will receive a 3-percent increase, and in the final year will receive two lump-sum payments together equal to 3 percent of their earnings during a 12-month period. The pension rate was increased to $26.67 a month for each year of credited service (from $20) and the service requirement was changed to permit retirement after 30 years, regardless of age.

Part-time clerks and delicatessen workers hired after the March 1 effective date of the contract will start at $5 an hour, and advance to $8 after 5,200 hours of work. Part-time clerks hired earlier started at $5.76 and have a top rate of $9.38.

In a move to control labor costs, stores with three or fewer meatcutters will now be permitted to operate meat departments without a top-rated cutter present after 6 p.m. weekdays and all day on Sunday. Other efforts to control labor costs included establishment of a joint committee authorized to introduce new meat items during the contract term; a program for moderating increases in health insurance costs; and establishment of a "meat service" job category expanding the duties performed by a meat wrapper.

In return for these cost-cutting measures, the employers gave up the right to lay off employees hired after August 31, 1985, except in cases where they decide to close a store or can demonstrate a persistent and irreversible decline in sales.

Health care industry agreements

In Chicago, a settlement between Northwestern Memorial Hospital and the Hospital Employees Labor Program (HELP) increased the incentive for the 1,000 service and maintenance workers to use Northwestern when they are sick or injured. Under the 3-year contract, employees will not be required to pay any medical care costs incurred in Northwestern. If they use another hospital, they will have to pay the first $800 of costs and 20 percent of the balance. Under the prior contract, employees who used other hospitals were required to pay the first $50 of daily room and board for up to 6 days and the health care plan paid all additional costs.

Other terms included wage increases totaling 62 cents an hour that will reportedly raise average pay to $8.22; a $5 a month increase in single employees' financing of health benefits and a $10 increase for family coverage; and adoption of a two-tier pay system under which new employees will start at an average of $1.10 an hour below the top rate for their job and will receive regular progression increases, but will not attain the top rate during the agreement term.

HELP is a joint organization of Service Employees Local 73 and Teamsters Local 743.

Elsewhere in the health care industry, 2,500 doctors, dentists, optometrists, podiatrists, and veterinarians employed by the City of New York were covered by a 3-year contract that provided for a 5-percent salary increase retroactive to July 1, 1984, another 5-percent increase retroactive to July 1, 1985, and a 6-percent increase on July 1, 1986. This will bring the maximum annual salary to $88,807 for "attending III physicians" with at least 15 years of service. Previously, their maximum was $72,709.

The contract was negotiated by a Doctors Council and the city's Health and Hospitals Corporation.

New York State, University Professions settle

A round of bargaining between the State of New York and various unions was finally concluded when the United University Professions, an affiliate of the American Federation of Teachers, settled with the university system, ending an impasse of more than 8 months. The other unions had settled with various State agencies in 1985. (See *Monthly Labor Review*, October 1985, p. 52.)

The 3-year accord for the 17,000 academic and related professional employees provides for 5-percent wage increases in each contract year. The union also joined a new "preferred provider network" that went into operation on January 1, 1986, in an effort to contain rising health care costs.

Police officers get arbitrated pay increase

Police officers in Pittsburgh, PA, received a 4-percent immediate pay increase under a 2-year arbitration award. Resulting annual salaries included $25,792 for fourth-year officers, $28,288 for sergeants, $30,992 for lieutenants, and $34,112 for captains. There also is a provision for reopening the contract on wages in 1987.

Other terms for the 1,200 officers, represented by the Fraternal Order of Police, included longevity pay ranging from 2 percent of annual pay after 5 years' service to 8 percent after 35 years; a 10-percent pay differential between the ranks; a $4 a month city payment into the legal services fund (formerly $2); and a $5 a month increase in the city's payment into a supplemental pension fund, bringing the rates to $20 for each year of service for 20 through 24 years and to $25 for each additional year.

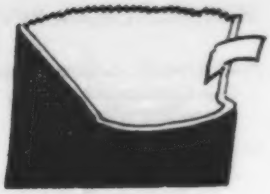
The award was handed down under a State law permitting arbitration when bargainers cannot reach an agreement. ☐

Those other workers

Migrant workers usually have less security of tenure than the local workers. If there are national economic difficulties, and workers have to be dismissed, the migrant workers are likely to have to return home. Their working conditions may be similar to those of others around them, but their housing and entitlement to social services are usually inferior. They are made aware daily that they are in a strange land, and enjoy few of the rights of a citizen.

—INTERNATIONAL LABOR ORGANIZATION
Working Conditions and Environment:
A Worker's Education Manual
(Washington, International Labor
Organization, 1983), p. 44.

Book Reviews



A positive approach

Economic Statecraft. By David A. Baldwin. Princeton, NJ, Princeton University Press, 1985. 409 pp. $12.50 (US), paper.

David Baldwin's aggressively scholarly book should become required reading for anyone making a serious study of economics as an instrument of international politics. Baldwin cites three main purposes in writing this book: (1) to submit the conventional wisdom—that economic instruments are poor instruments of statecraft—to critical review; (2) to stimulate increased awareness of the many forms of economic statecraft; and (3) to develop an analytical framework within which the utility of economic instruments of policy can be discussed. Baldwin is successful to varying degrees at each of these tasks, but it is his excellent handling of the first that makes the book.

The conventional wisdom holds that "economic boycotts never work," "economic 'sticks' do not increase leverage and control over another nation," "sanctions end up making the target country more self-sufficient and strengthening its resolve to continue its policies." These statements are so categorical that one's first suspicion is that they must be, at the very least, overstatements. Indeed, Baldwin's secondary research indicates that close examination of existing case studies finds conflicting evaluations of the efficacy of economic statecraft. His reexamination of several cases widely cited in support of the conventional wisdom convinces the reader that even these "classic" cases are not the definitive evidence against economic statecraft they purport to be. The widely cited "failures" often reflect the analyst's evaluation of the ends of a particular policy, with the specific instruments of that policy fallaciously branded as "ineffective." Baldwin dismisses this confusion of ends and means with the disdain such errors deserve. The perception of policy failure may also reflect an expectation that a narrow economic tool—usually a trade embargo—can be used to effect profound changes in the internal and external behavior of states. Baldwin extends the concept of economic statecraft to include a wider variety of sanctions and rewards and with respect to the conventional literature's preoccupation with single, sweeping goals, reminds the reader that "a given influence attempt may involve multiple goals and targets of varying generality and significance."

Baldwin's third objective, introduction of the basic methods of social power analysis to the study of instruments of statecraft, is attempted in the second chapter. This is one of the weaker points in this work. I did not feel I came away from this chapter well enough briefed on "modern social power analysis" to meaningfully distinguish it from the simple application of generic critical analysis to the field of economic statecraft.

In the end, Baldwin's point is that economic statecraft is a far subtler discipline than the conventional, oversimplified cases suggest. Rather than ask, did a boycott get Castro to step down, or did an embargo drive Israel to abolish itself, a foreign policy analyst might have to be content asking if costs were imposed by one nation for another's noncompliance with relatively modest policy goals. The important question is whether foreign policy is well served by economic instruments in an environment where, as Baldwin sums up, "targets and goals are usually multiple," "success is usually a matter of degree," "alternatives matter," and "the bases of power are many and varied." Given that the most frequently cited alternatives to economic instruments are military adventures, every serious foreign policy analyst should read *Economic Statecraft*.

—Richard M. Devens, Jr.
Office of Employment and
Unemployment Statistics
Bureau of Labor Statistics

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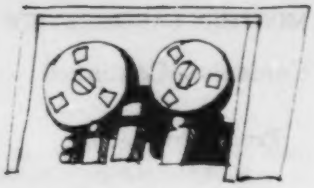

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Schedule of release dates for BLS statistical series

Series	Release date	Period covered	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	June 6	May	July 3	June	August 1	July	1; 4–21
Producer Price Index	June 13	May	July 11	June	August 15	July	2; 33–35
Consumer Price Index	June 20	May	July 23	June	August 21	July	2; 30–32
Real earnings	June 20	May	July 23	June	August 21	July	14–17
Major collective bargaining settlements	....	....	July 28	1st 6 mos.	....	....	3; 25–28
Employment Cost Index	....	....	July 29	2nd qtr.	....	....	1–3; 22–24
Productivity and costs: Nonfarm business and manufacturing	....	....	July 30	2nd qtr.	....	....	2; 42–44
Nonfinancial corporations	....	....	....	....	August 27	2nd qtr.	2; 42–44
U.S. Import and Export Price Indexes	....	....	July 31	2nd qtr.	....	....	2; 36–41

NOTES ON CURRENT LABOR STATISTICS

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics: series on labor force, employment, unemployment, collective bargaining settlements, consumer, producer, and international prices, productivity, international comparisons, and injury and illness statistics. In the notes that follow, the data in each group of tables is briefly described, key definitions are given, notes on the data are set forth, and sources of additional information are cited.

General notes

The following notes apply to several tables in this section:

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect on the data of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might prevent short-term evaluation of the statistical series. Tables containing data that have been adjusted are identified as "seasonally adjusted." (All other data are not seasonally adjusted.) Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. (Seasonally adjusted data appear in tables 1–3, 4–10, 13, 14, and 18.) Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are being seasonally adjusted with a new procedure called X–11 ARIMA, which was developed at Statistics Canada as an extension of the standard X–11 method previously used by BLS. A detailed description of the procedure appears in *The X–11 ARIMA Seasonal Adjustment Method* by Estla Bee Dagum (Statistics Canada, Catalogue No. 12–564E, January 1983). The second change is that seasonal factors are now being calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year for the July-December period. However, revisions of historical data continue to be made only at the end of each calendar year.

Seasonally adjusted labor force data in tables 1 and 4–10 were revised in the February 1986 issue of the *Review*, to reflect experience through 1985.

Annual revisions of the seasonally adjusted payroll data shown in tables 13, 14, and 18 were made in July 1985 using the X–11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in table 42 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the Hourly Earnings Index in table 17—are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is $2 ($3/150 × 100 = $2). The $2 (or any other resulting values) are described as "real," "constant," or "1967" dollars.

Additional information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule preceding these general notes. More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in *Employment and Earnings*, a monthly publication of the Bureau. More data from the household survey is published in the two-volume data book—*Labor Force Statistics Derived From the Current Population Survey*, Bulletin 2096. More data from the establishment survey appears in two data books—*Employment, Hours, and Earnings, United States*, and *Employment, Hours, and Earnings, States and Areas*, and the annual supplements to these data books. More detailed information on employee compensation and collective bargaining settlements is published in the monthly periodical, *Current Wage Developments*. More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report*, and *Producer Prices and Price Indexes*. Detailed data on all of the series in this section are provided in the *Handbook of Labor Statistics*, which is published biennally by the Bureau. BLS bulletins are issued covering productivity, injury and illness, and other data in this section. Finally, the *Monthly Labor Review* carries analytical articles on annual and longer term developments in labor force, employment and unemployment; employee compensation and collective bargaining; prices; productivity; international comparisons; and injury and illness data.

Symbols

p = preliminary. To increase the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally, this revision reflects the availability of later data but may also reflect other adjustments.
n.e.c. = not elsewhere classified.
n.e.s. = not elsewhere specified.

COMPARATIVE INDICATORS
(Tables 1–3)

Comparative indicators tables provide an overview and comparison of major BLS statistical series. Consequently, although many of the included series are available monthly, all measures in these comparative tables are presented quarterly and annually.

Labor market indicators include employment measures from two major surveys and information on rates of change in compensation provided by the Employment Cost Index (ECI) program. The labor force participation rate, the employment-to-population ratio, and unemployment rates for major demographic groups based on the Current Population ("household") Survey are presented, while measures of employment and average weekly hours by major industry sector are given using nonagricultural payroll data. The Employment Cost Index (compensation), by major sector and by bargaining status, is chosen from a variety of BLS compensation and wage measures because it provides a comprehensive measure of employer costs for hiring labor, not just outlays for wages, and it is not affected by employment shifts among occupations and industries.

Data on **changes in compensation, prices, and productivity** are presented in table 2. Measures of rates of change of compensation and wages from the Employment Cost Index program are provided for all civilian

nonfarm workers (excluding Federal and household workers) and for all private nonfarm workers. Measures of changes in: consumer prices for all urban consumers; producer prices by stage of processing; and the overall export and import price indexes are given. Measures of productivity (output per hour of all persons) are provided for major sectors.

Alternative measures of wage and compensation rates of change, which reflect the overall trend in labor costs, are summarized in table 3. Differences in concepts and scope, related to the specific purposes of the series, contribute to the variation in changes among the individual measures.

Notes on the data

Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data. For detailed descriptions of each data series, see *BLS Handbook of Methods*, Volumes I and II, Bulletins 2134–1 and 2134–2 (Bureau of Labor Statistics, 1982 and 1984, respectively), as well as the additional bulletins, articles, and other publications noted in the separate sections of the *Review*'s "Current Labor Statistics Notes." Historical data for many series are provided in the *Handbook of Labor Statistics, Bulletin 2217* (Bureau of Labor Statistics, 1985). Users may also wish to consult *Major Programs, Bureau of Labor Statistics*, Report 718 (Bureau of Labor Statistics, 1985).

EMPLOYMENT DATA

(Tables 1; 4–21)

Household survey data

Description of the series

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 59,500 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons include (1) all civilians who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. Members of the Armed Forces stationed in the United States are also included in the employed total. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **overall unemployment rate** represents the number unemployed as a percent of the labor force, including the resident Armed Forces. The **civilian unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **labor force** consists of all employed or unemployed civilians plus members of the Armed Forces stationed in the United States. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons who are retired, those engaged in their own housework, those not working while attending school, those unable to work because of long-term illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy, and members of the Armed Forces stationed in the United States. The **labor force participation rate** is the proportion of the noninstitutional populaton that is in the labor force. The **employment-population ratio** is total employment (including the resident Armed Forces) as a percent of the noninstitutional population.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 4–10 are seasonally adjusted, based on the seasonal experience through December 1984.

Additional sources of information

For detailed explanations of the data, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 1, and for additional data, *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). A detailed description of the Current Population Survey as well as additional data are available in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*. Historical data from 1948 to 1982 are available in *Labor Force Statistics Derived from the Current Population Survey: A Databook*, Vols. I and II, Bulletin 2096 (Bureau of Labor Statistics, 1982).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

Establishment survey data

Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by more than 200,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

An **establishment** is an economic unit which produces goods or services (such as a factory or store) at a single location and is engaged in one type of economic activity.

Employed persons are all persons who received pay (including holiday

and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 12–16 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in the following industries: transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for about four-fifths of the total employment on private nonagricutural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W). The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

The Diffusion Index, introduced in the May 1983 *Review*, represents the percent of 185 nonagricultural industries in which employment was rising over the indicated period. One-half of the industries with unchanged employment are counted as rising. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. The diffusion index is useful for measuring the dispersion of economic gains or losses and is also an economic indicator.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of May 1985 data, published in the July 1985 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Unadjusted data have been revised back to April 1983; seasonally adjusted data have been revised back to January 1980. These revisions were published in the *Supplement to Employment and Earnings* (Bureau of Labor Statistics, 1985). Unadjusted data from April 1984 forward, and seasonally adjusted data from January 1981 forward are subject to revision in future benchmarks.

Additional sources of information

Detailed data from the establishment survey are published monthly in the BLS periodical, *Employment and Earnings*. Earlier comparable unadjusted and seasonally adjusted data are published in *Employment, Hours, and Earnings, United States, 1909–84*, Bulletin 1312–12 (Bureau of Labor Statistics, 1985) and its annual supplement. For a detailed discussion of the methodology of the survey, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 2. For additional data, see *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

Unemployment data by State

Description of the series

Data presented in this section are obtained from two major sources—the Current Population Survey (CPS) and the Local Area Unemployment Statistics (LAUS) program, which is conducted in cooperation with State employment security agencies.

Monthly estimates of the labor force, employment, and unemployment for States and sub-State areas are a key indicator of local economic conditions and form the basis for determining the eligibility of an area for benefits under Federal economic assistance programs such as the Job Training Partnership Act and the Public Works and Economic Development Act. Insofar as possible, the concepts and definitions underlying these data are those used in the national estimates obtained from the CPS.

Notes on the data

Data refer to State of residence. Monthly data for 11 States—California, Florida, Illinois, Massachusetts, Michigan, New York, New Jersey, North Carolina, Ohio, Pennsylvania, and Texas—are obtained directly from the CPS, because the size of the sample is large enough to meet BLS standards of reliability. Data for the remaining 39 States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates for the 11 States are revised to new population controls. For the remaining States and the District of Columbia, data are benchmarked to annual average CPS levels.

Additional sources of information

Information on the concepts, definitions, and technical procedures used to develop labor force data for States and sub-State areas as well as additional data on sub-States are provided in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*, and the annual report, *Geographic Profile of Employment and Unemployment* (Bureau of Labor Statistics). See also *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 4.

COMPENSATION AND WAGE DATA

(Tables 1–3; 22–29)

COMPENSATION AND WAGE DATA are gathered by the Bureau from business establishments, State and local governments, labor unions, collective bargaining agreements on file with the Bureau, and secondary sources.

Employment Cost Index

Description of the series

The **Employment Cost Index** (ECI) is a quarterly measure of the rate of change in compensation per hour worked and includes wages, salaries, and employer costs of employee benefits. It uses a fixed market basket of labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over time in employer costs of employing labor. The index is not seasonally adjusted.

Statistical series on total compensation costs and on wages and salaries are available for private nonfarm workers excluding proprietors, the self-employed, and household workers. Both series are also available for State and local government workers and for the civilian nonfarm economy, which consists of private industry and State and local government workers combined. Federal workers are excluded.

The Employment Cost Index probability sample consists of about 2,200 private nonfarm establishments providing about 12,000 occupational observations and 700 State and local government establishments providing

3,500 occupational observations selected to represent total employment in each sector. On average, each reporting unit provides wage and compensation information on five well-specified occupations. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Fixed employment weights from the 1970 Census of Population are used each quarter to calculate the indexes for civilian, private, and State and local governments. These fixed weights, also used to derive all of the industry and occupation series indexes, ensure that changes in these indexes reflect only changes in compensation, not employment shifts among industries or occupations with different levels of wages and compensation. For the bargaining status, region, and metropolitan/nonmetropolitan area series, however, employment data by industry and occupation are not available from the census. Instead, the 1970 employment weights are reallocated within these series each quarter based on the current sample. Therefore, these indexes are not strictly comparable to those for the aggregate, industry, and occupation series.

Definitions

Total compensation costs include wages, salaries, and the employer costs for employee benefits.

Wages and salaries consist of earnings before payroll deductions, including production bonuses, incentive earnings, commissions, and cost-of-living adjustments.

Benefits include the cost to employers for paid leave, supplemental pay (including nonproduction bonuses), insurance, retirement and savings plans, and legally required benefits (such as social security, workers' compensation, and unemployment insurance).

Excluded from wages and salaries and employee benefits are such items as payment-in-kind, free room and board, and tips.

Notes on the data

The Employment Cost Index data series began in the fourth quarter of 1975, with the quarterly percent change in wages and salaries in the private nonfarm sector. Data on employer costs for employee benefits were included in 1980 to produce, when combined with the wages and salaries series, a measure of the percent change in employer costs for employee total compensation. State and local government units were added to the ECI coverage in 1981, providing a measure of total compensation change in the *civilian* nonfarm economy (excluding Federal employees). Historical indexes (June 1981 = 100) of the quarterly rates of change are presented in the May issue of the BLS monthly periodical, *Current Wage Developments*.

Additional sources of information

For a more detailed discussion of the Employment Cost Index, see Chapter 11, "The Employment Cost Index," in the *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), and the following *Monthly Labor Review* articles: "Employment Cost Index: a measure of change in the 'price of labor'," July 1975; "How benefits will be incorporated into the Employment Cost Index," January 1978; "Estimation procedures for the Employment Cost Index," May 1982; and "Introducing new weights for the Employment Cost Index," June 1985.

Data on the ECI are also available in BLS quarterly press releases issued in the month following the reference months of March, June, September, and December; and from the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

Collective bargaining settlements

Description of the series

Collective bargaining settlements data provide statistical measures of negotiated adjustments (increases, decreases, and freezes) in compensation (wages and benefits costs) and wages alone, quarterly for private industry and semiannually for State and local government. Compensation measures cover all collective bargaining situations involving 5,000 workers or more and wage measures cover all situations involving 1,000 workers or more. These data, covering private nonagricultural industries and State and local governments, are calculated using information obtained from bargaining agreements on file with the Bureau, parties to the agreements, and secondary sources, such as newspaper accounts. The data are not seasonally adjusted.

Settlement data are measured in terms of future specified adjustments: those that will occur within 12 months after contract ratification—first year—and all adjustments that will occur over the life of the contract expressed as an average annual rate. Adjustments are worker weighted. Both first-year and over-the-life measures exclude wage changes that may occur under cost-of-living clauses that are triggered by future movements in the Consumer Price Index.

Effective wage adjustments measure all adjustments occurring in the reference period, regardless of the settlement date. Included are changes from settlements reached during the period, changes deferred from contracts negotiated in earlier periods, and changes under cost-of-living adjustment clauses. Each wage change is worker weighted. The changes are prorated over all workers under agreements during the reference period yielding the average adjustment.

Definitions

Wage rate changes are calculated by dividing newly negotiated wages by the average hourly earnings, excluding overtime, at the time the agreement is reached. Compensation changes are calculated by dividing the change in the value of the newly negotiated wage and benefit package by existing average hourly compensation, which includes the cost of previously negotiated benefits, legally required social insurance programs, and average hourly earnings.

Compensation changes are calculated by placing a value on the benefit portion of the settlements at the time they are reached. The cost estimates are based on the assumption that conditions existing at the time of settlement (for example, methods of financing pensions or composition of labor force) will remain constant. The data, therefore, are measures of negotiated changes and not of total changes in employer cost.

Contract duration runs from the effective date of the agreement to the expiration date or first wage reopening date, if applicable. Average annual percent changes over the contract term take account of the compounding of successive changes.

Notes on the data

Care should be exercised in comparing the size and nature of the settlements in State and local government with those in the private sector because of differences in bargaining practices and settlement characteristics. A principal difference is the incidence of cost-of-living adjustment (COLA) clauses which cover only about 2 percent of workers under a few local government settlements, but cover 50 percent of workers under private sector settlements. Agreements without COLA's tend to provide larger specified wage increases than those with COLA's. Another difference is that State and local government bargaining frequently excludes pension benefits which are often prescribed by law. In the private sector, in contrast, pensions are typically a bargaining issue.

Additional sources of information

For a more detailed discussion on the series, see of the *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 10. Comprehensive data are published in press releases issued quarterly (in January, April, July, and October) for private industry, and semi-

annually (in February and August) for State and local government. Historical data and additional detailed tabulations for the prior calendar year appear in the April issue of the BLS monthly periodical, *Current Wage Developments*.

Work stoppages

Description of the series

Data on **work stoppages** measure the number and duration of major strikes or lockouts (involving 1,000 workers or more) occurring during the month (or year), the number of workers involved, and the amount of time lost because of stoppage.

Data are largely from newspaper accounts and cover only establishments directly involved in a stoppage. They do not measure the indirect or secondary effect of stoppages on other establishments whose employees are idle owing to material shortages or lack of service.

Definitions

Number of stoppages: The number of strikes and lockouts involving 1,000 workers or more and lasting a full shift or longer.

Workers involved: The number of workers directly involved in the stoppage.

Number of days idle: The aggregate number of work days lost by workers involved in the stoppages.

Days of idleness as a percent of estimated working time: Aggregate work days lost as a percent of the aggregate number of standard work days in the period multiplied by total employment in the period.

Notes on the data

This series is not comparable with the one terminated in 1981 that covered strikes involving six workers or more.

Additional sources of information

Data for each calendar year are reported in a BLS press release issued in the first quarter of the following year. Monthly data appear in the BLS monthly periodical, *Current Wage Developments*. Historical data appear in the BLS *Handbook of Labor Statistics*.

Other compensation data

Other BLS data on pay and benefits, not included in the Current Labor Statistics section of the *Monthly Labor Review*, appear in and consist of the following:

Industry Wage Surveys provide data for specific occupations selected to represent an industry's wage structure and the types of activities performed by its workers. The Bureau collects information on weekly work schedules, shift operations and pay differentials, paid holiday and vacation practices, and information on incidence of health, insurance, and retirement plans. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Monthly Labor Review*.

Area Wage Surveys annually provide data for selected office, clerical, professional, technical, maintenance, toolroom, powerplant, material movement, and custodial occupations common to a wide variety of industries in the areas (labor markets) surveyed. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Review*.

The National Survey of Professional, Administrative, Technical, and Clerical Pay provides detailed information annually on salary levels and distributions for the types of jobs mentioned in the survey's title in private employment. Although the definitions of the jobs surveyed reflect the duties and responsibilities in private industry, they are designed to match specific pay grades of Federal white-collar employees under the General Schedule pay system. Accordingly, this survey provides the legally required information for comparing the pay of salaried employees in the Federal civil service with pay in private industry. (See Federal Pay Comparability Act of 1970, 5 U.S.C. 5305.) Data are published in a BLS news release issued in the summer and in a bulletin each fall; summaries and analytical articles also appear in the *Review*.

Employee Benefits Survey provides nationwide information on the incidence and characteristics of employee benefit plans in medium and large establishments in the United States, excluding Alaska and Hawaii. Data are published in an annual BLS news release and bulletin, as well as in special articles appearing in the *Review*.

PRICE DATA
(Tables 2; 30–41)

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Consumer Price Indexes

Description of the series

The **Consumer Price Index** (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI-W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all urban consumer index (CPI-U) introduced in 1978 is representative of the 1972–73 buying habits of about 80 percent of the noninstitutional population of the United States at that time, compared with 40 percent represented in the CPI-W. In addition to wage earners and clerical workers, the CPI-U covers professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items are kept essentially unchanged between major revisions so that only price changes will be measured. All taxes directly associated with the purchase and use of items are included in the index.

Data collected from more than 24,000 retail establishments and 24,000 tenants in 85 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 28 major urban centers are presented in table 31. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

Notes on the data

In January 1983, the Bureau changed the way in which homeownership costs are measured for the CPI-U. A rental equivalence method replaced the

asset-price approach to homeownership costs for that series. In January 1985, the same change was made in the CPI-W. The central purpose of the change was to separate shelter costs from the investment component of homeownership so that the index would reflect only the cost of shelter services provided by owner-occupied homes.

Additional sources of information

For a discussion of the general method for computing the CPI, see *BLS Handbook of Methods, Volume II, The Consumer Price Index*, Bulletin 2134–2 (Bureau of Labor Statistics, 1984). The recent change in the measurement of homeownership costs is discussed in Robert Gillingham and Walter Lane, "Changing the treatment of shelter costs for homeowners in the CPI," *Monthly Labor Review*, June 1982, pp. 9–14.

Additional detailed CPI data and regular analyses of consumer price changes are provided in the *CPI Detailed Report*, a monthly publication of the Bureau. Historical data for the overall CPI and for selected groupings may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

Producer price indexes

Description of the series

Producer Price Indexes (PPI) measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 60,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The stage of processing structure of Producer Price Indexes organizes products by class of buyer and degree of fabrication (that is, finished goods, intermediate goods, and crude materials). The traditional commodity structure of PPI organizes products by similarity of end-use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

Since January 1976, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

Notes on the data

Beginning with the January 1986 issue, the *Review* is no longer presenting tables of Producer Price Indexes for commodity groupings, special composite groups, or SIC industries. However, these data will continue to be presented in the Bureau's monthly publication *Producer Price Indexes*.

The Bureau has completed the first major stage of its comprehensive overhaul of the theory, methods, and procedures used to construct the Producer Price Indexes. Changes include the replacement of judgment sampling with probability sampling techniques; expansion to systematic coverage of the net output of virtually all industries in the mining and manufacturing sectors; a shift from a commodity to an industry orientation; the exclusion of imports from, and the inclusion of exports in, the survey universe; and the respecification of commodities priced to conform to Bureau of the Census definitions. These and other changes have been phased in gradually since 1978. The result is a system of indexes that is easier to use in conjunction with data on wages, productivity, and employment and other series that are organized in terms of the Standard Industrial Classification and the Census product class designations.

Additional sources of information

For a discussion of the methodology for computing Producer Price Indexes, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 7.

Additional detailed data and analyses of price changes are provided monthly in *Producer Price Indexes*. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

International price indexes

Description of the series

The BLS **International Price Program** produces quarterly export and import price indexes for nonmilitary goods traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national income accounts: it includes corporations, businesses, and individuals but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents. With publication of an all-import index in February 1983 and an all-export index in February 1984, all U.S. merchandise imports and exports now are represented in these indexes. The reference period for the indexes is 1977 = 100, unless otherwise indicated.

The product universe for both the import and export indexes includes raw materials, agricultural products, semifinished manufactures, and finished manufactures, including both capital and consumer goods. Price data for these items are collected quarterly by mail questionnaire. In nearly all cases, the data are collected directly from the exporter or importer, although in a few cases, prices are obtained from other sources.

To the extent possible, the data gathered refer to prices at the U.S. border for exports and at either the foreign border or the U.S. border for imports. For nearly all products, the prices refer to transactions completed during the first 2 weeks of the third month of each calendar quarter—March, June, September, and December. Survey respondents are asked to indicate all discounts, allowances, and rebates applicable to the reported prices, so that the price used in the calculation of the indexes is the actual price for which the product was bought or sold.

In addition to general indexes of prices for U.S. exports and imports, indexes are also published for detailed product categories of exports and imports. These categories are defined by the 4- and 5-digit level of detail of the Standard Industrial Trade Classification System (SITC). The calculation of indexes by SITC category facilitates the comparison of U.S. price trends and sector production with similar data for other countries. Detailed indexes are also computed and published on a Standard Industrial Classification (SIC-based) basis, as well as by end-use class.

Notes on the data

The export and import price indexes are weighted indexes of the Laspeyeres type. Price relatives are assigned equal importance within each weight category and are then aggregated to the SITC level. The values assigned to each weight category are based on trade value figures compiled

by the Bureau of the Census. The trade weights currently used to compute both indexes relate to 1980.

Because a price index depends on the same items being priced from period to period, it is necessary to recognize when a product's specifications or terms of transaction have been modified. For this reason, the Bureau's quarterly questionnaire requests detailed descriptions of the physical and functional characteristics of the products being priced, as well as information on the number of units bought or sold, discounts, credit terms, packaging, class of buyer or seller, and so forth. When there are changes in either the specifications or terms of transaction of a product, the dollar value of each change is deleted from the total price change to obtain the "pure" change. Once this value is determined, a linking procedure is employed which allows for the continued repricing of the item.

For the export price indexes, the preferred pricing basis is f.a.s. (free alongside ship) U.S. port of exportation. When firms report export prices f.o.b. (free on board), production point information is collected which enables the Bureau to calculate a shipment cost to the port of exportation. An attempt is made to collect two prices for imports. The first is the import price f.o.b. at the foreign port of exportation, which is consistent with the basis for valuation of imports in the national accounts. The second is the import price c.i.f. (cost, insurance, and freight) at the U.S. port of importation, which also includes the other costs associated with bringing the product to the U.S. border. It does not, however, include duty charges.

Additional sources of information

For a discussion of the general method of computing International Price Indexes, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 8.

Additional detailed data and analyses of international price developments are presented in the Bureau's quarterly publication *U.S. Import and Export Price Indexes* and in occasional *Monthly Labor Review* articles prepared by BLS analysts. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

PRODUCTIVITY DATA
(Tables 2; 42–47)

U. S. productivity and related data

Description of the series

The productivity measures relate real physical output to real input. As such, they encompass a family of measures which include single factor input measures, such as output per unit of labor input (output per hour) or output per unit of capital input, as well as measures of multifactor productivity (output per unit of labor and capital inputs combined). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

Corresponding indexes of hourly compensation, unit labor costs, unit nonlabor payments, and prices are also provided.

Definitions

Output per hour of all persons (labor productivity) is the value of goods and services in constant prices produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the value of goods and services in constant dollars produced per unit of capital services input.

Multifactor productivity is the ratio output per unit of labor and capital inputs combined. Changes in this measure reflect changes in a number of factors which affect the production process such as changes in technology, shifts in the composition of the labor force, changes in capacity utilization, research and development, skill and efforts of the work force, management, and so forth. Changes in the output per hour measures reflect the impact of these factors as well as the substitution of capital for labor.

Compensation per hour is the wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, and the wages, salaries, and supplementary payments for the self-employed (except for nonfinancial corporations in which there are no self-employed)—the sum divided by hours paid for. **Real compensation per hour** is compensation per hour deflated by the change in the Consumer Price Index for All Urban Consumers.

Unit labor costs are the labor compensation costs expended in the production of a unit of output and are derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from current dollar value of output and dividing by output. **Unit nonlabor costs** contain all the components of unit nonlabor payments *except* unit profits.

Unit profits include corporate profits and the value of inventory adjustments per unit of output.

Hours of all persons are the total hours paid of payroll workers, self-employed persons, and unpaid family workers.

Capital services is the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories—weighted by rental prices for each type of asset.

Labor and capital inputs combined are derived by combining changes in labor and capital inputs with weights which represent each component's share of total output. The indexes for capital services and combined units of labor and capital are based on changing weights which are averages of the shares in the current and preceding year (the Tornquist index-number formula).

Notes on the data

Output measures for the business sector and the nonfarm businesss sector exclude the constant dollar value of owner-occupied housing, rest of world, households and institutions, and general government output from the constant dollar value of gross national product. The measures are derived from data supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are developed from data of the Bureau of Labor Statistics and the Bureau of Economic Analysis.

The productivity and associated cost measures in tables 42–44 describe the relationship between output in real terms and the labor time and capital services involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input. Although these measures relate output to hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; capital investment; level of output; utilization of capacity, energy, and materials; the organization of production; managerial skill; and the characteristics and efforts of the work force.

Additional sources of information

Descriptions of methodology underlying the measurement of output per hour and multifactor productivity are found in the *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 13. Historical data for selected industries are provided in the Bureau's *Handbook of Labor Statistics*, 1985, Bulletin 2217.

International comparisons

Description of the series

Comparative measures of labor force, employment, and unemployment (tables 45 and 46) are prepared regularly for the United States, Canada, Australia, Japan, France, Germany, Great Britain, Italy, the Netherlands, and Sweden. Unemployment rates, approximating U.S. concepts, are prepared monthly for most of the countries; the other measures, annually.

The Bureau of Labor Statistics also prepares international comparisons of manufacturing labor productivity and labor costs (table 47) that cover the United States and 11 foreign countries—those listed above plus Belgium and Norway. These measures are limited to trend comparisons; that is, intercountry series of changes over time, rather than level comparisons because reliable international comparisons of the levels of manufacturing are unavailable. The U.S. measures are described in the notes on U.S. productivity measurement; the measures for foreign countries are compiled from various national and international data sources.

Definitions

Output measures are constant value output (value added) from the national accounts of each country, except for those for Japan prior to 1970 and for the Netherlands for 1969 forward, which are indexes of industrial production. The national accounting methods for measuring real output differ considerably among the 12 countries, but the use of different procedures does not, in itself, connote lack of comparability—rather, it reflects differences among countries in the availability and reliability of underlying data series.

Hours and compensation measures refer to all employed persons including the self-employed in the United States and Canada, and to all wage and salary employees in the other countries. *Hours* refer to hours *paid* in the United States, hours *worked* in the other countries. *Compensation (labor costs)* includes not only all payments made directly to employees and employer expenditures for social insurance and private benefit plans, but changes in significant employment or payroll taxes that are not compensation to employees but are labor costs to employers (France, Sweden, and the United Kingdom). Self-employed workers are included in the U.S. and Canadian figures by assuming that their hourly compensation is equal to the average for wage and salary employees.

Notes on the data

The data for the foreign countries in tables 45 and 46 have been adjusted, where necessary, for greater comparability with U.S. definitions of employment and unemployment. The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country. Therefore, the adjusted statistics relate to the civilian population age 16 and over in the United States, France, and Sweden, and from 1973 forward, Great Britain; 15 and over in Canada, Australia, Japan, Germany, and the Netherlands; and 14 and over in Italy. Prior to 1973, the data for Great Britain related to persons age 15 and over. The institutional population is included in the denominator of the labor force participation rates and employment-population ratios for Japan and Germany.

For most of the countries in table 47, the measures refer to total manufacturing as defined by the International Standard Industrial Classification. However, the measures for France (beginning 1959), Italy (beginning 1970), and the United Kingdom (beginning 1976) refer to manufacturing and mining less energy-related products. For all countries, manufacturing includes the activities of government enterprises.

In addition, for all countries, preliminary estimates for recent years are generally based on current indicators of manufacturing output, employment and hours, and hourly compensation until national accounts and other statistics used for the long-term measures become available.

Additional sources of information

For further information, see *International Comparisons of Unemployment*, Bulletin 1979 (Bureau of Labor Statistics, 1978), Appendix B and Supplements to Appendix B. Additional detail is also found in the *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 16. Additional international comparison statistics are available in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). The most recent statistics are presented and analyzed annually in the *Monthly Labor Review*, typically in the December issue (for the previous year) and in February.

OCCUPATIONAL INJURY AND ILLNESS DATA

(Table 48)

Description of the series

The Annual Survey of Occupational Injuries and Illnesses is designed to collect data on injuries and illnesses based on records which employers in the following industries maintain under the Occupational Safety and Health Act of 1970: agriculture, forestry, and fishing; oil and gas extraction; construction; manufacturing; transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. Excluded from the survey are self-employed individuals, farmers with fewer than 11 employees, employers regulated by other Federal safety and health laws, and Federal, State, and local government agencies.

Because the survey is a Federal–State cooperative program and the data must meet the needs of participating State agencies, an independent sample is selected for each State. The sample is selected to represent all private industries in the States and territories. The sample size for the survey is dependent upon (1) the characteristics for which estimates are needed; (2) the industries for which estimates are desired; (3) the characteristics of the population being sampled; (4) the target reliability of the estimates; and (5) the survey design employed.

While there are many characteristics upon which the sample design could be based, the total recorded case incidence rate is used because it is one of the most important characteristics and the least variable; therefore, it requires the smallest sample size.

The survey is based on stratified random sampling with a Neyman allocation and a ratio estimator. The characteristics used to stratify the establishments are the Standard Industrial Classification (SIC) code and size of employment.

Definitions

Recordable occupational injuries and illnesses are: (1) occupational deaths, regardless of the time between injury and death, or the length of the illness; or (2) nonfatal occupational illnesses; or (3) nonfatal occupational injuries which involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment (other than first aid).

Occupational injury is any injury such as a cut, fracture, sprain, amputation, and so forth, which results from a work accident or from exposure involving a single incident in the work environment.

Occupational illness is an abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. It includes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion, or direct contact.

Lost workday cases are cases which involve days away from work, or days of restricted work activity, or both.

Lost workday cases involving restricted work activity are those cases which result in restricted work activity only.

Lost workdays away from work are the number of workdays (consecutive or not) on which the employee would have worked but could not because of occupational injury or illness.

Lost workdays—restricted work activity are the number of workdays (consecutive or not) on which, because of injury or illness: (1) the employee was assigned to another job on a temporary basis; or (2) the employee worked at a permanent job less than full time; or (3) the employee worked at a permanently assigned job but could not perform all duties normally connected with it.

The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked even though able to work.

Incidence rates represent the number of injuries and/or illnesses or lost workdays per 100 full-time workers.

Notes on the data

Estimates are made for industries and employment-size classes and for severity classification: fatalities, lost workday cases, and nonfatal cases without lost workdays. Lost workday cases are separated into those where the employee would have worked but could not and those in which work activity was restricted. Estimates of the number of cases and the number of days lost are made for both categories.

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses, or lost workdays, per 100 full-time employees. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Only a few of the available measures are included in the *Handbook of Labor Statistics*. Full detail is presented in the annual bulletin, *Occupational Injuries and Illnesses in the United States, by Industry*.

Comparable data for individual States are available from the BLS Office of Occupational Safety and Health Statistics.

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration, respectively. Data from these organizations are included in BLS and State publications. Federal employee experience is compiled and published by the Occupational Safety and Health Administration. Data on State and local government employees are collected by about half of the States and territories; these data are not compiled nationally.

Additional sources of information

The Supplementary Data System provides detailed information describing various factors associated with work-related injuries and illnesses. These data are obtained from information reported by *employers* to State workers' compensation agencies. The Work Injury Report program examines selected types of accidents through an employee survey which focuses on the circumstances surrounding the injury. These data are not included in the *Handbook of Labor Statistics* but are available from the BLS Office of Occupational Safety and Health Statistics.

The definitions of occupational injuries and illnesses and lost workdays are from *Recordkeeping Requirements under the Occupational Safety and Health Act of 1970*. For additional data, see *Occupational Injuries and Illnesses in the United States, by Industry*, annual Bureau of Labor Statistics bulletin; BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 17; *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985), pp. 411–14; annual reports in the *Monthly Labor Review*; and annual U.S. Department of Labor press releases.

1. Labor market indicators

Selected indicators	1984	1985	1984			1985				1986
			II	III	IV	I	II	III	IV	I
Employment data										
Employment status of the civilian noninstitutionalized population (household survey)[1]										
Labor Force participation rate	64.4	64.8	64.5	64.4	64.5	64.8	64.7	64.7	64.9	65.1
Employment-population ratio	59.5	60.1	59.6	59.7	59.8	60.1	60.0	60.1	60.4	60.5
Unemployment rate	7.5	7.2	7.5	7.4	7.2	7.3	7.3	7.2	7.0	7.1
Men	7.4	7.0	7.4	7.3	7.1	7.1	7.1	7.0	6.9	6.8
16 to 24 years	14.4	14.1	14.3	14.5	13.8	14.1	14.2	14.0	14.0	13.3
25 years and over	5.7	5.3	5.7	5.5	5.4	5.4	5.4	5.3	5.2	5.3
Women	7.6	7.4	7.6	7.6	7.5	7.6	7.5	7.4	7.2	7.3
16 to 24 years	13.3	13.0	13.5	13.1	12.9	13.1	13.0	12.7	13.1	13.2
25 years and over	6.0	5.9	5.9	6.0	5.9	6.0	6.0	5.9	5.5	5.7
Unemployment rate, 15 weeks and over	2.4	2.0	2.5	2.3	2.1	2.0	2.0	2.0	1.9	1.8
Employment, nonagricultural (payroll data):[1], [2]										
Total	94,461	97,699	94,013	94,915	95,849	96,640	97,338	97,967	98,615	-
Private sector	78,477	81,404	78,082	78,896	79,745	80,522	81,143	81,588	82,321	-
Goods-producing	24,730	25,057	24,680	24,861	24,973	25,077	25,055	24,986	25,096	-
Manufacturing	19,412	19,426	19,394	19,509	19,564	19,564	19,430	19,331	19,384	-
Service-producing	69,731	72,643	69,333	70,055	70,876	71,563	72,283	72,981	73,717	-
Average hours										
Private sector	35.3	35.1	35.3	35.3	35.2	35.1	35.1	35.1	35.1	-
Manufacturing	40.7	40.5	40.8	40.5	40.5	40.4	40.3	40.5	40.8	-
Overtime	3.4	3.3	3.5	3.5	3.6	3.4	3.3	3.2	3.4	3.6
Employment Cost Index										
Percent change in the ECI, compensation:[3]										
All workers (excluding farm, household, and Federal workers)	-	-	.8	1.3	1.2	1.3	.7	1.6	.6	1.1
Private industry workers	-	-	.9	.8	1.3	1.2	.8	1.3	.6	1.1
Goods-producing[4]	-	-	.9	.9	1.1	1.5	.7	.6	.6	1.1
Servicing-producing[4]	-	-	1.0	.7	1.4	1.0	1.0	1.8	.5	1.1
State and local government workers	-	-	.4	3.5	1.0	1.2	.2	3.4	.7	1.0
Workers by bargaining status (private industry)										
Union	-	-	.9	.7	1.1	.7	.6	.8	.5	1.0
Nonunion	-	-	1.0	.9	1.3	1.6	1.0	1.4	.6	1.2

[1] Quarterly data seasonally adjusted.

[2] Data for final quarter are preliminary.

[3] Quarterly changes calculated using the last month of each quarter.

[4] Goods-producing industries include mining, construction, and manufacturing. Service-producing industries include all other private sector industries.

– Data not available.

2. Annual and quarterly percent changes in compensation, prices, and productivity

Selected measures	1984	1985	1984			1985				1986
			II	III	IV	I	II	III	IV	I
Compensation data: [1], [2]										
Employment Cost Index--Compensation (wages, salaries, benefits)										
Civilian nonfarm	-	-	0.8	1.3	1.2	1.3	0.7	1.6	0.6	1.1
Private nonfarm	-	-	.9	.8	1.3	1.2	.8	1.3	.6	1.1
Employment Cost Index--Wages and Salaries										
Civilian nonfarm	-	-	.8	1.3	1.2	1.2	.9	1.7	.6	1.0
Private nonfarm	-	-	.9	.8	1.2	1.2	1.1	1.3	.6	1.3
Price data[1]										
Consumer Price Index (All urban consumers): All items	4.0	3.8	1.1	1.2	.3	1.0	1.1	.7	.9	-.4
Producer Price Index										
Finished goods	1.7	1.8	-.2	-.5	.9	.0	.7	-1.4	2.5	-3.1
Finished consumer goods	1.6	1.5	-.3	-.5	.8	-.3	.7	-1.4	2.5	-4.0
Capital equipment	1.8	2.7	.5	-.5	1.1	1.3	.4	-1.4	2.5	.2
Intermediate materials, supplies, components	1.3	-.3	.6	-.4	-.1	-.4	.2	-.5	.4	-3.0
Crude materials	-1.6	-5.6	-1.7	-2.0	-1.2	-3.1	-2.1	-4.5	4.3	-7.7
U.S. Export Price Index	-	-	-	-	-	-	-	-	-	-
U.S. Import Price Index	-	-	-	-	-	-	-	-	-	-
Productivity data[1]										
Output per hour of all persons:										
Business sector	4.0	.2	4.5	1.0	.0	1.3	.7	2.1	-4.0	2.5
Nonfarm business sector	3.0	-.6	3.9	-.5	-.5	1.1	-.2	.5	-4.7	3.4
Nonfinancial corporations [3]	4.2	-.4	5.0	-.8	-.3	-.2	-1.1	3.2	-2.3	-

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[1] Annual changes are December-to-December change. Quarterly changes are calculated using the last month of each quarter. Compensation and Price data are not seasonally adjusted and the price data are not compounded. Productivity data are seasonally adjusted.

[2] Excludes Federal and private household workers.

[3] Output per hour of all employees.

- Data not available.

3. Alternative measures of wage and compensation changes

Components	Quarterly average						Four quarters ended in--					
	1984	1985				1986	1984	1985				1986
	IV	I	II	III	IV	I	IV	I	II	III	IV	I
Average hourly compensation:[1]												
All persons, business sector	-	-	-	-	-	-	-	-	-	-	-	-
All employees, nonfarm business sector	-	-	-	-	-	-	-	-	-	-	-	-
Hourly earnings index:[2]												
All private nonfarm	-	-	-	-	-	-	-	-	-	-	-	-
Employment Cost Index--compensation:												
Civilian nonfarm [3]	1.2	1.3	0.7	1.6	0.6	1.1	5.2	4.8	4.6	4.9	4.3	4.1
Private nonfarm	1.3	1.2	.8	1.3	.6	1.1	4.9	4.4	4.2	4.7	3.9	3.8
Union	1.1	.7	.6	.8	.5	1.0	4.3	3.5	3.1	3.2	2.6	2.9
Nonunion	1.3	1.6	1.0	1.4	.6	1.2	5.2	4.9	4.9	5.4	4.6	4.2
State and local governments	1.0	1.2	.2	3.4	.7	1.0	6.6	6.3	6.1	6.0	5.7	5.5
Employment Cost Index--wages and salaries:												
Civilian nonfarm[3]	1.2	1.2	.9	1.7	.6	1.0	4.5	4.[illegible]	4.5	5.0	4.4	4.2
Private nonfarm	1.2	1.2	1.1	1.3	.6	1.0	4.1	4.1	4.3	4.8	4.1	3.9
Union	.9	.7	1.1	.9	.5	.7	3.4	3.0	3.4	3.6	3.1	3.2
Nonunion	1.3	1.4	1.1	1.5	.6	1.1	4.5	4.6	4.8	5.4	4.6	4.3
State and local governments	.8	1.0	.2	3.5	.8	1.0	5.9	5.6	5.5	5.6	5.6	5.5
Total effective wage adjustments[4]	.7	.7	.8	1.2	.5	.6	3.7	3.6	3.5	3.5	3.3	3.1
From current settlements	.3	.1	.2	.2	.1	.0	.8	.7	.9	.9	.7	-
From prior settlements	.2	.6	.5	.5	.2	.4	2.0	2.2	1.9	1.8	1.8	1.7
From cost-of-living provision	.2	.1	.1	.4	.1	.2	.9	.7	.7	.8	.7	.8
Negotiated wage adjustments from settlements[4]												
First-year adjustments	2.3	3.3	2.5	2.0	2.1	.8	2.4	2.4	2.4	2.4	2.3	2.0
Annual rate over life of contract	1.5	3.2	2.8	3.1	1.9	1.6	2.4	2.3	2.4	2.5	2.7	2.5
Negotiated wage and benefit adjustments from settlements:[5]												
First-year adjustment	3.7	3.6	3.5	2.0	2.0	.3	3.6	3.4	3.4	3.1	2.7	2.3
Annual rate over life of contract	2.0	2.7	3.4	3.0	1.4	1.2	2.8	2.6	2.7	2.7	2.8	2.6

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[1] Seasonally adjusted.

[2] Production or nonsupervisory workers.

[3] Excludes Federal and household workers.

[4] Limited to major collective bargaining units of 1,000 workers or more. The most recent data are preliminary.

[5] Limited to major collective bargaining units of 5,000 workers or more. The most recent data are preliminary.

- Data not available.

4. Employment status of the total population, by sex, monthly data seasonally adjusted

(Number in thousands)

Employment status	Annual average		1985									1986			
	1984	1985	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
TOTAL															
Noninstitutional population [1], [2]	178,080	179,912	179,501	179,649	179,798	179,967	180,131	180,304	180,470	180,642	180,810	181,361	181,512	181,678	181,84
Labor force[2]	115,241	117,167	116,958	117,044	116,726	116,976	117,069	117,522	117,814	117,832	117,927	118,477	118,779	118,900	118,92
Participation rate [3]	64.7	65.1	65.2	65.2	64.9	65.0	65.0	65.2	65.3	65.2	65.2	65.3	65.4	65.4	65.
Total employed [2]	106,702	108,856	108,574	108,644	108,303	108,575	108,936	109,251	109,513	109,671	109,904	110,646	110,252	110,481	110,56
Employment-population ratio [4]	59.9	60.5	60.5	60.5	60.2	60.3	60.5	60.6	60.7	60.7	60.8	61.0	60.7	60.8	60.
Resident Armed Forces [1]	1,697	1,706	1,702	1,705	1,702	1,704	1,726	1,732	1,700	1,702	1,698	1,691	1,691	1,693	1,69
Civilian employed	105,005	107,150	106,872	106,939	106,601	106,871	107,210	107,519	107,813	107,969	108,206	108,955	108,561	108,788	108,89
Agriculture	3,321	3,179	3,353	3,284	3,140	3,120	3,095	3,017	3,058	3,070	3,151	3,299	3,096	3,285	3,22
Nonagricultural industries	101,685	103,971	103,519	103,655	103,461	103,751	104,115	104,502	104,755	104,899	105,055	105,655	105,465	105,503	105,670
Unemployed	8,539	8,312	8,384	8,400	8,423	8,401	8,133	8,271	8,301	8,161	8,023	7,831	8,527	8,419	8,34
Unemployment rate [5]	7.4	7.1	7.2	7.2	7.2	7.2	6.9	7.0	7.0	6.9	6.8	6.6	7.2	7.1	7.0
Not in labor force	62,839	62,744	62,543	62,605	63,072	62,991	63,062	62,782	62,656	62,810	62,883	62,885	62,733	62,778	62,914
Men, 16 years and over															
Noninstitutional population [1], [2]	85,156	86,025	85,827	85,898	85,970	86,052	86,132	86,217	86,293	86,374	86,459	86,882	86,954	87,035	87,120
Labor force[2]	65,386	65,967	65,929	66,012	65,808	65,884	65,945	66,074	66,227	66,176	66,139	66,679	66,838	66,864	66,757
Participation rate [3]	76.8	76.7	76.8	76.8	76.5	76.6	76.6	76.6	76.7	76.6	76.5	76.7	76.9	76.8	76.6
Total employed [2]	60,642	61,447	61,373	61,498	61,175	61,273	61,510	61,629	61,656	61,731	61,793	62,458	62,243	62,288	62,254
Employment-population ratio [4]	71.2	71.4	71.5	71.6	71.2	71.2	71.4	71.5	71.4	71.5	71.5	71.9	71.6	71.6	71.5
Resident Armed Forces [1]	1,551	1,556	1,553	1,556	1,552	1,554	1,574	1,580	1,551	1,552	1,549	1,539	1,539	1,540	1,541
Civilian employed	59,091	59,891	59,820	59,942	59,623	59,719	59,936	60,049	60,105	60,179	60,244	60,919	60,704	60,748	60,713
Unemployed	4,744	4,521	4,556	4,514	4,633	4,611	4,435	4,445	4,571	4,445	4,346	4,221	4,595	4,577	4,503
Unemployment rate [5]	7.3	6.9	6.9	6.8	7.0	7.0	6.7	6.7	6.9	6.7	6.6	6.3	6.9	6.8	6.7
Women, 16 years and over															
Noninstitutional population [1], [2]	92,924	93,886	93,674	93,751	93,828	93,915	93,999	94,087	94,177	94,266	94,351	94,479	94,558	94,643	94,723
Labor force[2]	49,855	51,200	51,029	51,032	50,918	51,092	51,124	51,448	51,587	51,655	51,788	51,797	51,941	52,036	52,172
Participation rate [3]	53.7	54.5	54.5	54.4	54.3	54.4	54.4	54.7	54.8	54.8	54.9	54.8	54.9	55.0	55.1
Total employed[2]	46,061	47,409	47,201	47,146	47,128	47,302	47,426	47,622	47,857	47,939	48,111	48,187	48,009	48,194	48,333
Employment-population ratio [4]	49.6	50.5	50.4	50.3	50.2	50.4	50.5	50.6	50.8	50.9	51.0	51.0	50.8	50.9	51.0
Resident Armed Forces [1]	146	150	149	149	150	150	152	152	149	149	149	152	152	153	154
Civilian employed	45,915	47,259	47,052	46,997	46,978	47,152	47,274	47,470	47,708	47,790	47,962	48,035	47,857	48,041	48,179
Unemployed	3,794	3,791	3,828	3,886	3,790	3,790	3,698	3,826	3,730	3,716	3,677	3,610	3,932	3,842	3,839
Unemployment rate [5]	7.6	7.4	7.5	7.6	7.4	7.4	7.2	7.4	7.2	7.2	7.1	7.0	7.6	7.4	7.4

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[1] The population and Armed Forces figures are not adjusted for seasonal variation.

[2] Includes members of the Armed Forces stationed in the United States.

[3] Labor force as a percent of the noninstitutional population.

[4] Total employed as a percent of the noninstitutional population.

[5] Unemployment as a percent of the labor force (including the resident Armed Forces).

5. Employment status of the civilian population, by sex, age, race and Hispanic origin, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1985									1986			
	1984	1985	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
TOTAL															
Civilian noninstitutional population[1]	176,383	178,206	177,799	177,944	178,096	178,263	178,405	178,572	178,770	178,940	179,112	179,670	179,821	179,985	180,148
Civilian labor force	113,544	115,461	115,256	115,339	115,024	115,272	115,343	115,790	116,114	116,130	116,229	116,786	117,086	117,207	117,234
Participation rate	64.4	64.8	64.8	64.8	64.6	64.7	64.7	64.8	65.0	64.9	64.9	65.0	65.1	65.1	65.1
Employed	105,005	107,150	106,872	106,939	106,601	106,871	107,210	107,519	107,813	107,989	108,206	108,955	108,561	108,788	108,892
Employment-population ratio[2]	59.5	60.1	60.1	60.1	59.9	60.0	60.1	60.2	60.3	60.3	60.4	60.6	60.4	60.4	60.4
Unemployed	8,539	8,312	8,384	8,400	8,423	8,401	8,133	8,271	8,301	8,161	8,023	7,831	8,527	8,419	8,342
Unemployment rate	7.5	7.2	7.3	7.3	7.3	7.3	7.1	7.1	7.1	7.0	6.9	6.7	7.3	7.2	7.1
Not in labor force	62,839	62,744	62,543	62,605	63,072	62,991	63,062	62,782	62,656	62,810	62,883	62,885	62,733	62,778	62,914
Men, 20 years and over															
Civilian noninstitutional population[1]	76,219	77,195	76,988	77,068	77,135	77,243	77,306	77,389	77,498	77,586	77,651	78,101	78,171	78,236	78,309
Civilian labor force	59,701	60,277	60,165	60,240	60,246	60,158	60,269	60,407	60,526	60,553	60,548	61,212	61,183	61,268	61,053
Participation rate	78.3	78.1	78.1	78.2	78.1	77.9	78.0	78.1	78.1	78.1	78.0	78.4	78.3	78.3	78.0
Employed	55,769	56,562	56,390	56,544	56,384	56,403	56,636	56,751	56,849	56,897	56,982	57,706	57,384	57,459	57,391
Employment-population ratio[2]	73.2	73.3	73.2	73.4	73.1	73.0	73.3	73.3	73.4	73.4	73.4	73.9	73.4	73.4	73.3
Agriculture	2,418	2,278	2,358	2,352	2,260	2,230	2,231	2,171	2,188	2,210	2,278	2,349	2,258	2,411	2,347
Nonagricultural industries	53,351	54,284	54,032	54,192	54,124	54,173	54,405	54,580	54,661	54,687	54,704	55,356	55,127	55,048	55,043
Unemployed	3,932	3,715	3,775	3,696	3,862	3,755	3,633	3,656	3,677	3,656	3,566	3,507	3,799	3,809	3,663
Unemployment rate	6.6	6.2	6.3	6.1	6.4	6.2	6.0	6.1	6.1	6.0	5.9	5.7	6.2	6.2	6.0
Women, 20 years ond over															
Civilian noninstitutional population[1]	85,429	86,506	86,274	86,380	86,477	86,575	86,652	86,727	86,810	86,901	86,988	87,112	87,185	87,263	87,355
Civilian labor force	45,900	47,283	47,103	47,082	47,185	47,190	47,340	47,558	47,663	47,713	47,870	47,895	47,921	47,952	48,107
Participation rate	53.7	54.7	54.6	54.5	54.6	54.5	54.6	54.8	54.9	54.9	55.0	55.0	55.0	55.0	55.1
Employed	42,793	44,154	43,925	43,883	44,033	44,070	44,197	44,363	44,609	44,656	44,882	44,980	44,710	44,797	45,009
Employment-population ratio[2]	50.1	51.0	50.9	50.8	50.9	50.9	51.0	51.2	51.4	51.4	51.6	51.6	51.3	51.3	51.5
Agriculture	595	596	633	600	572	596	581	557	609	591	597	696	593	598	576
Nonagricultural industries	42,198	43,558	43,292	43,283	43,461	43,474	43,616	43,806	44,000	44,065	44,285	44,284	44,117	44,199	44,433
Unemployed	3,107	3,129	3,178	3,199	3,152	3,120	3,143	3,195	3,054	3,057	2,988	2,915	3,211	3,155	3,097
Unemployment rate	6.8	6.6	6.7	6.8	6.7	6.6	6.6	6.7	6.4	6.4	6.2	6.1	6.7	6.6	6.4
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	14,735	14,506	14,538	14,496	14,483	14,445	14,448	14,456	14,463	14,472	14,474	14,458	14,465	14,485	14,484
Civilian labor force	7,943	7,901	7,988	8,017	7,593	7,924	7,734	7,825	7,925	7,864	7,811	7,678	7,984	7,987	8,074
Participation rate	53.9	54.5	54.9	55.3	52.4	54.9	53.5	54.1	54.8	54.3	54.0	53.1	55.2	55.1	55.7
Employed	6,444	6,434	6,557	6,512	6,184	6,398	6,377	6,405	6,355	6,416	6,342	6,269	6,467	6,532	6,492
Employment-population ratio[2]	43.7	44.4	45.1	44.9	42.7	44.3	44.1	44.3	43.9	44.3	43.8	43.4	44.7	45.1	44.8
Agriculture	309	305	362	332	308	294	283	289	261	269	276	254	246	276	298
Nonagricultural industries	6,135	6,129	6,195	6,180	5,876	6,104	6,094	6,116	6,094	6,147	6,066	6,015	6,221	6,256	6,194
Unemployed	1,499	1,468	1,431	1,505	1,409	1,526	1,357	1,420	1,570	1,448	1,469	1,409	1,517	1,455	1,582
Unemployment rate	18.9	18.6	17.9	18.8	18.6	19.3	17.5	18.1	19.8	18.4	18.8	18.4	19.0	18.2	19.6
White															
Civilian noninstitutional population[1]	152,347	153,679	153,388	153,489	153,597	153,717	153,819	153,938	154,082	154,203	154,327	154,784	154,869	155,005	155,122
Civilian labor force	98,492	99,926	99,718	99,771	99,527	99,705	99,817	100,179	100,533	100,478	100,533	100,961	101,232	101,248	101,249
Participation rate	64.6	65.0	65.0	65.0	64.8	64.9	64.9	65.1	65.2	65.2	65.1	65.2	65.4	65.3	65.3
Employed	92,120	93,736	93,470	93,574	93,132	93,378	93,684	94,055	94,369	94,507	94,585	95,165	94,803	94,958	95,081
Employment-population ratio[2]	60.5	61.0	60.9	61.0	60.6	60.7	60.9	61.1	61.2	61.3	61.3	61.5	61.2	61.3	61.3
Unemployed	6,372	6,191	6,248	6,197	6,395	6,327	6,133	6,124	6,164	5,971	5,948	5,796	6,429	6,290	6,168
Unemployment rate	6.5	6.2	6.3	6.2	6.4	6.3	6.1	6.1	6.1	5.9	5.9	5.7	6.4	6.2	6.1
Black															
Civilian noninstitutional population[1]	19,348	19,664	19,594	19,620	19,646	19,675	19,700	19,728	19,761	19,790	19,819	19,837	19,863	19,889	19,916
Civilian labor force	12,033	12,364	12,364	12,372	12,317	12,354	12,289	12,378	12,412	12,457	12,522	12,548	12,545	12,656	12,740
Participation rate	62.2	62.9	63.1	63.1	62.7	62.8	62.4	62.7	62.8	62.9	63.2	63.3	63.2	63.6	64.0
Employed	10,119	10,501	10,489	10,466	10,538	10,499	10,560	10,500	10,566	10,518	10,657	10,737	10,690	10,791	10,856
Employment-population ratio[2]	52.3	53.4	53.5	53.3	53.6	53.4	53.6	53.2	53.5	53.1	53.8	54.1	53.8	54.3	54.5
Unemployed	1,914	1,864	1,875	1,906	1,779	1,855	1,729	1,878	1,846	1,939	1,865	1,810	1,855	1,865	1,884
Unemployment rate	15.9	15.1	15.2	15.4	14.4	15.0	14.1	15.2	14.9	15.6	14.9	14.4	14.8	14.7	14.8

See footnotes at end of table.

5. Continued— Employment status of the civilian population, by sex, age, race and Hispanic origin, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1985									1986			
	1984	1985	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Hispanic origin															
Civilian noninstitutional population[1]	11,478	11,915	11,828	11,862	11,897	11,933	11,969	12,004	12,040	12,075	12,111	12,148	12,184	12,219	12,255
Civilian labor force	7,451	7,698	7,607	7,616	7,669	7,713	7,781	7,844	7,854	7,782	7,772	7,787	7,943	7,920	7,975
Participation rate	64.9	64.6	64.3	64.2	64.5	64.6	65.0	65.3	65.2	64.4	64.2	64.1	65.2	64.8	65.1
Employed	6,651	6,887	6,814	6,806	6,856	6,870	6,973	7,026	6,982	6,953	6,962	6,998	6,969	7,105	7,144
Employment-population ratio[2]	57.9	57.8	57.6	57.4	57.6	57.6	58.3	58.5	58.0	57.6	57.5	57.6	57.2	58.2	58.3
Unemployed	800	811	793	810	813	843	808	818	872	829	810	789	974	815	832
Unemployment rate	10.7	10.5	10.4	10.6	10.6	10.9	10.4	10.4	11.1	10.7	10.4	10.1	12.3	10.3	10.4

[1] The population figures are not seasonally adjusted.

[2] Civilian employment as a percent of the civilian noninstitutional population.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" groups are not presented and Hispanics are included in both the white and black population groups.

6. Selected employment indicators, monthly data seasonally adjusted

(In thousands)

Selected categories	Annual average		1985									1986			
	1984	1985	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
CHARACTERISTIC															
Civilian employed, 16 years and over	105,005	107,150	106,872	106,939	106,601	106,871	107,210	107,519	107,813	107,969	108,206	108,955	108,561	108,789	108,892
Men	59,091	59,891	59,820	59,942	59,623	59,719	59,936	60,049	60,105	60,179	60,244	60,919	60,704	60,748	60,713
Women	45,915	47,259	47,052	46,997	46,978	47,152	47,274	47,470	47,708	47,790	47,962	48,036	47,857	48,041	48,179
Married men, spouse present	39,056	39,248	39,362	39,280	38,966	39,096	39,142	39,103	39,272	39,314	39,278	39,615	39,382	39,385	39,585
Married women, spouse present	25,636	26,336	26,087	26,036	26,174	26,316	26,382	26,531	26,702	26,721	26,804	26,958	26,593	26,656	26,892
Women who maintain families	5,465	5,597	5,603	5,626	5,643	5,607	5,627	5,556	5,514	5,605	5,683	5,702	5,733	5,771	5,812
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,555	1,535	1,653	1,582	1,530	1,479	1,456	1,438	1,465	1,537	1,572	1,673	1,519	1,689	1,587
Self-employed workers	1,553	1,458	1,493	1,498	1,451	1,474	1,444	1,414	1,436	1,361	1,409	1,492	1,444	1,453	1,475
Unpaid family workers	213	185	219	196	159	170	176	179	172	158	164	163	156	172	186
Nonagricultural industries:															
Wage and salary workers	93,565	95,871	95,493	95,660	95,391	95,523	95,791	96,546	96,530	96,676	96,921	97,911	97,516	97,699	97,831
Government	15,770	16,031	15,955	15,936	16,000	15,949	16,075	16,145	16,213	16,157	16,194	16,418	16,104	16,095	16,187
Private industries	77,794	79,841	79,538	79,724	79,391	79,574	79,716	80,401	80,317	80,519	80,727	81,494	81,412	81,604	81,643
Private households	1,238	1,249	1,218	1,255	1,228	1,251	1,295	1,265	1,271	1,197	1,131	1,256	1,197	1,213	1,321
Other	76,556	78,592	78,320	78,469	78,163	78,323	78,421	79,135	79,046	79,322	79,596	80,238	80,216	80,390	80,322
Self-employed workers	7,785	7,811	7,717	7,711	7,728	7,724	7,874	7,846	7,901	8,013	7,903	7,655	7,669	7,644	7,571
Unpaid family workers	335	289	305	290	292	277	303	266	248	249	250	273	270	240	253
PERSONS AT WORK PART TIME[1]															
All industries:															
Part time for economic reasons	5,744	5,590	5,690	5,876	5,544	5,596	5,680	5,554	5,475	5,498	5,494	5,543	5,377	5,538	5,823
Slack work	2,430	2,430	2,567	2,607	2,524	2,414	2,480	2,433	2,251	2,306	2,303	2,364	2,380	2,330	2,603
Could only find part-time work	2,948	2,819	2,767	2,871	2,751	2,766	2,835	2,815	2,897	2,883	2,864	2,883	2,703	2,953	2,974
Voluntary part time	13,169	13,489	13,356	13,078	13,439	13,634	13,622	13,496	13,713	13,645	13,556	13,958	13,817	13,754	13,933
Nonagricultural industries:															
Part time for economic reasons	5,512	5,334	5,402	5,550	5,278	5,328	5,413	5,290	5,241	5,295	5,294	5,275	5,158	5,301	5,621
Slack work	2,291	2,273	2,380	2,418	2,334	2,251	2,319	2,292	2,115	2,196	2,195	2,208	2,224	2,159	2,430
Could only find part-time work	2,886	2,730	2,679	2,785	2,675	2,686	2,740	2,730	2,801	2,784	2,760	2,776	2,638	2,861	2,849
Voluntary part time	12,704	13,038	12,926	12,612	12,995	13,235	13,179	13,053	13,277	13,194	13,122	13,441	13,369	13,285	13,589

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

7. Selected unemployment indicators, monthly data seasonally adjusted

(Unemployment rates)

Selected categories	Annual average		1985									1986			
	1984	1985	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
CHARACTERISTIC															
Total, all civilian workers	7.5	7.2	7.3	7.3	7.3	7.3	7.1	7.1	7.1	7.0	6.9	6.7	7.3	7.2	7.1
Both sexes, 16 to 19 years	18.9	18.6	17.9	18.8	18.6	19.3	17.5	18.1	19.8	18.4	18.8	18.4	19.0	18.2	19.6
Men, 20 years and over	6.6	6.2	6.3	6.1	6.4	6.2	6.0	6.1	6.1	6.0	5.9	5.7	6.2	6.2	6.0
Women, 20 years and over	6.8	6.6	6.7	6.8	6.7	6.6	6.6	6.7	6.4	6.4	6.2	6.1	6.7	6.6	6.4
White, total	6.5	6.2	6.3	6.2	6.4	6.3	6.1	6.1	6.1	5.9	5.9	5.7	6.4	6.2	6.1
Both sexes, 16 to 19 years	16.0	15.7	15.2	16.0	16.0	16.1	15.2	15.3	17.0	15.5	15.9	14.9	16.2	14.5	16.4
Men, 16 to 19 years	16.8	16.5	15.7	16.7	16.7	17.1	17.2	16.2	18.5	15.8	16.2	14.7	16.5	15.3	17.2
Women, 16 to 19 years	15.2	14.8	14.5	15.1	15.2	15.0	13.0	14.4	15.3	15.1	15.5	15.1	15.8	13.7	15.6
Men, 20 years and over	5.7	5.4	5.4	5.2	5.7	5.6	5.3	5.2	5.2	5.2	5.1	5.0	5.4	5.5	5.2
Women, 20 years and over	5.8	5.7	5.8	5.8	5.8	5.7	5.7	5.7	5.5	5.4	5.4	5.3	5.9	5.8	5.5
Black, total	15.9	15.1	15.2	15.4	14.4	15.0	14.1	15.2	14.9	15.6	14.9	14.4	14.8	14.7	14.8
Both sexes, 16 to 19 years	42.7	40.2	39.3	40.4	39.5	41.2	35.3	38.8	39.7	40.8	41.6	41.9	39.1	43.7	42.6
Men, 16 to 19 years	42.7	41.0	39.4	39.3	41.0	43.1	34.9	41.1	41.0	45.2	41.0	41.3	38.7	44.1	41.4
Women, 16 to 19 years	42.6	39.2	39.3	41.5	37.8	39.0	35.9	36.1	38.2	36.0	42.3	42.4	39.5	43.4	43.7
Men, 20 years and over	14.3	13.2	13.3	13.4	12.5	12.8	11.9	13.3	13.7	13.7	13.1	12.7	13.3	12.6	12.6
Women, 20 years and over	13.5	13.1	13.2	13.5	12.7	13.1	13.1	13.5	12.1	13.6	12.6	12.0	12.5	12.2	12.5
Hispanic origin, total	10.7	10.5	10.4	10.6	10.6	10.9	10.4	10.4	11.1	10.7	10.4	10.1	12.3	10.3	10.4
Married men, spouse present	4.6	4.3	4.3	4.0	4.6	4.4	4.1	4.3	4.2	4.3	4.3	4.3	4.5	4.5	4.2
Married women, spouse present	5.7	5.6	5.8	5.7	5.8	5.7	5.4	5.6	5.3	5.5	5.3	5.1	5.5	5.6	5.3
Women who maintain families	10.3	10.4	10.7	10.8	9.9	10.3	10.8	11.3	10.4	10.0	9.4	9.9	9.9	10.1	9.4
Full-time workers	7.2	6.8	6.9	6.9	6.9	7.0	6.8	6.8	6.8	6.7	6.6	6.4	6.9	6.9	6.7
Part-time workers	9.3	9.3	9.7	10.0	9.5	9.4	9.0	9.3	9.6	8.8	9.0	8.4	9.4	9.1	9.6
Unemployed 15 weeks and over	2.4	2.0	2.1	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.8	2.0	1.9	1.8
Labor force time lost[1]	8.6	8.1	8.2	8.3	8.2	8.2	8.1	8.1	7.9	7.9	7.8	7.6	8.1	8.1	8.1
INDUSTRY															
Nonagricultural private wage and salary workers	7.4	7.2	7.3	7.2	7.3	7.3	7.1	7.2	7.1	7.0	6.9	6.7	7.2	7.2	7.2
Mining	10.0	9.5	10.6	7.5	10.9	9.9	8.6	8.9	7.7	7.3	10.3	10.9	9.2	10.4	12.8
Construction	14.3	13.1	13.3	11.0	13.5	13.4	13.1	13.6	13.5	13.4	12.6	12.9	13.2	13.0	12.0
Manufacturing	7.5	7.7	7.9	7.8	7.7	7.9	7.8	7.7	7.5	7.7	7.3	7.0	7.2	7.2	6.8
Durable goods	7.2	7.6	7.7	7.8	7.9	7.9	7.9	7.7	7.3	7.6	7.3	7.0	7.4	6.8	6.8
Nondurable goods	7.8	7.8	8.2	7.8	7.5	7.9	7.8	7.8	7.8	7.8	7.3	7.1	7.0	7.7	6.8
Transportation and public utilities	5.5	5.1	5.4	5.2	5.3	5.7	4.5	5.3	5.1	5.1	5.0	4.3	5.3	6.1	5.6
Wholesale and retail trade	8.0	7.6	7.4	7.8	7.7	7.6	7.7	7.8	7.7	7.5	7.6	7.2	7.8	7.6	8.1
Finance and service industries	5.9	5.6	5.7	6.1	5.7	5.6	5.5	5.5	5.4	5.4	5.3	5.2	5.9	5.7	5.9
Government workers	4.5	3.9	3.9	3.9	3.9	4.0	3.9	3.8	3.9	3.6	3.8	3.4	3.8	4.0	3.5
Agricultural wage and salary workers	13.5	13.2	13.2	11.9	12.5	14.0	14.0	13.3	12.9	12.5	10.6	10.9	14.3	11.9	13.4

[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

8. Unemployment rates by sex and age, monthly data seasonally adjusted

(Civilian workers)

Sex and age	Annual average		1985									1986			
	1984	1985	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Total, 16 years and over	7.5	7.2	7.3	7.3	7.3	7.3	7.1	7.1	7.1	7.0	6.9	6.7	7.3	7.2	7.1
16 to 24 years	13.9	13.6	13.4	14.0	13.6	13.9	13.0	13.3	13.9	13.5	13.3	13.0	13.6	13.2	12.9
16 to 19 years	18.9	18.6	17.9	18.8	18.6	19.3	17.5	18.1	19.8	18.4	18.8	18.4	19.0	18.2	18.6
16 to 17 years	21.2	21.0	20.8	21.2	21.6	21.7	19.1	20.3	22.7	21.4	21.1	20.9	21.8	19.4	20.9
18 to 19 years	17.4	17.0	16.3	17.1	16.4	17.3	16.9	16.7	17.8	16.9	17.5	16.4	17.2	17.1	16.9
20 to 24 years	11.5	11.1	11.1	11.6	11.2	11.2	10.8	10.9	10.9	11.0	10.6	10.4	10.8	10.6	10.9
25 years and over	5.8	5.6	5.7	5.5	5.8	5.6	5.5	5.6	5.4	5.4	5.3	5.1	5.7	5.7	5.4
25 to 54 years	6.1	5.8	6.1	5.8	6.0	5.9	5.8	5.8	5.7	5.6	5.5	5.4	5.9	5.9	5.6
55 years and over	4.5	4.1	4.1	4.3	4.3	4.4	4.1	4.1	3.9	3.8	3.9	3.9	4.4	4.3	3.8
Men, 16 years and over	7.4	7.0	7.1	7.0	7.2	7.2	6.9	6.9	7.1	6.9	6.7	6.5	7.0	7.0	6.9
16 to 24 years	14.4	14.1	13.8	14.7	14.2	14.6	13.8	13.8	14.6	13.9	13.5	12.8	13.6	13.6	14.5
16 to 19 years	19.6	19.5	18.5	19.4	19.2	20.5	19.6	19.3	21.5	19.4	19.3	18.2	19.3	18.9	20.2
16 to 17 years	21.9	21.9	21.4	22.2	23.2	22.1	21.9	20.7	24.0	20.9	21.6	20.9	23.2	20.0	21.2
18 to 19 years	18.3	17.9	16.8	17.6	16.4	18.7	18.1	18.3	19.9	18.7	18.0	16.2	16.6	17.8	19.7
20 to 24 years	11.9	11.4	11.4	12.3	11.7	11.6	10.9	11.0	11.1	11.2	10.6	10.3	10.7	11.0	11.6
25 years and over	5.7	5.3	5.5	5.1	5.6	5.4	5.3	5.3	5.3	5.2	5.1	5.0	5.5	5.5	5.2
25 to 54 years	5.9	5.6	5.8	5.3	5.8	5.6	5.6	5.5	5.5	5.4	5.4	5.3	5.7	5.7	5.5
55 years and over	4.6	4.1	4.0	4.1	4.4	4.6	3.8	4.0	4.1	4.0	3.9	3.9	4.4	4.3	3.8
Women, 16 years and over	7.6	7.4	7.5	7.6	7.5	7.4	7.3	7.5	7.3	7.2	7.1	7.0	7.6	7.4	7.4
16 to 24 years	13.3	13.0	12.9	13.3	12.9	13.1	12.2	12.9	13.1	13.1	13.2	13.2	13.6	12.7	13.2
16 to 19 years	18.0	17.6	17.2	18.1	17.8	17.9	15.3	16.9	17.9	17.4	18.3	18.5	18.6	17.5	18.0
16 to 17 years	20.4	20.0	20.0	20.1	19.9	21.2	15.8	19.8	21.2	22.0	20.6	20.8	20.2	18.7	20.5
18 to 19 years	16.6	16.0	15.7	16.5	16.4	15.7	15.3	14.9	15.5	15.1	16.9	16.5	17.7	16.3	16.1
20 to 24 years	10.9	10.7	10.7	10.8	10.6	10.7	10.7	10.9	10.7	10.8	10.6	10.5	11.0	10.1	10.0
25 years and over	6.0	5.9	6.0	6.1	6.0	5.9	5.8	6.0	5.8	5.8	5.4	5.3	5.9	5.9	5.8
25 to 54 years	6.3	6.2	6.3	6.4	6.3	6.2	6.1	6.2	5.9	5.9	5.7	5.6	6.2	6.3	6.2
55 years and over	4.2	4.1	4.2	4.4	4.1	4.2	4.5	4.2	3.7	3.6	3.9	3.8	4.4	4.4	3.8

9. Unemployed persons by reason for unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Reason for unemployment	Annual average		1985									1986			
	1984	1985	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Job losers	4,421	4,139	4,229	3,994	4,167	4,206	4,144	4,142	4,040	4,061	3,933	3,776	4,162	4,246	4,094
On layoff	1,171	1,157	1,182	1,068	1,135	1,134	1,112	1,167	1,161	1,175	1,132	1,163	1,152	1,164	1,088
Other job losers	3,250	2,982	3,047	2,926	3,032	3,072	3,032	2,975	2,879	2,906	2,801	2,613	3,010	3,082	3,006
Job leavers	823	877	852	870	983	894	875	852	911	806	876	996	1,001	1,002	1,110
Reentrants	2,184	2,256	2,263	2,378	2,233	2,184	2,191	2,335	2,237	2,226	2,225	2,066	2,292	2,197	2,191
New entrants	1,110	1,039	1,051	1,142	1,018	1,098	941	918	1,045	1,065	1,033	1,025	1,097	1,000	1,089
PERCENT OF UNEMPLOYED															
Job losers	51.8	49.8	50.3	47.6	49.6	50.2	50.8	50.2	49.1	50.0	48.8	48.0	48.7	50.3	48.1
On layoff	13.7	13.9	14.0	12.7	13.5	13.5	13.6	14.2	14.1	14.4	14.0	14.8	13.5	13.8	12.2
Other job losers	38.1	35.9	36.2	34.9	36.1	36.6	37.2	36.1	35.0	35.6	34.7	33.2	35.2	36.5	35.9
Job leavers	9.6	10.6	10.1	10.4	11.7	10.7	10.7	10.3	11.1	9.9	10.9	12.7	11.7	11.9	13.2
Reentrants	25.6	27.1	27.1	28.4	26.6	26.1	26.9	28.3	27.2	27.2	27.6	26.3	26.8	26.0	26.1
New entrants	13.0	12.5	12.5	13.6	12.1	13.1	11.5	11.1	12.7	12.9	12.8	13.0	12.8	11.8	12.8
PERCENT OF CIVILIAN LABOR FORCE															
Job losers	3.9	3.6	3.7	3.5	3.6	3.6	3.6	3.6	3.5	3.5	3.4	3.2	3.6	3.6	3.4
Job leavers	.7	.8	.7	.8	.9	.8	.8	.7	.8	.7	.8	.9	.9	.9	.9
Reentrants	1.9	2.0	2.0	2.1	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.8	2.0	1.9	1.9
New entrants	1.0	.9	.9	1.0	.9	1.0	.8	.8	.9	.9	.9	.9	.9	.9	.9

10. Duration of unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Weeks of unemployment	Annual average		1985									1986			
	1984	1985	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Less than 5 weeks	3,350	3,498	3,528	3,607	3,468	3,525	3,422	3,484	3,430	3,405	3,374	3,311	3,562	3,589	3,628
5 to 14 weeks	2,451	2,509	2,516	2,584	2,536	2,514	2,508	2,505	2,536	2,448	2,460	2,441	2,622	2,640	2,685
15 weeks and over	2,737	2,305	2,374	2,274	2,328	2,329	2,274	2,307	2,277	2,205	2,188	2,056	2,340	2,258	2,135
15 to 26 weeks	1,104	1,025	1,031	1,063	1,033	1,078	1,047	1,035	1,057	894	973	969	1,149	1,099	1,001
27 weeks and over	1,634	1,280	1,343	1,211	1,295	1,251	1,227	1,272	1,220	1,311	1,215	1,087	1,191	1,159	1,134
Mean duration in weeks	18.2	15.6	16.1	15.0	15.5	15.5	15.5	15.5	15.4	15.7	15.4	14.9	15.3	14.4	14.3
Median duration in weeks	7.9	6.8	6.8	6.7	6.8	7.1	7.2	6.9	7.0	6.9	6.9	6.8	6.9	6.8	6.5

11. Unemployment rates of civilian workers by State, data not seasonally adjusted

State	Mar. 1985	Mar. 1986
Alabama	10.0	9.8
Alaska	11.1	11.3
Arizona	6.2	6.4
Arkansas	9.8	8.6
California	7.3	7.1
Colorado	6.2	–
Connecticut	5.1	4.0
Delaware	6.2	5.5
District of Columbia	8.9	7.0
Florida	5.9	5.8
Georgia	6.6	5.7
Hawaii	5.3	5.7
Idaho	9.3	9.8
Illinois	8.1	9.1
Indiana	8.9	7.4
Iowa	9.3	8.6
Kansas	5.4	6.2
Kentucky	10.0	11.3
Louisiana	11.7	13.1
Maine	6.6	6.6
Maryland	4.9	4.5
Massachusetts	4.7	4.3
Michigan	10.4	9.6
Minnesota	7.0	7.2
Mississippi	11.3	11.2
Missouri	7.1	6.1
Montana	9.2	9.2
Nebraska	6.0	6.5
Nevada	8.4	7.5
New Hampshire	4.2	3.8
New Jersey	6.6	4.9
New Mexico	9.0	9.2
New York	7.2	7.3
North Carolina	5.6	5.7
North Dakota	7.8	8.1
Ohio	9.7	7.9
Oklahoma	7.4	8.0
Oregon	9.9	9.8
Pennsylvania	8.4	7.9
Rhode Island	5.7	4.7
South Carolina	7.3	7.3
South Dakota	6.0	5.2
Tennessee	8.5	8.2
Texas	7.2	8.4
Utah	6.8	5.7
Vermont	5.7	5.2
Virginia	5.9	5.5
Washington	8.9	8.2
West Virginia	15.0	11.7
Wisconsin	8.6	8.3
Wyoming	7.9	10.6

– Data not available.

NOTE: Some data in this table may differ from data published elsewhere because of the continued updating of the database.

12. Employment of workers on nonagricultural payrolls by State, data not seasonally adjusted

(In thousands)

State	Mar., 1985	Feb., 1986	Mar., 1986^p
Alabama	1,404.2	1,432.7	1,428.1
Alaska	219.4	218.4	220.8
Arizona	1,262.4	1,320.7	1,332.9
Arkansas	785.3	809.7	814.3
California	10,830.1	11,072.5	11,120.7
Colorado	1,414.9	1,430.3	1,441.7
Connecticut	1,543.2	1,568.5	1,581.1
Delaware	284.9	287.6	292.0
District of Columbia	621.4	632.1	635.2
Florida	4,430.3	4,540.2	4,569.6
Georgia	2,519.3	2,596.1	2,600.1
Hawaii	424.6	427.9	430.0
Idaho	328.1	331.4	333.3
Illinois	4,727.2	4,692.7	4,724.5
Indiana	2,128.2	2,184.5	2,203.1
Iowa	1,057.3	1,063.2	1,069.8
Kansas	984.2	967.9	979.8
Kentucky	1,228.3	1,247.8	1,257.0
Louisiana	1,593.1	1,570.7	1,569.6
Maine	440.1	455.9	456.3
Maryland	1,849.1	1,869.3	1,890.3
Massachusetts	2,868.2	2,917.9	2,945.6
Michigan	3 446.1	3,524.2	3,528.7
Minnesota	1,823.0	1,844.5	1,850.5
Mississippi	825.9	842.4	846.0
Missouri	2,051.7	2,085.9	2,111.6
Montana	271.8	270.8	272.4
Nebraska	643.5	642.0	648.0
Nevada	436.3	448.9	453.5
New Hampshire	447.7	471.8	473.9
New Jersey	3,343.4	3,408.0	3,443.9
New Mexico	513.1	519.1	519.9
New York	7,633.9	7,749.8	7,798.7
North Carolina	2,620.9	2,675.1	2,695.6
North Dakota	245.1	243.7	244.7
Ohio	4,282.7	4,387.1	4,421.6
Oklahoma	1,181.1	1,158.3	1,159.8
Oregon	1,008.3	1,024.4	1,029.1
Pennsylvania	4,652.0	4,706.9	4,738.1
Rhode Island	417.6	421.0	422.2
South Carolina	1,278.5	1,313.8	1,327.6
South Dakota	243.6	242.0	244.5
Tennessee	1,831.0	1,878.9	1,900.5
Texas	6,630.2	6,709.0	6,714.1
Utah	614.3	629.4	634.0
Vermont	218.8	229.8	229.0
Virginia	2,392.6	2,478.8	2,496.5
Washington	1,670.8	1,715.8	1,729.4
West Virginia	583.9	583.8	586.7
Wisconsin	1,927.8	1,958.9	1,967.2
Wyoming	196.0	194.9	196.5
Puerto Rico	691.9	696.7	–
Virgin Islands	37.6	37.3	37.0

– Data not available.
^{p} = preliminary

NOTE: Some data in this table may differ from data published elsewhere because of the continued updating of the database.

13. Employment of workers on nonagricultural payrolls by industry, monthly data seasonally adjusted

(In thousands)

Industry	Annual average		1985									1986			
	1984	1985	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.p	Apr.p
TOTAL	94,461	97,699	97,120	97,421	97,473	97,707	97,977	98,217	98,559	98,801	99,086	99,496	99,658	99,834	100,049
PRIVATE SECTOR	78,477	81,404	80,962	81,206	81,260	81,366	81,634	81,765	82,073	82,317	82,573	82,982	83,108	83,295	83,499
GOODS PRODUCING	24,730	25,057	25,090	25,066	25,010	24,980	25,015	24,962	25,051	25,089	25,155	25,300	25,251	25,161	25,182
Mining	974	969	982	982	974	969	965	962	960	954	952	947	929	902	886
Oil and gas extraction	613	616	623	624	619	619	615	615	610	605	603	598	580	556	532
Construction	4,345	4,662	4,641	4,658	4,638	4,660	4,686	4,721	4,753	4,754	4,770	4,806	4,863	4,870	4,864
General building contractors	1,158	1,240	1,233	1,234	1,223	1,228	1,242	1,252	1,262	1,269	1,274	1,329	1,327	1,304	1,306
Manufacturing	19,412	19,426	19,467	19,426	19,396	19,351	19,362	19,279	19,338	19,381	19,433	19,447	19,439	19,389	19,352
Production workers	13,310	13,214	13,248	13,203	13,169	13,137	13,145	13,087	13,140	13,169	13,219	13,222	13,216	13,175	13,167
Durable goods	11,522	11,566	11,608	11,586	11,560	11,509	11,519	11,449	11,493	11,512	11,534	11,541	11,527	11,480	11,470
Production workers	7,749	7,692	7,730	7,704	7,671	7,630	7,636	7,586	7,627	7,636	7,651	7,650	7,631	7,582	7,586
Lumber and wood products	707	703	694	697	694	697	700	701	706	712	715	720	719	716	715
Furniture and fixtures	487	497	497	493	494	494	499	494	496	497	499	499	499	500	499
Stone, clay, and glass products	595	600	600	599	598	599	601	598	600	601	604	607	610	607	610
Primary metal industries	858	816	823	819	815	806	796	795	799	804	810	804	802	792	787
Blast furnaces and basic steel products	334	303	306	305	304	302	289	291	292	299	300	300	299	292	288
Fabricated metal products	1,464	1,472	1,479	1,477	1,472	1,467	1,467	1,462	1,465	1,466	1,463	1,462	1,457	1,456	1,455
Machinery, except electrical	2,197	2,181	2,207	2,203	2,191	2,175	2,167	2,143	2,143	2,137	2,130	2,137	2,128	2,118	2,108
Electrical and electronic equipment	2,206	2,208	2,223	2,216	2,205	2,190	2,194	2,175	2,179	2,180	2,186	2,188	2,187	2,185	2,181
Transportation equipment	1,906	1,990	1,982	1,981	1,990	1,985	1,995	1,986	2,008	2,017	2,025	2,023	2,020	2,000	2,010
Motor vehicles and equipment	860	872	876	873	875	868	868	861	872	868	875	868	860	846	860
Instruments and related products	714	724	726	723	725	724	725	722	722	723	725	725	726	729	727
Miscellaneous manufacturing industries	384	376	377	378	376	372	373	373	373	375	374	376	379	376	377
Nondurable goods	7,890	7,860	7,859	7,840	7,836	7,842	7,843	7,830	7,845	7,869	7,899	7,906	7,912	7,909	7,882
Production workers	5,561	5,523	5,519	5,499	5,496	5,507	5,507	5,501	5,513	5,533	5,569	5,572	5,585	5,580	5,571
Food and kindred products	1,619	1,607	1,630	1,634	1,644	1,630	1,636	1,633	1,636	1,639	1,655	1,652	1,664	1,665	1,655
Tobacco manufactures	65	65	66	66	66	65	64	65	64	65	64	64	64	64	64
Textile mill products	746	703	707	701	699	696	697	695	698	700	700	701	703	705	702
Apparel and other textile products	1,197	1,162	1,164	1,153	1,142	1,160	1,152	1,155	1,157	1,160	1,171	1,173	1,161	1,154	1,155
Paper and allied products	681	683	681	682	684	684	683	681	682	686	686	687	688	688	688
Printing and publishing	1,372	1,422	1,411	1,414	1,419	1,426	1,429	1,427	1,431	1,442	1,442	1,447	1,454	1,457	1,460
Chemicals and allied products	1,048	1,042	1,049	1,044	1,042	1,040	1,038	1,040	1,036	1,033	1,033	1,032	1,031	1,029	1,035
Petroleum and coal products	189	177	182	181	180	178	176	170	170	169	169	168	167	167	166
Rubber and misc. plastics products	782	795	795	791	789	787	792	790	795	800	804	810	810	811	809
Leather and leather products	192	175	174	174	173	178	174	174	175	174	175	172	170	169	166
SERVICE-PRODUCING	69,731	72,643	72,030	72,355	72,463	72,727	72,962	73,255	73,508	73,712	73,931	74,196	74,405	74,673	74,869
Transportation and public utilities	5,171	5,300	5,278	5,301	5,295	5,302	5,282	5,317	5,327	5,342	5,350	5,357	5,344	5,348	5,346
Transportation	2,929	3,059	3,037	3,057	3,052	3,060	3,038	3,078	3,087	3,106	3,115	3,123	3,108	3,116	3,110
Communication and public utilities	2,242	2,241	2,241	2,244	2,243	2,242	2,244	2,239	2,240	2,236	2,235	2,234	2,236	2,232	2,236
Wholesale trade	5,550	5,769	5,733	5,748	5,768	5,773	5,791	5,805	5,830	5,833	5,848	5,872	5,856	5,807	5,830
Durable goods	3,272	3,417	3,388	3,402	3,414	3,426	3,434	3,442	3,454	3,464	3,473	3,487	3,488	3,506	3,521
Nondurable goods	2,278	2,352	2,345	2,346	2,354	2,347	2,357	2,363	2,376	2,369	2,375	2,385	2,368	2,301	2,309
Retail trade	16,584	17,425	17,280	17,392	17,425	17,453	17,514	17,539	17,610	17,640	17,702	17,825	17,904	17,986	18,019
General merchandise stores	2,276	2,354	2,348	2,371	2,361	2,344	2,354	2,356	2,365	2,367	2,353	2,359	2,377	2,389	2,387
Food stores	2,655	2,827	2,794	2,823	2,831	2,842	2,849	2,852	2,869	2,865	2,882	2,920	2,924	2,944	2,959
Automotive dealers and service stations	1,802	1,892	1,884	1,890	1,895	1,895	1,902	1,906	1,912	1,914	1,916	1,930	1,936	1,940	1,959
Eating and drinking places	5,403	5,692	5,642	5,660	5,692	5,728	5,725	5,740	5,758	5,774	5,803	5,821	5,855	5,886	5,899
Finance, insurance, and real estate	5,682	5,924	5,856	5,888	5,906	5,932	5,959	5,987	6,011	6,048	6,068	6,098	6,131	6,159	6,206
Finance	2,855	2,978	2,941	2,956	2,968	2,984	2,998	3,011	3,023	3,038	3,054	3,068	3,086	3,095	3,123
Insurance	1,753	1,816	1,799	1,808	1,814	1,817	1,827	1,831	1,837	1,850	1,852	1,863	1,874	1,885	1,896
Real estate	1,074	1,130	1,118	1,124	1,124	1,131	1,134	1,145	1,151	1,160	1,162	1,167	1,171	1,179	1,187
Services	20,761	21,930	21,723	21,813	21,856	21,929	22,073	22,156	22,244	22,365	22,450	22,540	22,582	22,744	22,887
Business services	4,076	4,453	4,402	4,424	4,441	4,446	4,489	4,504	4,539	4,571	4,607	4,625	4,652	4,690	4,718
Health services	6,104	6,267	6,218	6,240	6,243	6,260	6,291	6,308	6,333	6,363	6,389	6,409	6,435	6,473	6,509
Government	15,984	16,295	16,158	16,213	16,213	16,341	16,343	16,452	16,486	16,484	16,513	16,504	16,548	16,539	16,541
Federal	2,807	2,875	2,859	2,873	2,872	2,878	2,888	2,904	2,892	2,904	2,914	2,918	2,915	2,917	2,921
State	3,712	3,780	3,749	3,759	3,765	3,788	3,789	3,818	3,827	3,833	3,827	3,844	3,849	3,853	3,860
Local	9,465	9,640	9,550	9,581	9,576	9,675	9,666	9,730	9,767	9,747	9,772	9,742	9,784	9,769	9,760

p = preliminary

NOTE: See notes on the data for a description of the most recent benchmark revision.

14. Average weekly hours of production or nonsupervisory workers on private nonagricultural payrolls by industry, monthly data seasonally adjusted

Industry	Annual average		1985									1986			
	1984	1985	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.ᵖ	Apr.ᵖ
PRIVATE SECTOR	35.3	35.1	35.0	35.1	35.1	35.0	35.1	35.1	35.1	35.0	35.1	35.2	35.0	35.0	35.0
CONSTRUCTION	37.7	37.7	38.0	37.8	37.2	37.6	37.5	37.9	37.9	37.4	37.1	38.5	36.3	36.9	38.0
MANUFACTURING	40.7	40.5	40.2	40.4	40.4	40.3	40.6	40.7	40.7	40.7	41.0	41.0	40.6	40.7	40.6
Overtime hours	3.4	3.3	3.4	3.1	3.2	3.2	3.3	3.3	3.4	3.4	3.6	3.6	3.4	3.4	3.5
Durable goods	41.4	41.2	40.9	41.1	41.2	41.0	41.3	41.3	41.3	41.3	41.7	41.7	41.3	41.4	41.2
Overtime hours	3.6	3.5	3.6	3.2	3.3	3.3	3.4	3.5	3.5	3.6	3.8	3.7	3.5	3.6	3.7
Lumber and wood products	39.9	39.8	39.5	39.8	40.1	39.7	40.0	40.1	40.3	39.9	40.2	40.4	39.9	40.2	40.1
Furniture and fixtures	39.7	39.4	39.3	38.9	38.9	38.8	39.2	39.4	39.4	39.4	40.1	40.4	39.7	39.6	39.2
Stone, clay, and glass products	42.0	41.9	42.0	42.1	41.9	42.0	42.0	42.0	42.1	41.6	41.7	42.8	41.8	41.8	42.5
Primary metal industries	41.7	41.5	41.0	41.2	41.6	41.4	41.7	41.5	41.8	41.8	42.2	41.8	42.1	42.0	41.0
Blast furnaces and basic steel products	40.6	41.1	40.2	40.7	41.2	41.2	41.8	41.0	41.7	42.0	41.9	41.6	41.7	41.7	40.1
Fabricated metal products	41.4	41.3	41.1	41.1	41.3	41.3	41.4	41.6	41.5	41.4	41.8	41.6	41.5	41.3	41.2
Machinery except electrical	41.9	41.5	41.2	41.4	41.6	41.3	41.6	41.6	41.6	41.6	41.8	41.7	41.5	41.6	41.6
Electrical and electronic equipment	41.0	40.6	40.2	40.4	40.6	40.3	40.7	40.5	40.6	41.0	41.4	41.2	40.8	41.0	40.9
Transportation equipment	42.7	42.7	42.3	42.6	42.3	42.5	42.9	42.9	42.8	42.6	43.2	43.0	42.7	42.6	42.2
Motor vehicles and equipment	43.8	43.5	43.3	43.5	42.7	43.3	43.8	43.8	43.8	43.7	44.2	43.6	43.5	43.3	42.7
Instruments and related products	41.3	41.0	40.7	40.9	41.1	40.7	40.7	40.9	40.8	41.1	41.9	41.2	41.1	41.3	41.2
Miscellaneous manufacturing	39.4	39.4	39.0	39.3	39.4	39.0	39.3	39.8	39.9	39.7	40.0	40.4	39.8	39.9	39.9
Nondurable goods	39.6	39.5	39.1	39.4	39.4	39.4	39.6	39.8	39.9	39.8	40.1	40.0	39.6	39.8	39.7
Overtime hours	3.1	3.1	3.0	2.9	3.0	3.0	3.1	3.1	3.2	3.2	3.4	3.4	3.2	3.3	3.3
Food and kindred products	39.8	40.0	39.6	40.1	39.6	40.0	39.9	40.2	40.3	39.9	40.3	40.2	39.7	39.9	39.8
Tobacco manufactures	36.9	37.2	35.4	37.0	36.6	34.6	36.8	36.9	38.2	35.2	38.0	38.7	38.3	38.7	37.6
Textile mill products	39.9	39.7	38.8	38.9	39.4	39.1	40.0	40.7	40.7	41.0	41.3	40.9	40.4	40.6	41.2
Apparel and other textile products	36.4	36.3	35.6	36.2	36.3	36.3	36.4	36.5	36.6	36.8	37.0	37.0	36.2	36.5	36.5
Paper and allied products	43.1	43.1	43.0	43.0	42.9	42.7	43.0	43.1	43.3	43.3	43.6	43.7	43.6	43.6	43.1
Printing and publishing	37.9	37.7	37.6	37.4	37.5	37.5	37.9	38.0	37.9	37.8	38.2	38.0	37.8	38.0	37.9
Chemicals and allied products	41.9	41.9	41.9	41.9	42.0	41.8	41.8	41.6	41.7	41.9	42.0	41.9	41.8	42.1	41.9
Petroleum and coal products	43.7	43.0	42.0	41.7	42.6	42.9	43.3	43.4	44.3	43.1	43.7	43.6	43.7	44.5	44.5
Leather and leather products	36.8	37.3	37.0	37.1	37.0	37.0	37.3	37.6	37.9	37.7	37.8	37.6	36.6	36.9	36.3
TRANSPORTATION AND PUBLIC UTILITIES	39.4	39.4	39.4	39.5	39.5	39.2	39.6	39.5	39.5	39.4	39.5	39.4	39.5	39.5	39.4
WHOLESALE TRADE	38.6	38.7	38.6	38.7	38.8	38.6	38.6	38.7	38.6	38.7	38.7	38.8	38.7	38.7	38.8
RETAIL TRADE	30.0	29.7	29.7	29.9	29.9	29.7	29.6	29.6	29.5	29.5	29.3	29.5	29.4	29.4	29.3
SERVICES	32.8	32.8	32.7	32.8	32.8	32.7	32.8	32.8	32.9	32.8	32.8	32.9	32.9	33.0	32.8

ᵖ = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark adjustment.

15. Average hourly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1985									1986			
	1984	1985	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.ᵖ	Apr.ᵖ
PRIVATE SECTOR	$8.33	$8.58	$8.54	$8.53	$8.56	$8.54	$8.54	$8.60	$8.65	$8.68	$8.73	$8.73	$8.75	$8.74	$8.74
Seasonally adjusted	–	–	8.54	8.55	8.59	8.57	8.60	8.65	8.64	8.67	8.74	8.67	8.72	8.74	8.74
MINING	11.63	11.86	11.93	11.86	11.99	11.88	11.95	12.00	11.95	12.02	12.22	12.18	12.27	12.28	12.34
CONSTRUCTION	12.12	12.26	12.21	12.19	12.12	12.16	12.22	12.40	12.36	12.22	12.42	12.29	12.20	12.17	12.20
MANUFACTURING	9.18	9.52	9.48	9.48	9.50	9.53	9.48	9.56	9.54	9.61	9.72	9.68	9.66	9.70	9.70
Durable goods	9.74	10.09	10.03	10.04	10.08	10.10	10.05	10.15	10.14	10.21	10.34	10.27	10.28	10.29	10.28
Lumber and wood products	8.03	8.20	8.04	8.12	8.24	8.20	8.26	8.31	8.29	8.28	8.34	8.28	8.34	8.29	8.29
Furniture and fixtures	6.85	7.19	7.06	7.11	7.18	7.22	7.22	7.29	7.31	7.34	7.40	7.38	7.33	7.36	7.38
Stone, clay, and glass products	9.57	9.83	9.80	9.80	9.84	9.89	9.87	9.90	9.86	9.90	9.94	9.95	9.93	9.92	9.98
Primary metal industries	11.47	11.68	11.64	11.64	11.65	11.78	11.63	11.69	11.61	11.76	11.84	11.81	11.96	11.99	12.01
Blast furnaces and basic steel products	12.90	13.35	13.32	13.31	13.20	13.51	13.37	13.45	13.34	13.44	13.46	13.49	13.82	13.84	13.92
Fabricated metal products	9.38	9.66	9.64	9.63	9.65	9.66	9.61	9.70	9.68	9.73	9.86	9.82	9.81	9.83	9.81
Machinery, except electrical	9.96	10.29	10.17	10.22	10.28	10.31	10.27	10.39	10.41	10.48	10.55	10.50	10.53	10.58	10.57
Electrical and electronic equipment	9.04	9.47	9.40	9.39	9.46	9.47	9.50	9.55	9.56	9.61	9.66	9.61	9.60	9.63	9.63
Transportation equipment	12.22	12.71	12.63	12.63	12.66	12.65	12.65	12.78	12.77	12.83	13.06	12.90	12.87	12.89	12.86
Motor vehicles and equipment	12.74	13.44	13.40	13.38	13.39	13.38	13.34	13.51	13.46	13.56	13.84	13.69	13.62	13.71	13.64
Instruments and related products	8.85	9.19	9.11	9.13	9.15	9.20	9.22	9.28	9.27	9.30	9.42	9.35	9.42	9.42	9.39
Miscellaneous manufacturing	7.04	7.26	7.22	7.26	7.26	7.30	7.26	7.30	7.30	7.35	7.47	7.47	7.48	7.48	7.46
Nondurable goods	8.37	8.68	8.67	8.64	8.65	8.72	8.67	8.70	8.69	8.75	8.84	8.83	8.83	8.85	8.86
Food and kindred products	8.36	8.54	8.59	8.58	8.55	8.54	8.47	8.51	8.49	8.58	8.66	8.70	8.68	8.72	8.75
Tobacco manufactures	11.27	12.06	12.16	12.65	12.83	12.91	12.44	11.47	11.45	12.08	11.90	12.01	12.48	12.85	13.02
Textile mill products	6.46	6.71	6.70	6.68	6.69	6.69	6.72	6.75	6.76	6.79	6.83	6.84	6.83	6.86	6.86
Apparel and other textile products	5.55	5.73	5.74	5.69	5.70	5.70	5.68	5.75	5.73	5.75	5.80	5.81	5.78	5.79	5.80
Paper and allied products	10.41	10.82	10.72	10.75	10.79	10.91	10.86	10.90	10.91	10.97	11.07	11.02	10.99	11.02	11.04
Printing and publishing	9.40	9.69	9.60	9.60	9.61	9.67	9.73	9.79	9.75	9.81	9.90	9.83	9.84	9.90	9.87
Chemicals and allied products	11.08	11.57	11.46	11.46	11.52	11.60	11.62	11.67	11.72	11.82	11.87	11.87	11.83	11.79	11.82
Petroleum and coal products	13.43	14.04	14.18	14.00	13.97	14.03	13.99	14.07	13.97	14.06	14.22	14.24	14.19	14.23	14.29
Rubber and miscellaneous plastics products	8.29	8.53	8.46	8.45	8.50	8.54	8.51	8.55	8.53	8.62	8.72	8.68	8.66	8.71	8.68
Leather and leather products	5.70	5.82	5.84	5.89	5.83	5.83	5.80	5.82	5.76	5.83	5.83	5.85	5.83	5.86	5.86
TRANSPORTATION AND PUBLIC UTILITIES	11.11	11.38	11.27	11.24	11.32	11.35	11.40	11.52	11.46	11.57	11.60	11.58	11.63	11.60	11.62
WHOLESALE TRADE	8.96	9.26	9.24	9.24	9.28	9.27	9.25	9.33	9.25	9.32	9.41	9.38	9.42	9.38	9.36
RETAIL TRADE	5.88	5.97	5.96	5.97	5.94	5.93	5.91	5.99	5.97	6.00	6.02	6.05	6.07	6.06	6.05
FINANCE, INSURANCE, AND REAL ESTATE	7.62	7.93	7.85	7.83	7.86	7.87	7.90	8.03	8.00	8.05	8.14	8.13	8.27	8.27	8.23
SERVICES	7.64	7.95	7.89	7.88	7.91	7.86	7.87	8.04	8.04	8.10	8.16	8.17	8.22	8.22	8.18

– Data not available.
ᵖ = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

16. Average weekly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1985									1986			
	1984	1985	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.ᵖ	Apr.ᵖ
PRIVATE SECTOR															
Current dollars	$294.05	$301.16	$298.05	$298.55	$303.02	$301.48	$302.32	$305.54	$303.62	$302.93	$308.17	$303.80	$302.75	$304.15	$304.15
Seasonally adjusted	-	-	298.90	300.11	301.51	299.95	301.86	303.62	303.28	303.45	306.77	305.18	305.20	305.90	305.90
Constant (1977) dollars	173.48	171.60	170.80	170.50	172.56	171.48	171.66	173.01	171.54	170.47	172.93	170.01	169.99	171.74	-
MINING	503.58	518.63	516.57	515.81	523.96	509.65	517.44	524.40	516.24	520.47	535.24	540.79	520.25	520.87	521.96
CONSTRUCTION	456.92	462.20	461.54	464.44	481.77	469.38	468.03	477.40	472.15	448.47	458.30	457.19	431.38	444.21	461.16
MANUFACTURING															
Current dollars	373.63	385.56	380.15	382.04	385.70	382.15	382.99	389.64	388.26	393.05	404.35	393.96	389.14	394.79	392.65
Constant (1977) dollars	220.43	219.69	217.85	218.18	219.65	217.38	217.48	220.63	219.37	221.19	226.91	220.47	218.50	222.92	-
Durable goods	403.24	415.71	410.23	411.64	417.31	410.06	412.05	420.21	418.78	423.72	439.45	425.18	421.48	426.01	423.54
Lumber and wood products	320.40	326.36	317.58	325.61	336.19	325.54	333.70	337.39	334.92	327.06	335.27	328.72	327.76	331.60	332.43
Furniture and fixtures	271.95	283.29	276.83	275.16	281.46	276.53	285.19	290.14	292.40	292.13	304.14	290.77	285.14	289.98	287.04
Stone, clay, and glass products	401.94	411.88	411.60	415.52	418.20	418.35	416.49	420.75	418.06	413.82	414.50	413.92	403.16	411.88	424.15
Primary metal industries	478.30	484.72	480.73	479.57	486.97	485.34	480.32	487.47	480.65	491.57	504.38	493.86	503.52	505.98	496.01
Blast furnaces and basic steel products	527.39	548.69	547.45	543.05	552.86	559.31	550.84	554.14	545.61	557.76	585.32	557.14	579.06	579.90	570.72
Fabricated metal products	388.33	398.95	395.24	395.79	400.46	394.13	395.93	403.52	401.72	404.77	420.89	408.55	402.21	405.98	403.19
Machinery, except electrical	417.32	427.04	417.99	421.06	427.65	420.65	422.10	432.22	430.97	438.06	451.54	437.85	435.94	442.24	438.68
Electrical and electronic equipment	370.84	384.48	376.00	377.48	385.02	376.91	383.80	387.73	388.14	396.89	408.50	394.97	389.76	395.79	391.94
Transportation equipment	521.79	542.72	538.04	539.30	539.32	531.30	531.30	544.43	545.28	550.41	578.56	554.70	544.40	551.69	546.55
Motor vehicles and equipment	558.01	584.64	586.92	587.38	579.79	574.00	586.95	586.33	586.86	590.78	626.95	586.88	584.30	597.78	589.25
Instruments and related products	365.51	376.79	368.96	372.50	376.07	370.76	373.41	381.41	377.29	384.09	400.35	384.29	386.22	388.99	384.90
Miscellaneous manufacturing	277.38	286.83	280.86	285.38	286.10	281.78	284.59	292.00	294.19	295.47	303.28	297.31	293.96	290.20	286.91
Nondurable goods	331.45	342.86	337.26	339.55	342.54	341.82	344.20	348.00	346.73	350.00	358.02	350.55	346.14	351.35	349.97
Food and kindred products	333.52	341.60	336.73	343.20	340.29	341.60	341.34	347.21	343.00	344.92	353.28	347.13	338.52	343.57	344.75
Tobacco manufactures	436.40	448.26	424.38	469.32	483.69	437.65	461.52	438.15	448.84	439.71	452.20	452.78	456.77	481.88	481.74
Textile mill products	257.75	266.39	257.28	260.52	266.93	258.23	270.14	275.40	276.48	279.75	283.45	278.39	273.88	278.52	279.20
Apparel and other textile products	202.02	208.00	203.20	205.98	209.19	206.34	207.32	209.88	210.86	212.18	215.18	212.65	206.92	211.34	209.96
Paper and allied products	448.67	466.34	458.82	460.10	463.27	465.86	465.89	473.06	472.40	477.20	490.40	479.37	473.67	478.27	473.62
Printing and publishing	356.26	365.31	360.00	358.08	358.45	360.69	369.74	373.98	369.53	373.76	384.12	370.59	369.00	377.19	373.09
Chemicals and allied products	464.25	484.78	481.01	480.17	484.99	482.56	483.39	487.81	486.38	496.44	504.48	496.17	493.31	496.36	495.26
Petroleum and coal products	586.89	603.72	595.56	583.80	596.52	606.10	605.77	620.49	620.27	610.20	621.41	615.17	611.59	626.12	635.91
Rubber and miscellaneous plastics products	345.69	350.58	346.83	345.61	350.20	346.72	346.36	351.41	350.58	356.01	366.24	359.35	355.88	359.72	355.88
Leather and leather products	209.76	217.09	215.50	218.04	221.54	218.63	216.92	219.41	216.56	219.79	221.54	217.04	209.88	212.72	212.86
TRANSPORTATION AND PUBLIC UTILITIES	437.73	446.37	441.78	441.73	449.40	448.33	454.86	457.34	452.67	457.02	460.52	451.62	454.73	455.88	466.50
WHOLESALE TRADE	345.86	358.36	354.82	357.59	360.99	359.68	358.90	362.00	357.98	361.62	366.99	362.07	360.79	361.13	361.30
RETAIL TRADE	176.40	177.31	175.22	177.91	179.39	180.27	179.07	177.90	175.52	175.80	180.00	174.24	174.21	175.74	175.45
FINANCE, INSURANCE, AND REAL ESTATE	278.13	288.65	285.74	284.23	291.77	285.68	288.77	292.29	290.40	291.41	298.74	295.93	303.51	302.66	298.75
SERVICES	250.59	260.76	257.21	257.68	261.03	260.17	260.50	263.71	263.71	264.87	267.65	267.16	268.79	269.62	267.49

- Data not available.
ᵖ = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

17. The Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Not seasonally adjusted				Seasonally adjusted					
	Apr. 1985	Feb. 1986	Mar. 1986ᵖ	Apr. 1986ᵖ	Apr. 1985	Dec. 1985	Jan. 1986	Feb. 1986	Mar. 1986	Apr. 1986ᵖ
PRIVATE SECTOR (in current dollars)	164.7	168.8	168.7	168.8	164.8	168.4	167.4	168.5	168.9	168.8
Mining[1]	178.6	180.5	179.7	179.8	-	-	-	-	-	-
Construction	149.2	149.1	147.8	148.8	150.4	150.5	149.2	150.0	148.8	150.0
Manufacturing	167.9	171.5	171.9	172.1	167.9	170.8	170.8	171.4	172.0	172.1
Transportation and public utilities	164.5	170.1	169.6	169.7	165.0	169.2	168.3	169.6	170.2	170.3
Wholesale trade[1]	170.7	173.7	173.1	173.0	-	-	-	-	-	-
Retail trade	156.1	158.3	158.3	158.6	155.6	158.9	157.1	157.8	158.1	158.1
Finance, insurance, and real estate[1]	170.0	178.6	178.5	177.7	-	-	-	-	-	-
Services	168.0	174.6	174.8	174.2	167.8	173.4	171.8	173.5	174.6	174.0
PRIVATE SECTOR (in constant dollars)	94.4	94.8	95.3	-	94.4	94.4	93.5	94.6	95.3	-

[1] This series is not seasonally adjusted because the seasonal component is small relative to the trend-cycle, irregular components, or both, and consequently cannot be separated with sufficient precision.
- Data not available.

ᵖ = preliminary.
NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

18. Indexes of diffusion: industries in which employment increased, data seasonally adjusted

(In percent)

Time span and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Over 1-month span												
1984	67.3	72.7	68.8	67.3	60.5	64.3	65.7	58.1	48.4	66.5	55.1	63.5
1985	57.6	50.3	55.9	44.6	50.3	47.0	54.9	58.8	45.7	63.5	61.6	63.2
1986	63.0	51.6	53.0	45.7	-	-	-	-	-	-	-	-
Over 3-month span												
1984	78.1	75.9	77.6	68.9	69.7	67.0	65.4	60.3	60.0	56.5	67.0	60.0
1985	58.6	54.1	46.8	45.9	44.1	49.7	50.5	49.2	53.8	52.7	65.1	65.1
1986	62.4	56.2	48.1	-	-	-	-	-	-	-	-	-
Over 6-month span												
1984	79.2	77.8	77.3	75.4	69.2	64.9	63.2	64.1	67.0	59.7	57.6	60.3
1985	52.2	49.5	44.3	44.6	44.3	42.4	46.8	50.0	56.8	60.0	56.2	61.4
1986	56.8	-	-	-	-	-	-	-	-	-	-	-
Over 12-month span												
1984	81.9	78.4	76.8	75.1	72.7	73.0	70.0	65.7	63.5	60.5	56.2	51.9
1985	50.8	48.4	49.5	47.3	48.2	47.3	48.6	48.6	47.6	-	-	-
1986	-	-	-	-	-	-	-	-	-	-	-	-

- Data not available.

NOTE: Figures are the percent of industries with employment rising. (Half of the unchanged components are counted as rising.) Data are centered within the spans. See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

19. Annual data: Employment status of the noninstitutional population

(Numbers in thousands)

Employment status	1977	1978	1979	1980	1981	1982	1983	1984	1985
Noninstitutional population	160,689	163,541	166,460	169,349	171,775	173,939	175,891	178,080	179,912
Labor force									
Total (number)	100,665	103,882	106,559	108,544	110,315	111,872	113,226	115,241	117,167
Percent of population	62.6	63.5	64.0	64.1	64.2	64.3	64.4	64.7	65.1
Employed									
Total (number)	93,673	97,679	100,421	100,907	102,042	101,194	102,510	106,702	108,856
Percent of population	58.3	59.7	60.3	59.6	59.4	58.2	58.3	59.9	60.5
Resident Armed Forces	1,656	1,631	1,597	1,604	1,645	1,668	1,676	1,697	1,706
Civilian									
Total	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005	107,150
Agriculture	3,283	3,387	3,347	3,364	3,368	3,401	3,383	3,321	3,179
Nonagricultural industries	88,734	92,661	95,477	95,938	97,030	96,125	97,450	101,685	103,971
Unemployed									
Total (number)	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539	8,312
Percent of labor force	6.9	6.0	5.8	7.0	7.5	9.5	9.5	7.4	7.1
Not in labor force (number)	60,025	59,659	59,900	60,806	61,460	62,067	62,665	62,839	62,744

20. Annual data: Employment levels by industry

(Numbers in thousands)

Industry	1977	1978	1979	1980	1981	1982	1983	1984	1985
Total employment	82,471	86,697	89,823	90,406	91,156	89,566	90,196	94,461	97,699
Private sector	67,344	71,026	73,876	74,166	75,126	73,729	74,330	78,477	81,404
Goods-producing	24,346	25,585	26,461	25,658	25,497	23,813	23,334	24,730	25,057
Mining	813	851	958	1,027	1,139	1,128	952	974	969
Construction	3,851	4,229	4,463	4,346	4,188	3,905	3,948	4,345	4,662
Manufacturing	19,682	20,505	21,040	20,285	20,170	18,781	18,434	19,412	19,426
Service-producing	58,125	61,113	63,363	64,748	65,659	65,753	66,862	69,731	72,643
Transportation and public utilities	4,713	4,923	5,136	5,146	5,165	5,082	4,954	5,171	5,300
Wholesale trade	4,708	4,969	5,204	5,275	5,358	5,278	5,268	5,550	5,769
Retail trade	13,808	14,573	14,989	15,035	15,189	15,179	15,613	16,584	17,425
Finance, insurance, and real estate	4,467	4,724	4,975	5,160	5,298	5,341	5,468	5,682	5,924
Services	15,303	16,252	17,112	17,890	18,619	19,036	19,694	20,761	21,930
Government	15,127	15,672	15,947	16,241	16,031	15,837	15,869	15,984	16,296
Federal	2,727	2,753	2,773	2,866	2,772	2,739	2,774	2,807	2,875
State	3,377	3,474	3,541	3,610	3,640	3,640	3,662	3,712	3,780
Local	9,023	9,446	9,633	9,765	9,619	9,458	9,434	9,465	9,640

NOTE: Data include Alaska and Hawaii beginning in 1959. See See "Notes on the data" for a description of the most recent benchmark revision.

21. Annual data: Average hours and earnings of production or nonsupervisory workers on nonagricultural payrolls, by industry

Industry	1977	1978	1979	1980	1981	1982	1983	1984	1985
Private sector									
Average weekly hours	36.0	35.8	35.7	35.3	35.2	34.8	35.0	35.3	35.1
Average hourly earnings	5.25	5.69	6.16	6.66	7.25	7.68	8.02	8.33	8.58
Average weekly earnings	189.00	203.70	219.91	235.10	255.20	267.26	280.70	294.05	301.16
Mining									
Average weekly hours	43.4	43.4	43.0	43.3	43.7	42.7	42.5	43.3	43.4
Average hourly earnings	6.94	7.67	8.49	9.17	10.04	10.77	11.28	11.63	11.95
Average weekly earnings	301.20	332.88	365.07	397.06	438.75	459.88	479.40	503.58	518.63
Construction									
Average weekly hours	36.5	36.8	37.0	37.0	36.9	36.7	37.1	37.7	37.7
Average hourly earnings	8.10	8.66	9.27	9.94	10.82	11.63	11.94	12.12	12.26
Average weekly earnings	295.65	318.69	342.99	367.78	399.26	426.82	442.97	456.92	462.20
Manufacturing									
Average weekly hours	40.3	40.4	40.2	39.7	39.8	38.9	40.1	40.7	40.5
Average hourly earnings	5.68	6.17	6.70	7.27	7.99	8.49	8.83	9.18	9.52
Average weekly earnings	228.90	249.27	269.34	288.62	318.00	330.26	354.08	373.63	385.56
Transportation and public utilities									
Average weekly hours	39.9	40.0	39.9	39.6	39.4	39.0	39.0	39.4	39.4
Average hourly earnings	6.99	7.57	8.16	8.87	9.70	10.32	10.79	11.11	11.38
Average weekly earnings	278.90	302.80	325.58	351.25	382.18	402.48	420.81	437.73	448.37
Wholesale trade									
Average weekly hours	38.8	38.8	38.8	38.5	38.5	38.3	38.5	38.6	38.7
Average hourly earnings	5.39	5.88	6.39	6.96	7.56	8.09	8.55	8.96	9.26
Average weekly earnings	209.13	228.14	247.93	267.96	291.06	309.85	329.18	345.86	358.36
Retail trade									
Average weekly hours	31.6	31.0	30.6	30.2	30.1	29.9	29.8	30.0	29.7
Average hourly earnings	3.85	4.20	4.53	4.88	5.25	5.48	5.74	5.88	5.97
Average weekly earnings	121.66	130.20	138.62	147.38	158.03	163.85	171.05	176.40	177.31
Finance, insurance, and real estate									
Average weekly hours	36.4	36.4	36.2	36.2	36.3	36.2	36.2	36.5	36.4
Average hourly earnings	4.54	4.89	5.27	5.79	6.31	6.78	7.29	7.62	7.93
Average weekly earnings	165.26	178.00	190.77	209.60	229.05	245.44	263.90	278.13	288.65
Services									
Average weekly hours	33.0	32.8	32.7	32.6	32.6	32.6	32.7	32.8	32.8
Average hourly earnings	4.65	4.99	5.36	5.85	6.41	6.92	7.31	7.64	7.95
Average weekly earnings	153.45	163.67	175.27	190.71	208.97	225.59	239.04	250.59	260.76

22. Employment Cost Index, compensation,[1] by occupation and industry group

(June 1981 = 100)

Series	1984				1985				1986	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar., 1986	
Civilian workers [2]	119.8	120.8	122.4	123.9	125.5	126.4	128.4	129.2	130.6	1.1	4.1
Workers, by occupational group:											
White-collar workers	120.9	122.1	124.0	125.5	127.3	128.3	130.7	131.6	133.1	1.1	4.6
Blue-collar workers	117.7	118.6	119.6	120.9	122.2	123.1	124.4	124.9	126.2	1.0	3.3
Service workers	122.0	122.1	124.6	126.8	127.8	128.0	130.9	131.8	133.1	1.0	4.1
Workers, by industry division:											
Manufacturing	117.9	119.1	120.4	122.0	123.9	124.6	125.5	126.0	127.7	1.3	3.1
Nonmanufacturing	120.7	121.6	123.3	124.8	126.2	127.2	129.7	130.6	131.9	1.0	4.5
Services	125.0	125.5	128.6	130.9	131.9	132.6	136.4	137.1	138.8	1.2	5.2
Public administration [3]	122.9	123.7	126.9	128.6	130.1	130.3	134.2	134.8	136.8	1.5	5.1
Private industry workers	119.0	120.1	121.1	122.7	124.2	125.2	126.8	127.5	128.9	1.1	3.8
Workers, by occupational group:											
White-collar workers	119.9	121.4	122.4	123.9	125.8	127.1	128.8	129.8	131.3	1.2	4.4
Blue-collar workers	117.5	118.4	119.3	120.6	121.9	122.8	124.0	124.4	125.7	1.0	3.1
Service workers	121.5	121.2	123.2	125.7	126.3	126.5	128.8	129.5	130.9	1.1	3.6
Workers, by industry division:											
Manufacturing	117.9	119.1	120.4	122.0	123.9	124.6	125.5	126.0	127.7	1.3	3.1
Nonmanufacturing	119.6	120.7	121.6	123.1	124.4	125.6	127.6	128.4	129.7	1.0	4.3
State and local government workers	123.9	124.4	128.8	130.1	131.7	132.0	136.5	137.5	138.9	1.0	5.5
Workers, by occupational group:											
White-collar workers	124.5	125.0	129.7	131.1	132.5	132.9	137.6	138.6	140.0	1.0	5.7
Blue-collar workers	121.9	122.3	125.0	125.9	128.1	128.5	131.9	132.7	134.7	1.5	5.2
Workers, by industry division:											
Services	124.5	125.0	129.9	131.3	132.8	133.2	137.9	139.1	140.4	.9	5.7
Schools	124.5	124.7	130.8	132.0	133.4	133.7	139.1	140.3	141.5	.9	6.1
Elementary and secondary	125.4	125.7	132.1	133.5	134.4	134.6	140.9	142.0	143.0	.7	6.4
Hospitals and other services[4]	124.4	125.7	127.9	129.2	131.1	131.5	134.1	135.2	136.8	1.2	4.3
Public administration[3]	122.9	123.7	126.9	128.6	130.1	130.3	134.2	134.8	136.8	1.5	5.1

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[1] Cost (cents-per-hour worked) measured in the Employment Cost Index consists of wages, salaries and employer cost of employee benefits.

[2] Consist of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[3] Consists of legislative, judicial, administrative, and regulatory activities.

[4] Includes, for example, library, social, and health services.

23. Employment Cost Index, wages and salaries, by occupation and industry group

(June 1981 = 100)

Series	1984				1985				1986	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar., 1986	
Civilian workers [1]	117.9	118.8	120.3	121.7	123.1	124.2	126.3	127.0	128.3	1.0	4.2
Workers, by occupational group:											
White-collar workers	119.3	120.4	122.2	123.5	125.2	126.4	128.8	129.8	131.2	1.1	4.8
Blue-collar workers	115.3	116.1	117.0	118.2	119.3	120.5	122.0	122.3	123.4	.9	3.4
Service workers	120.0	119.8	122.3	124.3	124.8	125.3	128.0	128.6	129.8	.9	4.0
Workers, by industry division											
Manufacturing	115.7	116.8	118.0	119.5	121.0	122.3	123.2	123.8	125.3	1.2	3.6
Nonmanufacturing	118.9	119.7	121.3	122.6	123.9	125.0	127.6	128.4	129.6	.9	4.6
Services	123.3	123.8	127.2	128.9	129.7	130.5	134.2	134.8	136.4	1.2	5.2
Public administration [2]	120.4	121.3	124.4	125.7	127.0	127.2	131.4	132.0	133.8	1.4	5.4
Private industry workers	117.2	118.2	119.2	120.6	122.0	123.3	124.9	125.6	126.8	1.0	3.9
Workers, by occupational group:											
White-collar workers	118.5	118.9	120.9	122.3	124.0	125.5	127.3	128.3	129.6	1.0	4.5
Professional and technical	122.2	123.8	125.2	127.3	127.7	128.7	131.2	131.5	132.7	.9	3.9
Managers and administrators	118.0	119.2	121.0	122.2	123.8	126.5	127.7	128.4	130.5	1.6	5.4
Salesworkers	110.2	111.9	110.5	111.6	116.3	117.4	119.3	122.5	122.4	-.1	5.2
Clerical workers	119.8	120.7	122.0	122.9	124.7	125.6	127.1	127.9	129.6	1.3	3.9
Blue-collar workers	115.1	115.9	116.7	118.0	119.1	120.3	121.7	122.0	123.1	.9	3.4
Craft and kindred workers	116.5	117.3	118.0	119.4	120.8	122.0	123.7	123.8	125.3	1.2	3.7
Operatives, except transport	114.9	115.8	116.6	117.9	118.9	120.1	121.1	121.6	122.6	.8	3.1
Transport equipment operatives	111.7	112.7	113.4	114.0	114.5	115.7	117.7	117.8	118.0	.2	3.1
Nonfarm laborers	112.9	114.1	114.7	115.9	116.7	118.5	118.6	119.8	120.0	.2	2.8
Service workers	119.8	119.3	121.2	123.7	123.8	124.4	126.3	126.6	128.0	1.1	3.4
Workers, by industry division:											
Manufacturing	115.7	116.8	118.0	119.5	121.0	122.3	123.2	123.8	125.3	1.2	3.6
Durables	115.7	116.6	117.7	119.1	120.6	122.0	122.7	123.4	124.8	1.1	3.5
Nondurables	115.8	117.1	118.6	120.2	121.6	122.8	124.0	124.6	126.1	1.2	3.7
Nonmanufacturing	118.0	119.0	119.8	121.2	122.6	123.9	125.9	126.6	127.7	.9	4.2
Construction	113.3	114.0	114.3	114.4	115.5	116.6	117.3	117.9	118.3	.3	2.4
Transportation and public utilities	118.5	119.3	119.9	120.7	121.7	122.8	124.8	125.2	126.3	.9	3.8
Wholesale and retail trade	114.3	116.0	116.5	118.1	118.8	121.1	122.7	123.7	124.5	.6	4.8
Wholesale trade	118.2	120.0	120.7	122.9	123.7	126.8	127.7	128.3	129.7	1.1	4.9
Retail trade	112.8	114.4	114.9	116.2	116.9	118.9	120.8	121.9	122.5	.5	4.8
Finance, insurance, and real estate	116.1	116.9	115.3	115.8	122.0	121.7	124.1	126.5	126.6	.1	3.8
Services	124.2	124.7	127.1	129.5	129.9	131.0	133.9	134.1	136.2	1.6	4.8
State and local government workers	121.6	122.0	126.1	127.1	128.4	128.7	133.2	134.2	135.5	1.0	5.5
Workers, by occupational group											
White-collar workers	122.2	122.5	127.1	128.0	129.3	129.6	134.3	135.3	136.6	1.0	5.6
Blue-collar workers	119.1	119.6	121.9	122.5	124.2	124.5	127.9	128.4	130.4	1.6	5.0
Workers, by industry division											
Services	122.2	122.5	127.2	128.1	129.4	129.7	134.5	135.6	136.8	.9	5.7
Schools	122.2	122.3	127.8	128.7	129.9	130.2	135.8	137.0	138.0	.7	6.2
Elementary and secondary	122.9	123.0	129.3	130.2	130.8	131.1	137.5	138.5	139.4	.6	6.6
Hospitals and other services [3]	121.9	123.1	125.1	125.9	127.7	128.0	130.2	130.9	132.4	1.1	3.7
Public administration [2]	120.4	121.3	124.4	125.7	127.0	127.2	131.4	132.0	133.8	1.4	5.4

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[1] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[2] Consists of legislative, judicial, administrative, and regulatory activities.

[3] Includes, for example, library, social and health services.

24. Employment Cost Index, private nonfarm workers, by bargaining status, region, and area size

(June 1981 = 100)

Series	1984				1985				1986	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar., 1986	
COMPENSATION											
Workers, by bargaining status[1]											
Union	120.6	121.7	122.6	123.9	124.8	125.5	126.5	127.1	128.4	1.0	2.9
Manufacturing	119.3	120.5	121.6	123.2	124.2	124.2	125.0	125.5	127.0	1.2	2.3
Nonmanufacturing	121.9	122.8	123.6	124.5	125.3	126.6	127.8	128.6	129.7	.9	3.5
Nonunion	118.0	119.2	120.3	121.9	123.8	125.0	126.8	127.5	129.0	1.2	4.2
Manufacturing	116.6	117.9	119.3	120.8	123.6	124.8	125.7	126.3	128.1	1.4	3.6
Nonmanufacturing	118.6	119.8	120.7	122.4	123.9	125.1	127.3	128.1	129.5	1.1	4.5
Workers, by region[1]											
Northeast	118.9	120.7	122.4	123.8	125.1	126.4	128.8	129.9	131.6	1.3	5.2
South	119.7	120.7	120.7	122.2	124.2	125.2	126.5	127.2	128.7	1.2	3.6
Midwest (formerly North Central)	117.2	117.9	119.7	120.8	122.0	122.7	124.2	124.6	125.9	1.0	3.2
West	121.0	122.2	122.5	124.9	126.8	127.9	129.1	129.8	130.8	.8	3.2
Workers, by area size[1]											
Metropolitan areas	119.4	120.6	121.5	123.2	124.7	125.7	127.3	128.1	129.5	1.1	3.8
Other areas	116.7	117.4	119.0	119.8	121.4	122.5	123.9	123.9	125.5	1.3	3.4
WAGES AND SALARIES											
Workers, by bargaining status[1]											
Union	118.1	119.0	119.8	120.9	121.7	123.0	124.1	124.7	125.6	.7	3.2
Manufacturing	116.1	117.1	118.1	119.5	120.4	121.7	122.8	123.3	124.2	.7	3.2
Nonmanufacturing	120.1	120.7	121.3	122.1	122.8	124.1	125.3	125.9	126.9	.8	3.3
Nonunion	116.7	117.8	118.8	120.4	122.1	123.4	125.2	125.9	127.3	1.1	4.3
Manufacturing	115.4	116.5	117.9	119.5	121.5	122.8	123.7	124.4	126.1	1.4	3.8
Nonmanufacturing	117.2	118.3	119.2	120.7	122.3	123.6	125.9	126.6	127.8	.9	4.5
Workers, by region[1]											
Northeast	117.4	118.9	120.5	121.9	123.0	124.6	126.8	128.1	129.2	.9	5.0
South	117.9	119.0	119.0	120.2	122.3	123.4	124.8	125.4	126.8	1.1	3.7
Midwest (formerly North Central)	115.5	116.0	117.8	118.7	119.6	121.1	122.5	122.9	124.2	1.1	3.8
West	118.8	119.6	120.0	122.5	124.0	125.1	126.6	127.1	128.1	.8	3.3
Workers, by area size[1]											
Metropolitan areas	117.6	118.6	119.5	121.0	122.4	123.8	125.5	126.3	127.4	.9	4.1
Other areas	115.1	116.0	117.5	118.3	119.6	120.6	121.9	122.0	123.6	1.3	3.3

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[1] The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the *Monthly Labor Review* Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

25. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		Quarterly average							
	1984	1985	1984			1985				1986
			II	III	IV	I	II	III	IV	I^p
Specified adjustments:										
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:										
First year of contract	3.6	2.6	3.5	2.7	3.7	3.6	3.5	2.0	2.0	0.3
Annual rate over life of contract	2.8	2.7	3.2	3.1	2.0	2.7	3.4	3.0	1.4	1.2
Wage adjustments, settlements covering 1,000 workers or more:										
First year of contract	2.4	2.3	2.6	2.1	2.3	3.3	2.5	2.0	2.1	.8
Annual rate over life of contract	2.4	2.7	2.7	2.6	1.5	3.2	2.8	3.1	1.9	1.6
Effective adjustments:										
Total effective wage adjustment [3]	3.7	3.3	.9	1.2	.7	.7	.8	1.2	.5	.6
From settlements reached in period	.8	.7	.1	.2	.3	.1	.2	.2	.1	.0
Deferred from settlements reached in earlier periods	2.0	1.8	.7	.7	.2	.6	.5	.5	.2	.4
From cost-of-living-adjustments clauses	.9	.7	.2	.3	.2	.1	.1	.4	.1	.2

[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases and no changes in compensation or wages.

[3] Because of rounding total may not equal sum of parts.

p = preliminary.

26. Average specified compensation and wage adjustments, major collective bargaining settlements in private industry situations covering 1,000 workers or more during 4-quarter periods (in percent)

Measure	Average for four quarters ending–							
	1984			1985				1986
	II	III	IV	I	II	III	IV	I^p
Specified total compensation adjustments, settlements covering 5,000 workers or more, all industries:								
First year of contract	4.7	4.2	3.6	3.4	3.4	3.1	2.6	2.3
Annual rate over life of contract	3.5	3.2	2.8	2.6	2.7	2.7	2.7	2.6
Specified wage adjustments, settlements covering 1,000 workers or more:								
All industries								
First year of contract	3.5	3.2	2.4	2.4	2.4	2.4	2.3	2.0
Contracts with COLA clauses	4.6	4.5	2.9	2.5	2.3	1.9	1.6	1.6
Contracts without COLA clauses	2.7	2.3	2.1	2.4	2.4	2.7	2.7	2.2
Annual rate over life of contract	3.1	2.8	2.4	2.3	2.4	2.5	2.7	2.5
Contracts with COLA clauses	2.9	2.8	1.8	1.3	1.5	1.8	2.5	2.6
Contracts without COLA clauses	3.2	2.8	2.7	2.8	2.8	3.0	2.8	2.5
Manufacturing								
First year of contract	3.0	2.6	2.3	2.1	2.0	1.5	.8	.8
Contracts with COLA clauses	3.2	1.5	2.1	2.0	1.9	1.5	.8	.8
Contracts without COLA clauses	2.8	3.7	2.9	2.5	2.2	1.5	.9	.9
Annual rate over life of contract	3.1	2.8	1.5	1.4	1.5	1.6	1.8	1.8
Contracts with COLA clauses	2.8	1.8	1.0	.9	1.0	1.4	2.1	2.1
Contracts without COLA clauses	3.6	3.8	3.3	3.2	3.0	2.4	1.6	1.5
Nonmanufacturing								
First year of contract	3.7	3.3	2.5	2.6	2.7	3.2	3.3	2.8
Contracts with COLA clauses	5.2	5.4	5.5	5.1	4.3	4.0	3.6	3.5
Contracts without COLA clauses	2.5	2.1	2.0	2.4	2.5	3.0	3.3	2.7
Annual rate over life of contract	3.0	2.8	2.9	2.8	2.9	3.3	3.3	3.0
Contracts with COLA clauses	3.0	3.1	4.8	4.0	3.8	3.9	3.6	3.6
Contracts without COLA clauses	3.0	2.6	2.6	2.7	2.8	3.2	3.3	2.9
Construction								
First year of contract	.8	.9	.5	.9	1.1	1.0	1.5	1.7
Contracts with COLA clauses	-.4	4.0	4.0	4.6	9.2	(1)	(1)	(1)
Contracts without COLA clauses	.9	.9	.4	.8	1.0	(1)	(1)	(1)
Annual rate over life of contract	1.7	1.4	1.0	1.4	1.7	1.7	2.1	2.2
Contracts with COLA clauses	.0	1.4	1.4	1.7	4.6	(1)	(1)	(1)
Contracts without COLA clauses	1.6	1.4	1.0	1.4	1.7	(1)	(1)	(1)

[1] Data do not meet publication standards.

p = preliminary.

27. Average effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more during 4-quarter periods (in percent)

Effective wage adjustment	Average for four quarters ending–						
	1984		1985				1986
	III	IV	I	II	III	IV	p
For all workers:[1]							
Total	4.2	3.7	3.6	3.5	3.5	3.3	3.1
From settlements reached in period	1.0	.8	.7	.9	.9	.7	–
Deferred from settlements reached in earlier period	2.1	2.0	2.2	1.9	1.8	1.8	1.7
From cost-of-living-adjustments clauses	1.2	.9	.7	.7	.8	.7	.8
For workers receiving changes:							
Total	5.0	4.4	4.5	4.2	4.3	4.1	4.0
From settlements reached in period	3.7	3.0	2.9	2.9	2.8	3.4	2.9
Deferred from settlements reached in earlier period	4.2	4.0	4.2	3.9	3.7	3.7	3.5
From cost-of-living-adjustments clauses	3.2	2.7	2.3	2.3	2.8	2.2	2.5

[1] Because of rounding total may not equal sum of parts.

– Data not available.

p = preliminary.

28. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, State and local government collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		Second 6 months 1985p
	1984	1985	
Specified adjustments:			
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:			
First year of contract	5.2	4.2	3.8
Annual rate over life of contract	5.4	5.1	5.3
Wage adjustments, settlements covering 1,000 workers or more:			
First year of contract	4.8	4.6	4.4
Annual rate over life of contract	5.1	5.4	5.6
Effective adjustments:			
Total effective wage adjustment [3]	5.0	5.7	4.1
From settlements reached in period	1.9	4.1	3.2
Deferred from settlements reached in earlier periods	3.1	1.6	.9
From cost-of-living-adjustment clauses	(4)	(4)	(4)

[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases, and no changes in compensation or wages.

[3] Because of rounding total may not equal sum of parts.

[4] Less than 0.05 percent.

p = preliminary.

29. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1985									1986		
	1984	1985	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.p	Feb.p	Mar.p
Number of stoppages:														
Beginning in period	62	54	3	2	2	9	6	11	6	3	2	4	3	3
In effect during period	66	61	8	8	8	13	18	20	20	13	9	7	7	9
Workers involved:														
Beginning in period (in thousands)	376.0	323.9	6.2	6.9	15.7	50.1	15.3	69.5	76.6	26.2	8.2	7.6	24.0	12.3
In effect during period (in thousands)	391.0	584.1	14.8	15.1	28.5	56.9	66.8	93.9	119.3	47.0	38.0	12.0	28.4	38.7
Days idle:														
Number (in thousands)	8,499.0	–	220.5	203.3	454.3	500.2	669.7	931.4	1,433.0	651.2	666.4	170.0	308.5	411.3
Percent of estimated working time[1]	.04	.03	.01	.01	.02	.02	.04	.04	.06	.04	.03	.01	.02	.02

[1] Agricultural and government employees are included in the total employed and total working time: private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time worked is found in "'Total economy' measure of strike idleness," *Monthly Labor Review*, October 1968, pp. 54-56.

– Data not available.

p = preliminary

Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity or ervice group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967=100, unless otherwise indicated)

Series	Annual average		1985									1986			
	1984	1985	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS:															
All items	311.1	322.2	320.1	321.3	322.3	322.8	323.5	324.5	325.5	326.6	327.4	328.4	327.5	326.0	325.3
All items (1957-59=100)	361.9	374.7	372.3	373.7	374.8	375.5	376.2	377.4	378.5	379.9	380.8	381.9	380.8	379.1	378.3
Food and beverages	295.1	302.0	301.6	301.0	301.4	301.6	301.8	302.1	302.5	303.6	305.6	307.9	307.7	307.8	308.5
Food	302.9	309.8	308.6	308.9	309.3	309.5	309.7	309.9	309.8	311.0	313.2	315.6	315.3	315.4	316.1
Food at home	292.6	296.8	297.7	296.2	296.0	296.2	295.9	295.6	295.3	296.6	299.3	302.5	301.5	301.2	301.5
Cereals and bakery products	305.3	317.0	314.8	315.9	317.3	317.3	318.5	319.2	318.9	319.9	321.9	322.0	322.5	322.7	322.5
Meats, poultry, fish, and eggs	266.6	263.4	263.6	259.8	259.8	260.5	259.7	260.6	261.1	266.1	269.9	271.5	268.4	267.7	264.2
Dairy products	253.2	258.0	258.3	258.4	257.8	257.8	257.4	258.0	257.1	257.1	256.9	257.2	257.3	256.8	256.8
Fruits and vegetables	317.4	325.7	333.2	330.3	329.0	328.8	328.3	319.9	317.1	314.3	323.9	334.4	320.7	319.2	329.5
Other foods at home	352.2	361.1	360.8	361.3	360.8	360.8	361.7	362.6	363.0	362.2	361.3	365.7	375.1	375.7	376.1
Sugar and sweets	389.1	398.8	395.1	397.8	398.3	400.2	401.8	401.1	402.6	401.4	402.2	405.1	408.6	408.4	411.4
Fats and oils	288.0	294.4	294.0	294.0	298.0	297.8	297.1	294.8	291.2	292.1	290.3	292.1	291.4	290.2	288.5
Nonalcoholic beverages	443.0	451.7	454.0	454.1	451.5	448.2	448.6	452.8	454.1	451.7	448.8	459.7	485.3	488.0	487.4
Other prepared foods	294.9	294.2	292.8	293.4	293.4	294.5	295.8	296.3	296.8	296.8	297.3	298.0	299.5	299.3	300.2
Food away from home	333.4	346.6	343.8	345.1	346.8	347.3	348.4	349.9	350.3	351.3	352.1	353.1	354.2	355.5	357.0
Alcoholic beverages	222.1	229.5	226.7	227.7	227.8	227.8	228.9	228.3	236.4	236.2	236.2	237.5	238.3	238.8	239.5
Housing	336.5	349.9	345.9	348.5	350.4	351.6	352.9	353.8	354.4	355.0	355.8	356.8	356.5	357.0	358.0
Shelter	361.7	382.0	375.9	378.5	381.0	383.2	385.8	386.9	389.1	391.3	392.3	393.8	394.8	397.0	400.1
Renters' costs (12/82=100)	108.6	115.4	113.5	114.5	115.1	115.8	116.6	117.0	117.9	118.4	118.3	118.8	119.0	119.6	120.9
Rent, residential	249.3	264.6	260.4	262.6	263.6	265.0	266.6	267.7	269.9	271.7	272.4	273.4	273.7	275.0	277.9
Other renters' costs	373.4	396.4	390.9	395.5	401.6	405.1	409.9	410.7	412.5	408.7	398.1	401.1	404.1	405.5	410.8
Homeowners' costs (12/82=100)	107.3	113.1	111.3	112.4	112.8	113.5	114.3	114.6	115.1	115.8	116.3	116.7	117.0	117.9	118.7
Owners' equivalent rent (12/82=100)	107.3	113.2	111.3	112.5	112.8	113.5	114.3	114.6	115.1	115.9	116.3	116.7	117.0	117.9	118.7
Household insurance (12/82=100)	107.5	112.4	111.4	112.0	112.7	112.7	113.0	113.7	114.6	114.5	115.0	115.7	117.4	118.0	118.3
Maintenance and repairs	358.2	366.9	366.0	366.2	367.6	367.8	370.6	368.7	368.5	372.7	373.7	379.1	379.6	367.5	367.6
Maintenance and repair services	409.7	421.1	418.2	416.0	423.2	421.1	425.1	421.9	422.2	426.4	426.2	432.6	432.8	422.4	424.6
Maintenance and repair commodities	262.7	268.6	270.4	269.2	265.7	267.8	269.2	268.6	268.0	271.5	273.3	277.1	277.8	266.1	264.5
Fuel and other utilities	387.3	393.6	388.7	393.0	398.4	398.9	398.9	400.5	396.6	392.1	393.3	394.6	390.0	385.5	381.8
Fuels	485.5	488.1	483.0	480.0	487.7	487.3	494.4	496.8	488.4	481.5	483.6	484.7	476.3	467.6	459.6
Fuel oil, coal, and bottled gas	641.8	619.5	623.5	620.8	612.0	601.9	594.6	601.7	615.3	641.6	657.3	650.3	591.2	549.9	518.3
Gas (piped) and electricity	445.2	452.7	445.9	454.7	465.6	467.1	465.1	466.5	453.9	440.5	439.9	442.6	444.5	442.3	439.2
Other utilities and public services	230.2	240.7	236.4	238.8	241.1	242.8	244.2	244.6	244.7	245.9	245.8	247.3	247.9	249.0	251.3
Household furnishings and operations	242.5	247.2	247.9	247.6	247.1	248.5	247.0	247.1	248.4	248.9	248.8	248.8	249.0	249.8	249.6
Housefurnishings	199.1	200.1	201.7	201.2	200.0	198.8	198.1	199.0	200.3	200.8	200.1	199.8	199.7	201.0	200.4
Housekeeping supplies	303.2	313.6	312.6	312.9	313.6	313.1	313.5	313.9	315.7	316.4	317.7	318.3	318.6	317.9	318.5
Housekeeping services	327.5	338.9	337.9	338.0	338.3	338.8	340.7	341.5	342.2	342.7	343.2	343.9	344.5	345.1	345.4
Apparel and upkeep	200.2	206.0	205.9	205.3	204.6	202.8	205.3	209.6	211.1	211.2	209.0	205.0	204.1	206.3	207.3
Apparel commodities	187.0	191.6	191.8	191.0	190.2	188.0	190.6	195.3	196.7	196.8	194.2	189.5	188.5	190.8	191.7
Men's and boys' apparel	182.4	187.9	187.4	187.8	186.4	184.5	187.2	201.5	203.2	203.6	202.0	198.6	196.8	198.3	199.7
Women's and girls' apparel	163.6	169.5	170.0	169.0	166.5	163.4	167.7	176.1	177.9	176.5	172.6	164.4	163.4	167.6	168.0
Infants' and toddlers' apparel	287.0	298.7	295.3	298.3	300.7	294.5	300.6	302.0	302.1	307.0	304.1	313.9	311.6	313.1	316.6
Footwear	209.5	212.1	213.2	213.2	213.9	211.4	210.3	210.9	212.3	215.5	213.1	209.1	207.9	210.1	211.4
Other apparel commodities	216.4	215.5	215.8	215.1	216.3	216.7	217.5	215.2	214.9	214.9	214.6	215.5	216.1	214.6	215.3
Apparel services	305.0	320.9	318.4	318.4	319.9	321.4	322.9	324.1	325.7	326.3	326.9	329.6	330.7	331.5	332.9
Transportation	311.7	319.9	320.0	321.4	321.8	321.8	320.7	319.7	320.9	323.2	324.0	323.9	319.2	309.6	303.3
Private transportation	306.6	314.2	314.6	316.0	316.3	316.1	314.9	313.6	314.7	317.0	317.6	317.3	312.2	302.1	295.3
New vehicles	208.0	214.9	213.9	214.2	214.3	214.3	214.2	214.2	215.9	218.2	219.2	219.7	220.2	220.1	221.0
New cars	208.5	215.2	214.1	214.5	214.7	214.7	214.8	214.5	216.2	218.4	219.4	219.9	220.4	220.3	221.2
Used cars	375.7	379.7	386.4	384.2	380.3	378.7	374.0	374.3	375.3	376.4	375.6	374.1	370.7	367.2	364.8
Motor fuel	370.7	373.8	374.2	381.6	384.7	385.5	381.9	377.7	374.6	376.7	377.5	373.3	351.5	308.5	279.5
Gasoline	370.2	373.3	373.8	381.4	384.5	385.3	381.8	377.4	374.2	376.1	376.8	372.5	350.8	307.7	278.6
Maintenance and repair	341.5	351.4	349.2	349.6	350.4	351.1	351.9	353.5	355.7	355.8	357.5	357.9	358.9	359.3	360.6
Other private transportation	273.3	287.5	285.8	285.6	286.6	287.6	287.7	285.8	289.6	293.9	295.2	297.7	299.2	301.5	301.6
Other private transportation commodities	201.5	202.6	202.8	201.3	203.9	202.2	202.8	203.4	202.8	201.6	202.1	203.4	202.9	203.6	202.2
Other private transportation services	296.0	312.8	310.5	310.7	311.3	313.0	313.0	310.4	315.4	321.2	322.7	325.5	327.6	330.3	330.9
Public transportation	385.2	402.8	398.0	398.4	399.3	402.4	403.7	408.0	411.5	412.6	412.9	419.6	422.2	421.2	422.2
Medical care	379.5	403.1	398.0	399.5	401.7	404.0	406.6	408.3	410.5	413.0	414.7	418.2	422.3	425.6	428.0
Medical care commodities	239.7	256.7	253.9	255.2	257.0	257.8	259.3	260.2	261.3	262.7	262.9	264.5	267.4	269.4	271.3
Medical care services	410.3	435.1	429.4	430.9	433.0	435.8	438.6	440.5	443.0	445.6	448.0	451.9	456.2	460.1	462.3
Professional services	346.1	367.3	363.2	364.5	366.4	368.1	370.0	371.7	373.2	375.5	377.1	378.9	381.6	385.0	386.9
Other medical care services	489.0	517.0	506.5	511.2	513.6	517.6	521.6	523.9	527.4	530.8	533.6	540.3	546.4	550.8	553.5
Entertainment	255.1	265.9	263.3	263.6	264.8	265.7	265.7	266.8	268.4	269.0	268.3	270.8	272.0	271.9	272.3
Entertainment commodities	253.3	260.6	258.5	258.5	260.1	260.8	260.5	262.5	264.0	264.0	262.5	264.7	265.2	265.0	264.8
Entertainment services	258.3	271.8	269.2	269.9	272.0	273.3	273.6	273.3	275.2	276.6	277.1	279.9	282.1	282.2	283.5
Other goods and services	307.7	326.6	321.8	322.3	323.0	325.0	326.0	333.3	334.9	335.3	336.5	339.1	340.3	341.1	341.8
Tobacco products	310.0	329.5	324.0	324.1	324.8	330.0	331.5	332.8	334.4	334.7	337.4	342.7	344.7	345.6	346.5
Personal care	271.4	281.9	279.8	280.9	281.7	282.3	283.3	284.1	285.0	285.4	286.3	288.1	289.1	290.3	290.5
Toilet goods and personal care appliances	268.6	276.5	277.1	277.5	277.9	278.9	279.4	280.6	281.4	281.1	282.5	285.3	286.0	287.3	287.7
Personal care services	274.1	286.0	283.3	285.0	286.1	286.3	287.7	288.2	289.2	290.2	290.6	291.8	293.0	294.0	294.1
Personal and educational expenses	365.7	397.1	388.3	388.5	389.1	390.1	390.7	412.5	414.7	415.4	415.5	416.8	417.7	417.9	418.9
School books and supplies	322.8	350.8	344.5	344.5	344.9	345.5	346.1	362.1	364.5	364.7	364.7	371.0	373.8	374.3	374.4
Personal and educational services	375.6	407.7	398.5	398.8	399.4	400.4	401.1	423.9	426.2	426.9	427.0	427.6	428.1	428.3	429.5

See footnotes at end of table.

30. Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity or service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967=100, unless otherwise indicated)

Series	Annual average		1985									1986			
	1984	1985	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
All items	311.1	322.2	320.1	321.3	322.3	322.8	323.5	324.5	325.5	326.6	327.4	328.4	327.5	326.0	325.3
Commodities	280.7	286.7	286.8	287.0	286.9	286.5	286.5	287.1	287.9	289.2	289.9	290.1	287.4	283.7	281.2
Food and beverages	295.1	302.0	301.6	301.0	301.4	301.6	301.8	302.1	302.5	303.6	305.6	307.9	307.7	307.8	308.5
Commodities less food and beverages	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Nondurables less food and beverages	275.7	282.1	281.5	283.1	283.5	282.9	283.1	284.6	285.3	286.8	286.8	284.9	278.6	268.9	262.0
Apparel commodities	187.0	191.6	191.8	191.0	190.2	188.0	190.6	195.3	196.7	196.8	194.2	189.5	188.5	190.8	191.7
Nondurables less food, beverages, and apparel	325.8	333.3	332.3	335.1	336.2	336.4	335.4	335.3	335.6	337.8	339.1	338.7	329.5	313.6	302.6
Durables	266.5	270.7	272.6	271.6	270.4	269.3	268.6	268.7	270.2	271.5	271.4	271.4	270.5	269.7	269.2
Services	363.0	381.5	376.2	378.9	381.3	383.3	384.9	386.5	387.7	388.7	389.5	391.7	393.3	394.9	396.8
Rent of shelter	107.7	113.9	112.0	113.2	113.6	114.3	115.1	115.4	116.1	116.7	117.0	117.4	117.7	118.5	119.4
Household services less rent of shelter	108.1	111.2	109.8	110.9	112.7	113.2	113.2	113.5	112.1	110.8	110.8	111.4	111.8	111.6	111.6
Transportation services	321.1	337.0	334.1	334.5	335.3	337.0	337.4	337.1	341.1	344.7	346.1	349.0	351.0	352.4	353.2
Medical care services	410.3	435.1	429.4	430.9	433.0	435.8	438.6	440.5	443.0	445.8	448.0	451.9	456.2	460.1	462.3
Other services	296.0	314.1	309.9	310.7	312.0	313.0	313.8	319.7	321.4	322.5	322.9	324.8	326.1	326.6	327.6
Special indexes:															
All items less food	311.3	323.3	320.8	322.4	323.6	324.2	325.0	326.2	327.4	328.5	328.9	329.5	328.5	326.6	325.7
All items less shelter	295.1	303.9	302.8	303.4	304.3	304.4	304.6	305.7	306.3	307.2	307.9	308.8	307.4	305.2	303.6
All items less homeowners' costs	106.3	109.7	109.2	109.5	109.8	109.9	110.1	110.4	110.7	111.1	111.3	111.6	111.2	110.5	110.1
All items less medical care	307.3	317.7	315.8	317.0	317.9	318.4	318.9	319.9	320.8	321.9	322.6	323.4	322.2	320.5	319.7
Commodities less food	267.0	272.5	272.8	273.4	273.1	272.4	272.3	273.1	274.4	275.7	275.7	274.7	270.9	265.2	261.2
Nondurables less food	270.8	277.2	276.5	278.0	278.4	277.9	278.1	279.6	280.7	282.0	282.0	280.4	274.5	265.6	259.2
Nondurables less food and apparel	311.9	319.2	318.1	320.7	321.7	321.9	321.1	321.0	322.0	324.0	325.1	324.9	316.8	302.7	292.9
Nondurables	286.6	293.2	292.7	293.3	293.7	293.5	293.7	294.6	295.1	296.4	297.4	297.7	294.3	289.5	286.3
Services less rent of shelter	106.5	113.5	112.2	112.8	113.7	114.2	114.5	115.0	115.1	115.2	115.4	116.2	116.8	117.1	117.4
Services less medical care	355.6	373.3	368.1	370.9	373.3	375.2	376.7	378.3	379.3	380.1	380.8	382.7	384.0	385.4	387.2
Energy	423.6	426.5	424.4	431.7	436.8	437.1	433.8	432.6	427.1	425.1	426.5	424.7	408.9	381.3	361.8
All items less energy	302.9	314.8	312.7	313.3	313.9	314.5	315.6	316.8	318.4	319.8	320.5	321.8	322.3	323.3	324.4
All items less food and energy	301.2	314.4	311.8	312.8	313.4	314.1	315.3	316.9	318.9	320.4	320.7	321.6	322.3	323.6	324.8
Commodities less food and energy	253.1	259.7	260.0	259.6	259.0	258.2	258.8	260.2	262.0	262.7	262.2	261.8	261.6	262.0	262.1
Energy commodities	409.8	409.9	410.8	417.0	418.7	418.1	414.0	411.2	410.1	415.2	417.9	413.2	386.5	343.0	313.3
Services less energy	356.4	375.9	370.7	372.9	374.6	376.6	378.6	380.2	382.5	384.8	385.8	387.9	389.4	391.5	393.8
Purchasing power of the consumer dollar:															
1967=$1.00	32.1	31.0	31.2	31.1	31.0	31.0	30.9	30.8	30.7	30.6	30.5	30.5	30.5	30.7	30.7
1957-59=$1.00	27.6	26.7	26.9	26.8	26.7	26.6	26.6	26.5	26.4	26.3	26.3	26.2	26.3	26.4	26.4
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS:															
All items	307.6	318.5	316.7	317.8	318.7	319.1	319.6	320.5	321.3	322.6	323.4	324.3	323.2	321.4	320.4
All items (1957-59=100)	357.7	370.4	368.3	369.6	370.6	371.2	371.8	372.7	373.7	375.1	376.1	377.1	375.8	373.7	372.6
Food and beverages	295.2	301.8	301.4	300.8	301.2	301.4	301.6	301.8	302.2	303.4	305.4	307.7	307.5	307.6	308.3
Food	302.7	309.3	309.2	308.4	308.8	309.0	309.1	309.3	309.3	310.6	312.8	315.1	314.9	315.0	315.6
Food at home	291.2	295.3	296.1	294.6	294.5	294.6	294.3	294.0	293.7	295.2	297.9	300.9	300.1	299.7	299.9
Cereals and bakery products	303.7	315.4	313.1	314.1	315.7	315.7	316.8	317.6	317.3	318.2	320.4	320.4	320.9	321.1	320.9
Meats, poultry, fish, and eggs	266.0	262.7	262.9	259.2	259.3	259.7	259.0	259.9	260.4	265.4	269.2	270.7	267.7	267.2	263.5
Dairy products	252.2	256.9	257.2	257.3	256.7	256.6	256.3	256.8	255.9	255.9	255.7	256.0	256.0	255.5	255.5
Fruits and vegetables	312.5	320.3	328.1	324.8	323.5	323.9	320.6	313.6	311.2	309.4	319.3	329.7	316.0	314.6	325.0
Other foods at home	352.7	361.5	361.3	361.6	361.3	361.1	362.2	362.9	363.4	362.5	361.6	366.1	375.2	375.6	376.0
Sugar and sweets	368.6	398.3	395.5	396.9	396.0	399.8	401.4	400.8	402.2	400.9	401.8	404.7	408.1	407.8	410.9
Fats and oils	287.5	293.9	293.7	293.6	295.6	297.3	296.5	294.1	290.6	291.8	289.6	291.6	290.8	289.7	287.8
Nonalcoholic beverages	444.4	453.2	455.6	455.4	453.0	449.8	451.2	454.1	455.6	453.1	450.4	461.0	485.5	487.4	487.0
Other prepared foods	286.4	295.7	294.2	294.9	295.0	296.1	297.3	297.7	298.3	298.3	298.7	299.4	300.9	300.7	301.6
Food away from home	336.7	349.7	347.1	348.4	350.1	350.4	351.5	353.0	353.4	354.4	355.2	356.2	357.3	358.6	360.2
Alcoholic beverages	225.3	232.6	229.9	230.8	231.0	231.0	232.2	232.6	239.1	238.8	239.1	240.1	240.9	241.4	242.3
Housing	329.2	343.3	339.5	342.1	344.0	345.0	346.2	347.2	347.5	348.3	349.1	350.1	349.7	350.1	351.1
Shelter	350.0	370.4	364.7	368.1	369.5	371.5	374.0	375.0	377.1	379.3	380.4	381.8	382.9	385.0	388.1
Renters' costs (12/84=100)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Rent, residential	248.6	263.7	259.6	261.8	262.7	264.1	265.7	266.8	268.9	270.7	271.5	272.5	272.8	274.1	277.0
Other renters' costs	372.4	397.9	391.0	396.7	401.0	405.2	409.6	409.8	411.6	408.0	397.5	400.8	403.5	405.4	411.6
Homeowners' costs (12/84=100)	–	103.1	101.4	102.5	102.8	103.4	104.1	104.3	104.8	105.5	105.9	106.3	106.6	107.4	108.1
Owners' equivalent rent (12/84=100)	–	103.0	101.4	102.4	102.8	103.4	104.1	104.3	104.8	105.5	105.9	106.3	106.6	107.3	108.1
Household insurance (12/84=100)	–	103.2	102.4	102.8	103.4	103.5	103.7	104.3	105.2	105.2	105.7	106.3	107.8	108.2	108.5
Maintenance and repairs	356.3	364.1	363.1	361.8	362.9	363.4	365.6	364.4	364.6	367.7	368.5	373.2	374.0	364.7	364.6
Maintenance and repair services	403.5	415.0	411.7	410.1	417.0	415.3	419.6	416.8	417.4	420.9	420.1	426.2	426.5	416.6	419.2
Maintenance and repair commodities	257.2	261.1	261.6	260.7	258.4	260.0	260.6	260.5	260.5	262.7	264.2	267.2	268.1	261.1	259.4
Fuel and other utilities	388.6	394.7	369.7	393.8	400.9	401.2	400.1	401.9	396.3	393.2	394.3	395.6	390.9	386.3	382.6
Fuels	465.0	487.5	482.3	488.9	497.7	497.0	494.0	496.7	487.2	481.0	483.1	484.1	475.7	467.1	459.1
Fuel oil, coal, and bottled gas	644.3	622.0	625.9	623.2	614.3	604.2	596.9	604.3	618.1	644.3	659.9	652.7	593.6	552.8	521.5
Gas (piped) and electricity	444.1	451.6	444.6	453.0	465.1	466.3	464.2	465.9	452.0	439.5	438.8	441.4	443.2	441.2	438.0
Other utilities and public services	231.2	241.6	237.3	237.7	242.0	243.7	245.1	245.6	245.7	246.8	246.7	248.3	248.8	249.9	252.1
Household furnishings and operations	239.1	243.4	244.1	244.0	243.3	242.6	243.1	243.2	244.5	245.1	245.2	245.1	245.3	246.0	246.0
Housefurnishings	197.0	197.6	199.2	[illegible]	197.6	196.2	196.6	196.5	197.7	198.3	197.8	197.3	197.2	198.5	198.1
Housekeeping supplies	300.2	310.7	309.8	[illegible]	310.8	310.3	310.4	311.0	312.7	313.5	315.0	315.8	316.4	315.5	316.3
Housekeeping services	328.0	340.2	339.0	339.2	339.5	341.0	342.2	342.9	343.9	344.5	345.0	345.6	346.3	346.6	347.1
Apparel and upkeep	199.1	205.0	204.9	204.2	203.7	201.8	204.3	208.7	210.2	210.2	208.1	204.1	203.1	205.2	206.1

See footnotes at end of table.

, Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity or vice group; and CPI for Urban Wage Earners and Clerical Workers, all items

7=100, unless otherwise indicated)

Series	Annual average		1985									1986			
	1984	1985	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
pparel commodities	186.6	191.3	191.5	190.7	190.0	187.8	190.4	195.1	196.6	196.5	194.1	189.4	188.2	190.4	191.2
Men's and boys' apparel	192.9	198.2	197.8	198.2	196.6	194.8	197.3	201.8	203.5	203.7	202.2	198.8	196.8	198.0	199.3
Women's and girls' apparel	165.0	171.3	172.0	169.7	168.4	165.5	169.9	178.2	180.0	178.3	174.5	166.1	165.2	169.0	169.3
nfants' and toddlers' apparel	297.6	311.7	306.4	310.6	313.5	306.4	311.2	314.9	314.8	320.7	317.3	332.7	328.6	329.6	331.3
Footwear	210.0	212.5	213.3	213.3	214.1	211.6	210.5	211.0	212.6	215.9	213.6	209.9	208.4	210.7	212.1
Other apparel commodities	204.5	203.1	203.3	202.7	204.0	204.5	205.2	202.5	202.4	202.5	202.4	203.5	204.2	203.5	204.1
pparel services	302.9	318.5	316.1	317.0	317.6	319.0	320.5	321.6	323.2	323.6	324.4	327.2	328.1	329.0	330.2
sportation	313.9	321.6	322.0	323.3	323.6	323.5	322.3	321.1	322.2	324.6	325.3	325.1	320.1	310.3	303.5
vate transportation	310.1	317.4	318.0	319.4	319.6	319.3	318.0	316.6	317.6	320.1	320.8	320.2	314.8	304.5	297.4
lew vehicles	207.3	214.2	213.2	213.5	213.6	213.0	213.5	213.5	215.3	217.5	218.6	219.0	219.4	219.4	220.2
New cars	207.9	214.5	213.4	213.8	214.0	214.0	213.9	213.8	215.5	217.8	218.8	219.2	219.7	219.5	220.4
Used cars	375.7	379.7	386.4	384.2	380.3	376.7	374.0	374.3	375.3	376.4	375.6	374.1	370.7	367.2	364.8
lotor fuel	372.2	375.4	375.7	383.0	386.2	387.2	383.8	379.5	376.3	378.7	379.6	375.3	353.0	309.6	280.1
Gasoline	371.8	375.0	375.3	382.7	386.0	387.0	383.7	379.2	375.8	378.1	378.9	374.6	352.3	308.8	279.1
laintenance and repair	342.2	352.6	349.3	350.6	351.5	352.2	352.9	354.5	356.9	357.2	359.0	359.4	360.4	360.9	362.2
ther private transportation	274.2	287.7	286.3	285.9	286.9	287.7	287.6	285.2	289.2	293.7	294.7	296.9	298.4	300.6	300.4
Other private transportation commodities	203.9	204.7	205.1	203.5	205.9	204.3	204.9	205.6	205.0	203.7	204.3	205.6	205.4	206.0	204.6
Other private transportation services	295.4	312.3	310.4	310.4	310.9	312.4	312.1	308.9	314.1	320.2	321.3	323.7	325.7	328.3	328.5
blic transportation	376.8	391.7	387.4	387.6	388.4	392.1	393.5	396.8	399.3	400.1	400.2	408.6	412.6	412.0	413.0
cal care	377.7	401.2	396.1	397.7	399.8	402.0	404.5	406.3	408.5	410.9	412.6	416.0	420.0	423.5	425.7
dical care commodities	239.7	256.3	253.5	254.8	256.7	257.4	259.0	259.8	260.9	262.2	262.3	264.1	267.0	268.8	270.7
dical care services	407.9	432.7	427.1	428.7	430.7	433.3	436.1	438.1	440.6	443.2	445.4	449.2	453.5	457.3	459.5
rofessional services	346.5	367.7	363.6	365.0	366.8	368.5	370.4	372.1	373.7	375.8	377.6	379.3	382.2	385.6	387.4
ther medical care services	484.7	513.9	506.6	508.2	510.5	514.4	518.4	520.7	524.4	527.5	530.4	536.9	543.0	547.3	550.0
tainment	251.2	260.1	258.6	258.9	260.1	260.9	260.8	261.6	263.0	263.7	263.0	265.4	266.5	266.5	266.9
ertainment commodities	247.7	254.2	253.2	253.1	253.9	254.5	254.3	256.0	257.1	257.2	255.7	257.8	258.3	258.3	258.4
ertainment services	258.5	271.6	269.2	270.0	272.0	273.2	273.3	272.6	274.6	276.3	276.8	280.0	282.0	282.1	283.0
goods and services	304.9	322.7	318.3	318.8	319.5	321.8	322.9	326.7	330.1	330.5	331.9	334.9	336.1	337.0	337.6
acco products	309.7	328.1	323.6	323.6	324.4	329.7	331.1	332.4	334.0	334.3	337.1	342.4	344.4	345.2	346.0
onal care	269.4	279.6	277.5	278.6	279.2	279.9	280.9	281.8	282.7	283.1	284.0	285.9	286.8	286.0	288.2
ilet goods and personal care appliances	270.3	279.0	277.5	277.8	278.2	279.2	280.0	281.1	282.0	281.9	283.3	285.9	286.7	286.1	288.4
rsonal care services	268.8	280.5	278.0	279.7	280.7	280.9	282.2	282.8	283.7	284.8	285.2	286.4	287.4	288.4	288.4
onal and educational expenses	368.2	399.3	390.7	390.9	391.6	392.5	393.2	414.5	416.5	417.3	417.4	418.9	419.9	420.1	421.2
hool books and supplies	327.5	355.7	349.4	349.5	349.9	350.6	351.2	366.9	369.2	369.3	369.4	375.6	378.4	379.0	379.1
rsonal and educational services	378.2	410.1	401.0	401.2	401.9	402.9	403.6	426.1	428.1	428.9	429.1	429.7	430.3	430.5	431.8
s	307.6	318.5	316.7	317.8	318.7	319.1	319.6	320.5	321.3	322.6	323.4	324.3	323.2	321.4	320.4
odities	280.4	286.5	286.7	286.8	286.8	286.4	286.3	286.8	287.6	288.9	289.7	289.8	287.0	283.1	280.4
d and beverages	295.2	301.8	301.4	300.8	301.2	301.4	301.6	301.8	302.2	303.4	305.4	307.7	307.5	307.6	308.3
modities less food and beverages	269.3	-	276.3	277.5	277.7	-	-	-	-	-	-	-	-	-	-
ndurables less food and beverages	277.5	283.8	283.2	284.9	285.4	285.0	285.1	286.5	287.0	288.5	288.7	286.9	280.1	269.6	262.0
pparel commodities	186.6	191.3	191.5	190.7	190.0	187.8	190.4	195.1	196.6	196.5	194.1	189.4	188.2	190.4	191.2
ondurables less food, beverages, and apparel	327.0	334.2	333.1	336.0	337.2	337.6	336.6	336.4	336.5	338.8	340.1	339.6	330.1	313.2	301.6
ables	261.1	265.2	267.3	266.3	265.1	263.8	263.1	263.1	264.5	265.7	265.7	265.6	264.6	263.7	263.3
es	358.0	377.3	372.2	374.9	377.4	379.2	380.7	382.0	383.0	384.2	385.1	387.2	388.8	390.5	392.2
of shelter (12/84=100)	-	103.2	101.6	102.6	102.9	103.5	104.3	104.5	105.1	105.8	106.1	106.4	106.7	107.4	108.3
ehold services less rent of shelter (12/84=100)	-	102.6	101.2	102.2	104.2	104.5	104.6	104.8	103.3	102.1	102.0	102.6	103.0	102.8	102.7
sportation services	317.2	332.2	329.6	329.9	330.6	332.2	332.4	331.4	335.5	339.3	340.5	343.3	345.4	347.0	347.5
cal care services	407.9	432.7	427.1	428.7	430.7	433.3	436.1	438.1	440.6	443.2	445.4	449.2	453.5	457.3	459.5
r services	292.9	310.1	306.2	307.2	308.4	309.3	310.1	315.0	316.7	317.8	318.3	320.4	321.6	322.1	322.9
l indexes:															
ms less food	307.5	319.4	317.2	318.7	319.8	320.3	320.9	321.9	322.9	324.2	324.6	325.1	323.8	321.5	320.2
ms less shelter	295.1	303.4	302.4	303.0	303.9	304.0	304.0	304.8	305.4	306.4	307.2	307.9	306.4	303.8	302.1
ms less homeowners' costs (12/84=100)	-	101.8	101.4	101.7	102.0	102.0	102.1	102.4	102.6	103.0	103.2	103.5	103.0	102.3	101.8
ms less medical care	304.0	314.3	312.6	313.7	314.6	314.9	315.3	316.1	316.9	318.1	318.9	319.6	318.3	316.2	315.2
modities less food	267.1	272.8	273.3	273.8	273.6	272.8	272.7	273.4	274.5	275.9	275.9	275.0	270.9	264.9	260.7
rables less food	272.6	279.0	278.2	279.8	280.4	280.0	280.2	281.5	282.4	283.8	283.9	282.3	276.1	266.4	259.4
rables less food and apparel	313.2	320.3	319.1	321.8	322.9	323.2	322.4	322.3	323.1	325.0	326.3	325.9	317.5	302.6	292.2
rables	287.4	293.9	293.4	294.0	294.4	294.3	294.5	295.2	295.7	297.1	298.2	298.4	295.0	289.8	286.3
es less rent of shelter (12/84=100)	-	102.6	101.4	101.9	102.8	103.3	103.5	103.8	103.9	103.9	104.2	104.9	105.5	105.7	105.9
es less medical care	350.5	369.0	364.1	366.8	369.3	371.1	372.5	373.6	374.5	375.5	376.2	378.2	379.5	381.0	382.7
y	423.3	426.3	424.2	431.3	436.9	437.2	433.9	432.5	426.6	425.4	426.8	424.7	408.1	379.0	358.4
ms less energy	298.3	309.9	308.1	308.6	309.1	309.5	310.4	311.5	313.0	314.5	315.3	316.5	316.9	317.8	318.8
ms less food and energy	295.8	308.7	306.4	307.3	307.8	308.3	309.4	310.7	312.7	314.2	314.6	315.4	316.1	317.2	318.3
odities less food and energy	250.5	256.8	257.2	256.8	256.2	255.3	255.8	257.2	258.8	259.5	259.2	258.8	258.5	258.7	258.8
y commodities	410.5	410.9	411.6	418.0	419.9	419.6	415.7	412.6	411.2	416.3	418.9	414.1	387.3	343.3	312.9
es less energy	350.8	371.1	368.2	368.4	369.9	371.9	373.7	374.9	377.3	379.8	380.8	382.9	384.5	386.5	388.8
ing power of the consumer dollar:															
=$1.00	32.5	31.4	31.6	31.5	31.4	31.3	31.3	31.2	31.1	31.0	30.9	30.8	30.9	31.1	31.2
59=$1.00	28.0	27.0	27.2	27.1	27.0	26.9	26.9	26.8	26.8	26.7	26.6	26.5	26.6	26.8	26.8

not available.

31. Consumer Price Index: U.S. city average and available local area data: all items

(1967 = 100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1985			1986				1985			1986			
			Apr.	May	Dec.	Jan.	Feb.	Mar.	Apr.	Apr.	May	Dec.	Jan.	Feb.	Mar.	Apr.
U.S. city average		–	320.1	321.3	327.4	328.4	327.5	326.0	325.3	316.7	317.8	323.4	324.3	323.2	321.4	320.4
Chicago, Ill.-Northwestern Ind.	M	–	319.1	319.8	325.9	325.3	326.4	323.9	322.7	306.2	306.9	312.6	312.9	312.8	309.7	309.1
Detroit, Mich.	M	–	315.8	316.1	323.1	323.1	322.9	320.0	318.8	306.3	306.6	313.1	313.4	312.3	309.3	309.1
Los Angeles-Long Beach, Anaheim, Calif.	M	–	315.9	319.1	326.1	326.8	326.6	328.2	326.8	311.2	314.1	320.1	320.9	320.4	321.8	320.2
New York, N.Y.-Northeastern N.J.	M	–	311.8	312.6	320.8	323.1	322.3	322.4	321.4	305.1	305.8	313.5	315.8	314.7	314.5	313.2
Philadelphia, Pa.-N.J.	M	–	312.4	314.2	319.7	320.3	320.1	319.1	317.8	315.3	317.2	322.5	323.0	322.8	321.4	319.7
Anchorage, Alaska (10/67 = 100)	1	10/67	–	278.8	–	287.1	–	291.2	–	–	271.9	–	280.2	–	284.4	–
Baltimore, Md.	1	–	–	323.1	–	332.0	–	331.1	–	–	322.3	–	331.1	–	329.5	–
Boston, Mass.	1	–	–	315.2	–	327.1	–	324.9	–	–	313.2	–	324.5	–	322.3	–
Cincinnati, Ohio-Ky.-Ind.	1	–	–	330.4	–	333.2	–	329.4	–	–	324.0	–	326.0	–	321.8	–
Denver-Boulder, Colo.	1	–	–	358.3	–	364.4	–	365.7	–	–	351.9	–	358.1	–	350.1	–
Miami, Fla. (11/77 = 100)	1	11/77	–	171.0	–	174.6	–	174.5	–	–	172.2	–	175.7	–	175.1	–
Milwaukee, Wis.	1	–	–	330.9	–	333.9	–	329.1	–	–	350.2	–	353.0	–	347.2	–
Northeast, Pa.	1	–	–	306.0	–	311.6	–	306.3	–	–	305.2	–	310.6	–	308.3	–
Portland, Oreg.-Wash.	1	–	–	310.4	–	321.3	–	315.0	–	–	301.2	–	311.0	–	304.3	–
St. Louis, Mo.-Ill.	1	–	–	315.9	–	322.4	–	319.2	–	–	313.0	–	319.1	–	315.0	–
San Diego, Calif.	1	–	–	372.1	–	381.9	–	379.2	–	–	336.5	–	344.7	–	341.9	–
Seattle-Everett, Wash.	1	–	–	321.0	–	327.0	–	325.0	–	–	308.4	–	313.5	–	311.4	–
Washington, D.C.-Md.-Va.	1	–	–	319.8	–	331.1	–	329.1	–	–	323.0	–	332.6	–	330.5	–
Atlanta, Ga.	2	–	324.6	–	335.3	–	336.9	–	334.9	322.3	–	332.6	–	334.3	–	331.7
Buffalo, N.Y.	2	–	305.4	–	309.8	–	310.1	–	308.0	291.9	–	295.9	–	295.8	–	292.7
Cleveland, Ohio	2	–	342.4	–	348.8	–	350.2	–	346.9	321.8	–	327.5	–	338.3	–	324.4
Dallas-Ft. Worth, Tex.	2	–	335.6	–	344.5	–	347.0	–	341.4	329.6	–	338.3	–	340.4	–	334.1
Honolulu, Hawaii	2	–	292.7	–	298.5	–	301.2	–	299.0	300.1	–	305.8	–	308.5	–	308.0
Houston, Tex.	2	–	336.3	–	338.8	–	337.2	–	330.0	332.8	–	334.1	–	334.3	–	327.7
Kansas City, Mo.-Kansas	2	–	319.8	–	321.8	–	321.1	–	320.7	309.7	–	311.7	–	310.1	–	309.9
Minneapolis-St. Paul, Minn.-Wis.	2	–	333.6	–	340.4	–	338.9	–	336.4	329.2	–	336.0	–	334.9	–	332.3
Pittsburgh, Pa.	2	–	324.3	–	331.5	–	330.1	–	326.1	306.8	–	312.8	–	311.4	–	307.8
San Francisco-Oakland, Calif.	2	–	330.4	–	336.4	–	341.1	–	339.3	326.1	–	331.3	–	338.0	–	[illegible]
Region[3]																
Northeast	2	12/77	169.8	–	174.3	–	174.5	–	173.7	167.9	–	172.1	–	172.3	–	171.1
North Central	2	12/77	172.8	–	176.0	–	175.4	–	173.9	169.7	–	172.6	–	171.8	–	170.0
South	2	12/77	172.6	–	176.3	–	176.6	–	175.1	172.5	–	176.0	–	176.1	–	174.1
West	2	12/77	173.0	–	177.2	–	177.5	–	176.8	171.4	–	175.2	–	175.4	–	174.5
Population size class[3]																
A-1	2	12/77	169.6	–	174.2	–	174.7	–	173.9	169.0	–	170.2	–	170.5	–	169.3
A-2	2	12/77	174.7	–	178.4	–	178.7	–	177.4	172.0	–	175.4	–	175.5	–	173.8
B	2	12/77	173.5	–	177.2	–	176.9	–	175.6	171.2	–	174.6	–	174.2	–	172.7
C	2	12/77	171.4	–	174.9	–	174.7	–	173.4	172.0	–	175.3	–	175.0	–	173.4
D	2	12/77	171.0	–	174.7	–	174.0	–	172.7	172.9	–	176.0	–	175.2	–	173.6
Region/population size class cross classification[3]																
Class A:																
Northeast	2	12/77	169.7	–	171.2	–	171.8	–	171.0	169.5	–	167.7	–	169.1	–	169.9
North Central	2	12/77	175.9	–	179.4	–	179.2	–	177.8	171.1	–	174.5	–	174.0	–	172.1
South	2	12/77	172.4	–	176.5	–	177.3	–	175.5	172.6	–	176.5	–	177.0	–	174.9
West	2	11/77	174.6	–	179.3	–	179.8	–	179.6	170.9	–	175.0	–	175.5	–	174.9
Class B:																
Northeast	2	12/77	173.5	–	176.7	–	176.4	–	174.7	170.5	–	173.5	–	173.4	–	171.7
North Central	2	12/77	171.7	–	174.2	–	173.7	–	172.1	169.4	–	170.5	–	169.7	–	167.7
South	2	12/77	173.7	–	176.0	–	176.2	–	177.0	170.7	–	174.7	–	174.6	–	173.2
West	2	12/77	174.4	–	179.4	–	177.6	–	176.7	175.1	–	178.9	–	178.2	–	177.1

See footnotes at end of table.

31. Continued— Consumer Price Index: U.S. city average and available local area data: all items

(1967 = 100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1985			1986				1985			1986			
			Apr.	May	Dec.	Jan.	Feb.	Mar.	Apr.	Apr.	May	Dec.	Jan.	Feb.	Mar.	Apr.
Class C:																
Northeast	2	12/77	177.8	–	184.1	–	183.1	–	183.0	182.5	–	188.8	–	187.8	–	187.4
North Central	2	12/77	168.6	–	171.5	–	170.4	–	168.5	165.7	–	168.2	–	167.1	–	165.1
South	2	12/77	172.2	–	175.3	–	175.3	–	173.6	173.9	–	176.7	–	176.6	–	174.3
West	2	12/77	166.9	–	169.1	–	171.1	–	170.5	165.9	–	167.8	–	169.6	–	168.9
Class D:																
Northeast	2	12/77	174.2	–	178.1	–	178.9	–	177.9	174.2	–	177.7	–	178.6	–	177.2
North Central	2	12/77	169.1	–	172.6	–	170.7	–	170.0	171.4	–	174.2	–	172.4	–	171.4
South	2	12/77	171.6	–	174.5	–	174.7	–	173.2	173.7	–	176.1	–	176.0	–	174.0
West	2	12/77	170.8	–	176.2	–	174.8	–	172.6	172.4	–	177.7	–	176.3	–	173.9

[1] Area is generally the Standard Metropolitan Statistical Area (SMSA), exclusive of farms. L.A.-Long Beach, Anaheim, Calif. is a combination of two SMSA's, and N.Y., N.Y.-Northeastern N.J. and Chicago, Ill.-Northwestern Ind. are the more extensive Standard Consolidated Areas. Area definitions are those established by the Office of Management and Budget in 1973, except for Denver-Boulder, Colo. which does not include Douglas County. Definitions do not include revisions made since 1973.

[2] Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated:.

M - Every month.

1 - January, March, May, July, September, and November.

2 - February, April, June, August, October, and December.

[3] Regions are defined as the four Census regions.

The population size classes are aggregations of areas which have urban population as defined:

A-1 - More than 4,000,000.

A-2 - 1,250,000 to 4,000,000.

B - 385,000 to 1,250,000

C - 75,000 to 385,000.

D - Less than 75,000.

Population size class A is the aggregation of population size classes A-1 and A-2.

- Data not available.

NOTE: Local area CPI indexes are byproducts of the national CPI program. Because each local index is a small subset of the national index, it has a smaller sample size and is, therefore, subject to substantially more sampling and other measurement error than the national index. As a result, local area indexes show greater volatility than the national index, although their long-term trends are quite similar. Therefore, the Bureau of Labor Statistics strongly urges users to consider adopting the national average CPI for use in escalator clauses.

32. Annual data: Consumer Price Index all items and major groups

Series	1977	1978	1979	1980	1981	1982	1983	1984	1985
Consumer Price Index for All Urban Consumers:									
All items:									
Index	181.5	195.4	217.4	246.8	272.4	289.1	298.4	311.1	322.2
Percent change	6.5	7.7	11.3	13.5	10.4	6.1	3.2	4.3	3.6
Food and beverages:									
Index	188.0	206.3	228.5	248.0	267.3	278.2	284.4	295.1	302.0
Percent change	6.0	9.7	10.8	8.5	7.8	4.1	2.2	3.8	2.3
Housing									
Index	186.5	202.8	227.6	263.3	293.5	314.7	323.1	336.5	349.9
Percent change	6.8	8.7	12.2	15.7	11.5	7.2	2.7	4.1	4.0
Apparel and upkeep:									
Index	154.2	159.6	166.6	178.4	186.9	191.8	196.5	200.2	206.0
Percent change	4.5	3.5	4.4	7.1	4.8	2.6	2.5	1.9	2.9
Transportation:									
Index	177.2	185.5	212.0	249.7	280.0	291.5	298.4	311.7	319.9
Percent change	7.1	4.7	14.3	17.8	12.1	4.1	2.4	4.5	2.6
Medical care:									
Index	202.4	219.4	239.7	265.9	294.5	328.7	357.3	379.5	403.1
Percent change	9.6	8.4	9.3	10.9	10.8	11.6	8.7	6.2	6.2
Entertainment:									
Index	167.7	176.6	188.5	205.3	221.4	235.8	246.0	255.1	265.0
Percent change	4.9	5.3	6.7	8.9	7.8	6.5	4.3	3.7	3.9
Other goods and services:									
Index	172.2	183.3	196.7	214.5	235.7	259.9	288.3	307.7	326.6
Percent change	5.8	6.4	7.3	9.0	9.9	10.3	10.9	6.7	6.1
Consumer Price Index for Urban Wage Earners and Clerical Workers									
All items:									
Index	181.5	195.3	217.7	247.0	272.3	288.6	297.4	307.6	318.5
Percent change	6.5	7.6	11.5	13.5	10.2	6.0	3.0	3.4	3.5

33. Producer Price Indexes, by stage of processing

(1967 = 100)

Grouping	Annual average		1985								1986			
	1984	1985	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Finished goods	291.1	293.8	294.1	294.0	294.8	293.5	290.0	294.7	296.4	297.2	296.2	292.3	288.1	286.9
Finished consumer goods	290.3	291.9	292.4	292.2	293.1	291.4	288.2	292.3	294.4	295.4	294.1	288.9	283.5	281.6
Finished consumer foods	273.3	271.2	269.5	268.7	271.2	268.7	265.7	268.2	271.8	275.0	274.9	272.3	272.2	272.4
Finished consumer goods excluding foods	294.1	297.4	299.0	299.0	299.2	297.8	294.7	298.4	300.7	300.7	298.8	292.5	284.4	281.4
Nondurable goods less food	337.3	339.4	342.4	342.1	342.4	340.0	340.3	340.3	342.8	343.2	340.3	329.3	315.0	308.6
Durable goods	236.8	241.5	241.4	241.9	241.9	241.8	234.5	244.9	245.0	244.3	243.8	243.6	243.9	245.4
Capital equipment	294.0	300.5	300.3	300.5	300.8	301.0	296.3	303.5	303.8	303.7	304.0	304.2	304.3	305.6
Intermediate materials, supplies, and components	320.0	318.7	319.9	319.3	318.6	317.9	317.7	317.6	318.1	318.9	317.2	313.5	309.4	307.0
Materials and components for manufacturing	301.8	299.4	300.5	300.3	299.8	299.1	298.4	299.0	297.7	297.9	297.0	296.5	296.4	295.2
Materials for food manufacturing	271.1	258.7	261.9	262.0	260.3	253.0	249.9	252.3	254.0	254.3	252.4	249.9	248.3	244.6
Materials for nondurable manufacturing	290.5	285.8	286.7	286.4	285.8	285.8	285.1	283.3	282.8	283.1	283.2	283.0	281.9	279.0
Materials for durable manufacturing	325.1	320.2	323.0	322.3	320.9	320.3	319.2	318.6	317.5	317.6	313.9	313.0	313.6	313.1
Components for manufacturing	287.5	291.5	291.1	291.3	291.6	291.9	292.1	292.3	292.3	292.4	292.9	293.3	294.2	294.1
Materials and components for construction	310.3	315.2	315.9	317.3	316.9	316.5	315.6	315.5	315.0	315.7	316.3	316.6	316.8	318.0
Processed fuels and lubricants	586.2	549.4	558.0	549.1	544.0	539.8	542.4	542.8	550.5	557.2	539.8	500.7	453.9	430.2
Containers	302.3	311.2	311.7	312.0	311.4	310.3	309.9	310.4	309.8	310.6	310.7	310.6	311.2	312.5
Supplies	283.4	284.2	283.4	283.3	283.6	284.1	284.5	285.1	285.6	285.7	286.7	286.3	286.7	287.0
Crude materials for further processing	330.8	306.2	309.1	305.6	303.9	295.3	291.8	297.8	304.7	304.3	301.3	290.5	280.9	272.8
Foodstuffs and feedstuffs	259.5	235.0	236.3	233.7	231.6	221.0	215.4	224.6	236.6	236.8	231.4	226.9	224.0	220.1
Nonfood materials[1]	380.5	355.4	357.7	354.0	353.5	351.2	352.2	352.8	352.0	351.6	351.2	321.7	293.2	280.8
Special groupings														
Finished goods, excluding foods	294.8	299.1	300.1	300.2	300.5	299.5	295.9	301.3	302.4	302.4	301.1	296.7	291.1	289.4
Finished energy goods	750.3	721.4	746.1	741.4	733.8	719.9	718.2	716.5	729.5	733.8	704.8	636.8	551.1	511.3
Finished goods less energy	265.1	269.2	268.4	268.4	269.7	269.0	265.5	270.5	271.6	272.2	272.7	272.2	272.3	273.2
Finished consumer goods less energy	257.8	261.3	260.3	260.3	261.9	260.9	257.7	262.1	263.4	264.3	264.8	264.1	264.2	265.0
Finished goods less food and energy	262.3	268.7	268.2	268.6	269.4	269.4	265.7	271.6	271.8	271.4	272.1	272.4	272.6	273.7
Finished consumer goods less food and energy	245.9	252.1	251.5	252.0	252.9	252.9	249.6	254.9	255.0	254.6	255.5	255.9	256.1	257.1
Consumer nondurable goods less food and energy	239.0	246.2	245.2	245.6	247.4	247.3	247.9	248.3	248.5	248.3	250.6	251.1	251.3	251.8
Intermediate materials less foods and feeds	325.0	325.0	326.4	325.7	325.0	324.5	324.4	324.1	324.5	325.3	323.5	319.7	315.5	312.9
Intermediate foods and feeds	253.1	232.7	232.6	232.2	231.7	227.1	225.4	228.6	231.4	232.7	232.4	228.6	227.6	226.8
Intermediate energy goods	545.0	528.8	536.7	526.6	523.8	519.8	522.3	522.2	529.3	536.2	519.1	481.9	437.4	414.9
Intermediate goods less energy	303.8	303.9	304.5	304.6	304.3	303.9	303.4	303.4	303.2	303.5	303.4	303.0	303.2	302.8
Intermediate materials less foods and energy	303.6	305.2	305.9	306.0	305.6	305.5	305.0	304.6	304.2	304.5	304.2	304.2	304.4	304.0
Crude energy materials	785.2	749.1	760.7	754.5	752.6	742.9	743.2	743.1	737.1	735.6	730.9	679.0	618.4	570.7
Crude materials less energy	255.5	233.2	234.8	231.7	230.1	221.8	217.9	224.7	233.2	233.0	229.1	225.9	224.0	221.8
Crude nonfood materials less energy	266.1	249.7	252.3	247.4	247.2	245.8	246.7	246.5	244.6	242.9	243.7	244.6	245.6	249.1

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[1] Crude nonfoo[illegible]terials except fuel.

34. Producer Price Indexes, by durability of product

(1967 = 100)

Grouping	Annual average		1985								1986			
	1984	1985	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Total durable goods	293.6	297.3	297.6	297.8	297.8	297.8	295.2	298.8	298.5	298.5	298.2	298.3	298.7	298.5
Total nondurable goods	323.3	317.3	318.9	317.5	317.3	314.1	313.0	314.3	317.6	318.8	316.9	309.0	300.6	295.7
Total manufactures	302.9	304.3	305.2	304.8	304.6	303.8	302.2	304.4	306.4	306.0	304.7	301.0	297.3	296.0
Durable	293.9	298.1	298.4	298.7	298.7	298.6	296.0	299.7	299.5	299.5	299.1	299.2	299.5	300.3
Nondurable	312.3	310.5	312.1	311.0	310.6	309.9	308.4	309.2	311.4	312.5	310.3	302.7	294.7	291.2
Total raw or slightly processed goods	346.6	328.2	329.8	327.3	327.5	320.2	317.6	320.6	326.2	327.6	326.9	319.0	310.4	302.0
Durable	266.7	252.2	255.4	247.3	247.6	249.7	249.7	248.1	245.2	244.3	247.6	250.6	251.5	252.7
Nondurable	351.4	332.8	334.3	332.1	332.3	324.4	321.6	324.9	331.2	332.7	331.7	323.1	313.8	304.7

35. Annual data: Producer Price Indexes, by stage of processing

(1967 = 100)

Index	1977	1978	1979	1980	1981	1982	1983	1984	1985
Finished goods:									
Total	181.7	195.9	217.7	247.0	269.8	280.7	285.2	291.1	293.8
Consumer goods	180.7	194.9	217.9	248.9	271.3	281.0	284.6	290.3	291.9
Capital equipment	184.6	199.2	216.5	239.8	264.3	279.4	287.2	294.0	300.5
Intermediate materials, supplies, and components:									
Total	201.5	215.6	243.2	280.3	306.0	310.4	312.3	320.0	318.7
Materials and components for manufacturing	195.4	208.7	234.4	265.7	286.1	289.8	293.4	301.8	299.4
Materials and components for construction	203.4	224.7	247.4	268.3	287.6	293.7	301.8	310.3	315.2
Processed fuels and lubricants	282.5	295.3	364.8	503.0	595.4	591.7	564.8	566.2	549.4
Containers	188.3	202.8	226.8	254.5	276.1	285.6	286.6	302.3	311.2
Supplies	188.7	198.5	218.2	244.5	263.8	272.1	277.1	283.4	284.2
Crude materials for further processing:									
Total	209.2	234.4	274.3	304.6	329.0	319.5	323.6	330.8	306.2
Foodstuffs and feedstuffs	192.1	216.2	247.9	259.2	257.4	247.8	252.2	259.5	235.0
Nonfood materials except fuel	212.2	233.1	284.5	346.1	413.7	376.8	372.2	380.5	355.4
Fuel	372.1	426.8	507.6	615.0	751.2	886.1	931.5	931.3	912.3

36. U.S. export price indexes by Standard International Trade Classification

(June 1977 = 100, unless otherwise indicated)

Category	1974 SITC	1983		1984				1985				1986
		Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
ALL COMMODITIES (9/83 = 100)		100.0	99.5	100.2	101.5	99.3	98.1	97.5	97.5	96.5	96.7	97.0
Food (3/80 = 100)	0	113.1	108.8	108.2	109.6	103.5	95.5	95.8	94.0	90.2	93.6	90.5
Meat (3/83 = 100)	01	100.8	101.2	108.9	108.7	106.6	104.4	103.9	104.7	106.1	112.2	111.5
Fish (3/83 = 100)	03	97.7	100.4	99.8	98.7	98.0	96.7	101.0	103.6	102.6	101.8	102.2
Grain and grain preparations (3/80 = 100)	04	111.5	105.6	102.7	107.4	101.2	92.9	92.4	90.3	82.6	87.1	82.1
Vegetables and fruit (3/83 = 100)	05	114.8	116.1	116.2	126.8	125.5	114.6	119.4	120.1	120.8	118.8	115.2
Feedstuffs for animals (3/83 = 100)	08	121.4	117.4	106.9	98.8	83.5	82.4	72.8	86.6	75.7	83.4	88.5
Misc. food products (3/83 = 100)	09	102.8	101.7	104.9	110.6	109.5	108.4	110.8	109.2	108.1	107.7	106.0
Beverages and tobacco (6/83 = 100)	1	100.0	101.5	101.6	101.9	102.8	101.3	99.9	100.1	98.7	98.6	95.8
Beverages (9/83 = 100)	11	100.0	103.3	102.3	102.9	103.3	103.7	104.0	106.3	101.8	100.9	101.9
Tobacco and tobacco products (6/83 = 100)	12	100.0	101.4	101.6	101.8	102.7	101.1	99.5	99.6	99.5	98.4	95.1
Crude materials (6/83 = 100)	2	114.6	112.2	112.5	118.3	105.2	101.4	97.5	96.8	93.3	92.5	95.8
Raw hides and skins (6/80 = 100)	21	129.2	135.2	145.6	154.7	153.7	133.6	121.0	128.2	129.0	139.9	138.9
Oilseeds and oleaginous fruit (9/77 = 100)	22	105.6	96.8	93.9	104.3	79.9	74.8	71.0	71.2	64.2	83.9	96.9
Crude rubber (including synthetic and reclaimed) (9/83 = 100)	23	100.0	102.2	103.3	108.0	104.1	104.0	106.4	108.3	107.1	108.0	106.0
Wood	24	128.7	129.8	131.1	129.4	123.8	125.4	128.7	125.7	124.5	128.1	128.7
Pulp and waste paper (6/83 = 100)	25	103.5	106.0	112.5	122.1	120.8	114.2	100.5	96.1	93.8	92.7	99.3
Textile fibers	26	117.3	123.1	120.5	125.6	109.4	106.7	102.4	105.8	103.6	97.7	101.6
Crude fertilizers and minerals	27	144.8	144.8	146.6	147.7	163.0	163.2	165.6	167.9	169.4	165.5	168.0
Metalliferous ores and metal scrap	28	100.0	96.7	100.2	98.5	93.2	92.4	89.2	82.0	80.1	78.7	83.4
Mineral fuels	3	100.0	99.2	99.1	99.7	99.7	99.7	100.1	99.2	97.6	98.6	91.9
Animal and vegetables oils, fats, and waxes	4	125.6	122.0	129.8	164.5	145.7	147.9	142.0	144.5	114.5	101.4	90.8
Fixed vegetable oils and fats (6/83 = 100)	42	138.2	129.3	133.2	176.4	159.0	156.7	152.9	164.8	128.8	108.7	95.4
Chemicals (3/83 = 100)	5	97.0	98.6	101.4	99.7	98.3	97.7	97.0	96.8	97.1	96.6	96.5
Organic chemicals (12/83 = 100)	51	-	100.0	100.2	101.0	97.4	94.7	93.8	96.5	97.1	95.4	93.5
Fertilizers, manufactured (3/83 = 100)	56	89.8	96.8	108.3	98.9	97.4	94.8	92.5	87.9	89.8	90.0	88.6
Intermediate manufactured products (9/81 = 100)	-	100.8	100.0	101.0	101.3	102.0	100.4	99.4	99.2	99.2	99.1	100.3
Leather and furskins (9/79 = 100)	6	70.1	75.8	83.5	81.2	80.8	79.0	82.5	79.2	75.9	78.5	77.8
Rubber manufactures	61	145.0	146.0	146.7	147.5	148.9	148.5	150.2	149.0	148.3	148.7	151.0
Paper and paperboard products (6/78 = 100)	62	139.7	145.5	150.2	154.7	160.0	159.5	156.0	151.6	149.6	148.2	152.2
Iron and steel (3/82 = 100)	64	96.6	96.3	95.9	96.1	95.8	96.5	95.5	95.3	95.9	98.2	98.4
Nonferrous metals (9/81 = 100)	-	102.3	93.8	94.2	92.9	90.4	82.5	79.7	79.6	79.8	78.2	80.2
Metal manufactures, n.e.s. (3/82 = 100)	-	101.9	102.1	103.1	104.5	105.1	105.0	105.4	105.2	105.4	104.4	105.3
Machinery and transport equipment, excluding military and commercial aircraft (12/78 = 100)	67	136.9	137.0	138.5	139.4	140.1	141.5	142.3	142.9	143.1	143.3	144.0
Power generating machinery and equipment (12/78 = 100)	68	152.3	154.4	158.4	156.9	160.6	167.5	165.3	167.4	167.1	167.5	169.1
Machinery specialized for particular industries (9/78 = 100)	69	149.1	151.1	152.3	152.8	153.7	153.4	155.0	155.7	156.0	156.1	155.4
Metalworking machinery (6/78 = 100)	7	148.3	146.7	150.8	151.2	151.7	151.9	153.4	156.1	156.3	158.4	159.0
General industrial machines and parts n.e.s. 9/78 = 100)	71	145.4	145.9	148.6	149.0	149.3	150.2	152.4	152.0	152.4	152.2	152.3
Office machines and automatic data processing equipment	72	103.2	102.5	101.4	101.5	99.8	101.4	100.9	100.0	99.9	99.4	99.9
Telecommunications, sound recording and reproducing equipment	73	132.2	132.1	133.0	132.3	134.4	134.3	133.3	133.7	134.1	134.5	136.5
Electrical machinery and equipment	74	109.4	109.8	110.2	112.6	113.8	114.6	114.9	116.1	115.3	113.8	115.1
Road vehicles and parts (3/80 = 100)	75	127.5	128.8	130.2	131.2	131.0	131.8	133.1	133.9	133.8	135.0	135.5
Other transport equipment, excl. military and commercial aviation	76	178.4	179.3	183.1	187.7	189.6	191.7	195.5	196.6	199.3	200.7	203.3
Other manufactured articles	77	100.0	100.2	100.6	100.4	100.7	99.3	99.5	100.4	100.3	100.3	102.6
Apparel (9/83 = 100)	78	100.0	100.8	101.9	102.1	103.9	103.4	104.7	104.7	105.0	105.3	-
Professional, scientific, and controlling instruments and apparatus	79	169.0	171.5	171.8	172.0	175.8	171.7	175.5	178.3	178.7	178.8	182.2
Photographic apparatus and supplies, optical goods, watches and clocks (12/77 = 100)	8	130.0	132.0	132.0	131.3	132.7	130.3	129.0	129.1	127.5	128.5	131.6
Miscellaneous manufactured articles, n.e.s.	84	100.0	98.2	98.5	97.9	96.2	94.1	92.4	93.1	93.1	92.4	96.6
Gold, non-monetary (6/83 = 100)	971	-	-	-	-	-	-	-	-	-	-	-

- Data not available.

37. U.S. import price indexes by Standard International Trade Classification

(June 1977 = 100, unless otherwise indicated)

Category	1974 SITC	1984 Mar.	1984 June	1984 Sept.	1984 Dec.	1985 Mar.	1985 June	1985 Sept.	1985 Dec.	1986 Mar.
ALL COMMODITIES (9/82 = 100)		98.0	98.3	96.7	95.7	93.5	93.0	92.9	94.2	88.5
Food (9/77 = 100)	0	102.5	100.5	102.0	98.1	98.5	96.8	94.9	102.8	113.5
Meat	01	133.4	133.8	135.4	132.3	130.4	118.2	120.6	131.2	122.7
Dairy products and eggs (6/81 = 100)	02	100.8	99.8	98.9	96.4	98.3	97.9	99.1	100.5	105.8
Fish	03	132.7	134.2	134.2	133.9	132.9	129.4	129.7	132.7	139.3
Bakery goods, pasta products, grain and grain preparations (9/77 = 100)	04	136.5	134.8	132.9	132.8	131.8	132.3	136.3	141.9	146.9
Fruits and vegetables	05	136.1	135.8	135.4	117.2	127.1	129.4	120.2	131.3	119.4
Sugar, sugar preparations, and honey (3/82 = 100)	06	117.1	120.3	119.0	118.5	118.4	122.6	123.1	111.9	124.6
Coffee, tea, cocoa	07	61.4	62.4	60.3	58.4	57.0	56.0	54.4	64.6	86.9
Beverages and tobacco	1	155.3	156.3	157.1	158.5	156.2	157.1	158.0	162.1	163.2
Beverages	11	152.6	153.6	153.5	152.8	154.2	154.3	156.0	158.1	161.8
Crude materials	2	103.2	102.6	100.6	98.9	94.0	93.6	91.5	91.2	94.7
Crude rubber (inc. synthetic & reclaimed) (3/84 = 100)	23	100.0	93.7	90.7	83.8	77.6	78.4	68.9	73.2	78.8
Wood (9/81 = 100)	24	114.8	103.2	99.6	104.0	100.7	106.9	101.6	99.4	104.3
Pulp and waste paper (12/81 = 100)	25	87.6	96.1	96.3	93.2	84.0	80.4	76.8	75.8	74.9
Crude fertilizers and crude minerals (12/83 = 100)	27	100.0	96.2	98.0	98.6	100.3	101.7	102.7	102.1	101.5
Metalliferous ores and metal scrap (3/84 = 100)	28	100.0	102.9	100.1	95.8	90.4	87.6	88.5	90.1	96.2
Crude vegetable and animal materials, n.e.s.	29	100.0	100.8	101.1	106.4	104.3	104.9	102.5	102.5	103.6
Fuels and related products (6/82 = 100)	3	86.3	88.0	86.9	85.2	82.9	80.9	79.8	79.1	55.3
Petroleum and petroleum products (6/82 = 100)	33	86.2	88.1	87.0	85.2	83.8	81.6	80.3	80.1	54.7
Fats and oils (9/83 = 100)	4	117.4	141.8	124.4	114.9	89.9	76.7	57.6	50.6	41.4
Vegetable oils (9/83 = 100)	42	118.1	143.1	125.3	115.3	89.5	75.9	56.2	48.9	39.3
Chemicals (9/82 = 100)	5	101.1	100.6	98.8	97.1	95.7	94.9	94.5	94.2	94.6
Medicinal and pharmaceutical products (3/84 = 100)	54	100.0	98.5	98.4	94.6	91.6	95.1	95.3	96.7	102.9
Manufactured fertilizers (3/84 = 100)	56	100.0	101.7	98.5	92.9	94.2	82.0	80.8	78.5	79.2
Chemical materials and products, n.e.s. (9/84 = 100)	59	-	-	100.0	97.5	98.1	96.6	98.9	97.8	98.9
Intermediate manufactured products (12/77 = 100)	6	137.6	139.6	137.2	136.8	133.1	132.4	133.6	133.4	134.0
Leather and furskins	61	141.6	145.3	144.0	140.4	135.3	133.3	137.0	141.3	141.6
Rubber manufactures, n.e.s.	62	141.8	140.6	139.6	140.5	138.5	138.6	137.3	138.1	136.5
Cork and wood manufactures	63	130.1	131.0	128.4	126.1	121.3	121.2	123.4	124.0	130.8
Paper and paperboard products	64	148.0	150.4	156.1	157.5	157.6	157.2	157.8	156.5	157.1
Textiles	65	130.8	130.1	131.6	132.9	130.4	127.5	128.5	128.1	131.2
Nonmetallic mineral manufactures, n.e.s.	66	168.4	166.6	156.6	159.4	154.3	151.8	157.6	162.3	164.2
Iron and steel (9/78 = 100)	67	118.5	123.8	124.7	123.7	121.0	120.1	119.1	118.3	117.3
Nonferrous metals (12/81 = 100)	68	95.0	96.3	90.2	87.3	81.9	82.3	83.7	80.4	79.4
Metal manufactures, n.e.s.	69	118.7	120.5	119.3	119.3	117.4	117.8	119.5	121.8	124.4
Machinery and transport equipment (6/81 = 100)	7	104.0	104.1	102.6	102.9	101.6	102.6	103.5	107.2	111.5
Machinery specialized for particular industries (9/78 = 100)	72	100.4	100.0	98.8	98.0	96.2	97.0	101.4	104.9	112.1
Metalworking machinery (3/80 = 100)	73	94.3	93.8	92.1	89.9	86.3	90.5	94.2	98.1	105.0
General industrial machinery and parts, n.e.s. (6/81 = 100)	74	93.7	94.4	92.4	91.3	89.2	91.1	94.3	98.0	103.8
Office machines and automatic data processing equipment (3/80 = 100)	75	97.8	96.7	94.1	92.2	89.6	89.4	90.3	93.7	96.9
Telecommunications, sound recording and reproducing apparatus (3/80 = 100)	76	94.2	94.8	93.6	91.3	90.0	88.8	88.3	88.6	89.4
Electrical machinery and equipment (12/81 = 100)	77	94.2	91.2	87.0	86.4	82.1	83.9	81.4	83.1	84.3
Road vehicles and parts (6/81 = 100)	78	109.0	110.4	109.8	111.3	111.5	112.1	112.7	117.8	123.4
Misc. manufactured articles (3/80 = 100)	8	100.6	101.5	99.7	100.0	97.0	98.0	98.6	100.8	103.3
Plumbing, heating, and lighting fixtures (6/80 = 100)	81	109.5	112.0	110.7	111.6	113.9	114.1	117.8	115.0	120.1
Furniture and parts (6/80 = 100)	82	136.8	140.8	138.4	142.5	137.4	136.7	142.1	142.7	147.0
Clothing (9/77 = 100)	84	130.2	132.5	135.4	138.5	136.7	133.9	134.5	134.5	133.4
Footwear	85	136.8	140.8	138.4	142.5	137.4	136.7	142.1	142.7	147.0
Professional, scientific, and controlling instruments and apparatus (12/79 = 100)	87	96.7	97.8	95.6	92.9	89.2	92.3	96.8	102.4	106.4
Photographic apparatus and supplies, optical goods, watches, and clocks (3/80 = 100)	88	89.6	92.8	91.2	91.3	86.9	89.5	91.1	94.5	99.3
Misc. manufactured articles, n.e.s. (6/82 = 100)	89	105.2	104.0	98.3	96.3	91.2	96.2	96.4	97.9	102.1
Gold, non-monetary (6/82 = 100)	971	-	-	-	-	-	-	-	-	-

- Data not available.

38. U.S. export price indexes by end-use category

(September 1983 = 100 unless otherwise indicated)

Category	Percentage of 1980 Trade Value	1984				1985				1986
		Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Foods, feeds, and beverages	16.294	92.8	98.5	88.8	83.0	81.5	80.9	76.2	77.5	75.5
Raw materials	30.696	102.2	102.5	100.5	99.1	97.6	97.2	96.5	95.9	96.0
Raw materials, nondurable	21.327	103.6	104.4	102.8	101.4	99.6	99.5	98.7	97.9	97.5
Raw materials, durable	9.369	98.8	97.7	95.0	93.3	92.6	91.6	91.1	91.0	92.5
Capital goods (12/82 = 100)	30.186	103.2	103.9	104.6	105.6	106.2	106.6	106.6	106.6	107.4
Automotive vehicles, parts and engines (12/82 = 100)	7.483	104.5	105.3	105.3	105.7	106.7	108.0	108.1	109.2	109.5
Consumer goods	7.487	100.9	100.9	101.3	100.8	100.9	101.1	101.9	101.4	103.7
Durables	3.986	100.1	99.6	99.4	99.3	99.1	99.2	100.4	99.5	101.8
Nondurables	3.501	101.8	102.1	103.0	102.3	102.7	103.0	103.3	103.3	105.5

39. U.S. import price indexes by end-use category

(December 1982 = 100)

Category	Percentage of 1980 Trade Value	1984				1985				1986
		Mar	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Foods, feeds, and beverages	7.477	108.0	107.2	105.6	101.8	102.1	100.4	99.0	106.0	115.8
Petroleum and petroleum products, excl. natural gas	31.108	88.8	88.5	87.5	85.7	84.4	82.1	80.9	80.5	55.4
Raw materials, excluding petroleum	19.205	103.5	104.3	102.5	101.1	96.3	95.8	95.4	93.9	94.5
Raw materials, nondurable	9.391	100.7	102.1	101.7	100.7	95.0	93.9	93.5	91.8	91.1
Raw materials, durable	9.814	106.5	106.7	103.3	101.6	97.7	97.8	97.4	96.2	98.0
Capital goods	13.164	100.8	99.8	98.0	97.8	94.8	96.3	97.6	100.0	102.8
Automotive vehicles, parts and engines	11.750	103.6	104.9	104.0	105.2	105.4	105.9	108.4	111.4	115.6
Consumer goods	14.250	101.0	101.9	100.6	101.1	99.5	99.4	101.0	102.4	104.5
Durable	5.507	101.1	101.4	98.8	98.5	97.0	97.0	98.9	100.7	103.4
Nondurable	8.743	100.9	102.5	103.0	104.6	103.0	102.5	103.9	104.7	106.0

40. U.S. export price indexes by Standard Industrial Classification [1]

Industry group	1984				1985				1986
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Manufacturing:									
Food and kindred products (6/83 = 100)	109.0	112.7	105.6	103.3	99.5	99.5	98.7	98.1	97.0
Tobacco manufactures	–	–	–	–	–	–	–	Z	–
Textile mill products	–	–	–	–	–	–	–	–	–
Apparel and related products	–	–	–	–	–	–	–	–	–
Lumber and wood products, except furniture (6/83 = 100)	101.5	100.1	97.0	97.9	99.9	99.5	98.3	101.2	101.5
Furniture and fixtures (9/83 = 100)	101.8	103.1	103.5	104.9	105.2	106.5	107.1	108.4	109.2
Paper and allied products (3/81 = 100)	98.8	104.3	106.2	103.6	97.1	94.7	93.2	92.1	95.7
Printing, publishing, and allied products	–	–	–	–	–	–	–	–	–
Chemicals and allied products (12/84 = 100)	103.3	102.3	101.3	100.7	100.3	99.6	99.7	99.2	98.9
Petroleum and coal products (12/83 = 100)	101.6	102.1	100.7	100.4	101.3	102.7	102.0	99.1	93.5
Rubber and miscellaneous plastic products	–	–	–	–	–	–	–	–	–
Leather and leather products	–	–	–	–	–	–	–	–	–
Stone, clay, glass, and concrete products	–	–	–	–	–	–	–	–	–
Primary metal products (3/82 = 100)	105.1	104.0	100.0	95.8	91.2	92.7	93.6	93.6	98.4
Fabricated metal products	–	–	–	–	–	–	–	–	–
Machinery, except electrical (9/78 = 100)	137.4	137.9	138.0	139.9	140.4	140.5	140.6	140.5	140.6
Electrical machinery (12/80 = 100)	108.0	109.5	110.7	111.1	111.3	112.4	111.9	111.2	112.6
Transportation equipment (12/78 = 100)	155.7	157.2	157.8	158.9	160.5	161.9	162.8	164.3	165.2
Scientific instruments; optical goods; clocks (6/77 = 100)	153.1	153.2	156.0	153.0	154.9	156.6	156.2	156.7	159.7
Miscellaneous manufactured commodities	–	–	–	–	–	–	–	–	–

[1] SIC - based classification.

– Data not available.

41. U.S. import price indexes by Standard Industrial Classification [1]

Industry group	1984				1985				1986
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Manufacturing:									
Food and kindred products (6/77 = 100)	122.3	128.6	124.1	122.6	118.8	115.0	114.2	116.1	117.7
Tobacco manufactures	-	-	-	-	-	-	-	-	-
Textile mill products (9/82 = 100)	104.4	103.8	104.3	104.7	102.8	101.0	100.4	101.8	104.7
Apparel and related products (6/77 = 100)	128.1	129.6	133.9	138.2	136.6	130.0	133.9	134.4	133.4
Lumber and wood products, except furniture (6/77 = 100)	129.4	121.1	117.3	120.0	116.3	120.6	117.5	115.8	122.1
Furniture and fixtures (6/80 = 100)	95.7	98.9	96.2	95.6	93.9	96.1	97.7	98.2	101.2
Paper and allied products (6/77 = 100)	136.5	141.9	146.0	145.5	141.5	138.8	138.7	137.4	137.6
Printing, publishing, and allied products	-	-	-	-	-	-	-	-	-
Chemicals and allied products (9/82 = 100)	101.8	101.8	99.8	98.2	95.3	93.9	93.3	95.6	96.6
Petroleum and coal products	-	-	-	-	-	-	-	-	-
Rubber and miscellaneous plastic products (12/80 = 100)	98.1	98.5	97.8	98.0	98.9	98.7	98.6	97.5	100.9
Leather and leather products	140.3	143.7	141.6	144.2	138.1	138.9	142.3	144.0	145.8
Stone, clay, glass, concrete products	-	-	-	-	-	-	-	-	-
Primary metal products (6/81 = 100)	90.1	91.9	88.3	86.6	82.2	83.0	83.4	81.9	82.0
Fabricated metal products (12/84 = 100)	-	-	-	100.0	99.0	99.1	101.0	102.6	104.9
Machinery, except electrical (3/80 = 100)	97.8	97.1	95.5	94.1	91.8	93.4	98.6	100.0	105.5
Electrical machinery (9/84 = 100)	-	-	100.0	98.6	95.1	95.8	94.5	95.8	98.8
Transportation equipment (6/81 = 100)	110.6	111.6	110.7	112.9	113.1	114.2	114.8	118.6	123.0
Scientific instruments; optical goods; clocks (12/79 = 100)	94.0	95.5	94.4	93.2	90.7	91.7	94.6	98.8	103.9
Miscellaneous manufactured commodities (9/82 = 100)	99.8	98.1	95.8	96.4	95.1	95.1	96.6	96.7	100.0

[1] SIC - based classification.

- Data not available.

42. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

(1977 = 100)

Item	Annual average	Quarterly indexes										
	1984	1983		1984				1985				1986
		III	IV	I	II	III	IV	I	II	III	IV	I
Business:												
Output per hour of all persons	105.2	103.5	103.6	104.9	105.5	105.3	105.0	105.3	105.5	105.9	104.9	105.5
Compensation per hour	168.2	162.1	164.1	166.1	167.5	169.1	170.4	172.4	174.3	176.1	177.6	178.3
Real compensation per hour	98.2	98.1	98.3	98.3	98.2	98.2	98.1	98.5	98.5	98.9	98.7	98.8
Unit labor costs	159.9	156.6	158.4	158.4	158.7	160.6	162.3	163.8	165.2	166.3	169.3	169.1
Unit nonlabor payments	156.5	146.8	148.6	153.4	156.8	157.3	158.0	157.6	158.2	158.6	156.2	159.0
Implicit price deflator	158.7	153.1	154.9	156.6	158.0	159.4	160.8	161.6	162.7	163.5	164.6	165.4
Nonfarm business:												
Output per hour of all persons	104.1	103.3	103.0	104.0	104.5	104.2	103.8	104.1	104.2	104.3	103.2	104.1
Compensation per hour	168.0	162.3	164.0	165.9	167.4	168.8	170.1	172.1	173.7	175.0	176.4	177.4
Real compensation per hour	98.0	98.2	98.2	98.1	98.1	98.0	97.9	98.3	98.2	98.3	98.0	98.3
Unit labor costs	161.4	157.1	159.1	159.6	160.1	162.0	163.9	165.3	166.8	167.8	170.9	170.5
Unit nonlabor payments	156.3	148.9	150.7	152.5	156.3	157.6	158.4	158.8	160.2	161.4	157.7	161.8
Implicit price deflator	159.6	154.2	156.1	157.1	158.8	160.5	161.9	163.0	164.5	165.5	166.3	167.4
Nonfinancial corporations:												
Output per hour of all employees	106.2	104.6	105.0	106.2	106.7	106.1	105.8	105.8	105.8	106.5	105.9	-
Compensation per hour	166.1	160.8	162.4	164.2	165.6	166.8	167.9	169.4	170.8	172.0	173.3	-
Real compensation per hour	96.9	97.3	97.3	97.1	97.1	96.9	96.7	96.7	96.6	96.6	96.3	-
Total unit costs	161.2	159.6	159.5	159.1	159.9	162.2	163.6	164.4	165.8	165.5	167.2	-
Unit labor costs	156.4	153.8	154.6	154.7	155.1	157.2	158.7	160.0	161.5	161.5	163.7	-
Unit nonlabor costs	175.3	176.7	173.7	172.3	174.0	177.0	177.9	177.6	178.6	177.2	177.8	-
Unit profits	135.6	114.4	124.0	132.9	139.1	134.3	135.9	138.3	139.1	150.2	143.1	-
Unit nonlabor payments	161.4	154.9	156.3	158.5	161.8	162.1	163.2	163.8	164.8	167.7	165.7	-
Implicit price deflator	158.1	154.2	155.3	156.0	157.4	158.9	160.3	161.3	162.6	163.6	164.4	-
Manufacturing:												
Output per hour of all persons	118.5	114.5	114.7	116.7	117.8	119.8	119.5	119.9	121.7	122.7	122.3	123.0
Compensation per hour	169.1	163.3	164.4	166.7	168.1	169.9	171.8	174.3	176.1	177.3	178.8	179.2
Real compensation per hour	98.7	98.8	98.5	98.6	98.6	98.7	98.9	99.5	99.5	99.6	99.4	99.3
Unit labor costs	142.8	142.6	143.4	142.8	142.7	141.9	143.7	145.4	144.7	144.5	146.2	145.6

- Data not available.

43. Annual indexes of multifactor productivity and related measures, selected years

(1977 = 100)

Item	1960	1970	1973	1974	1976	1978	1979	1980	1981	1982	1983	1984
Private business												
Productivity:												
Output per hour of all persons	64.8	86.1	94.8	92.5	97.6	100.5	99.3	98.7	100.6	100.8	103.7	107.1
Output per unit of capital services	98.4	98.5	103.0	96.5	96.1	101.8	100.3	95.6	94.1	89.5	92.3	97.4
Multifactor productivity	75.4	90.2	97.5	93.8	97.1	101.0	99.7	97.6	98.3	96.8	99.6	103.7
Output	53.3	78.3	91.8	89.9	83.7	105.5	107.9	106.4	109.2	106.3	111.1	121.0
Inputs:												
Hours of all persons	82.2	90.8	96.8	97.2	95.9	105.0	108.6	107.8	108.5	105.4	107.2	113.0
Capital services	54.1	79.4	89.1	93.1	97.5	103.6	107.5	111.4	116.0	118.8	120.4	124.3
Combined units of labor and capital input	70.7	86.7	94.1	95.8	96.5	104.5	108.2	109.0	111.0	109.9	111.6	116.8
Capital per hour of all persons	65.9	87.4	92.0	95.9	101.6	98.7	98.9	103.3	106.9	112.7	112.3	109.9
Private nonfarm business												
Productivity:												
Output per hour of all persons	68.0	86.8	95.3	92.9	97.6	100.6	99.0	98.2	99.6	99.9	103.5	106.3
Output per unit of capital services	98.4	98.6	103.2	95.5	96.1	101.9	100.1	95.2	93.2	88.7	91.9	96.6
Multifactor productivity	77.6	90.7	97.9	94.1	97.2	101.0	99.4	97.2	97.4	95.9	99.4	102.9
Output	52.3	77.8	91.7	89.7	93.6	105.7	108.0	106.4	108.7	105.9	111.3	121.0
Inputs:												
Hours of all persons	77.0	89.7	96.2	96.5	95.7	105.1	109.1	108.4	109.1	106.0	107.6	113.8
Capital services	53.2	78.9	88.8	93.0	97.4	103.7	107.9	111.7	116.6	119.4	121.1	125.2
Combined units of labor and capital input	67.4	85.9	93.6	95.3	96.3	104.6	108.7	109.5	111.6	110.4	112.0	117.5
Capital per hour of all persons	69.1	88.0	92.4	96.3	101.8	98.7	98.9	103.1	106.8	112.6	112.6	110.1
Manufacturing												
Productivity:												
Output per hour of all persons	60.0	79.2	93.0	90.8	97.6	100.9	101.6	101.7	104.9	107.1	111.6	115.6
Output per unit of capital services	87.9	91.8	108.2	99.6	96.1	101.5	99.5	90.7	89.9	82.9	87.6	96.0
Multifactor productivity	67.0	82.3	96.8	93.1	97.1	101.1	101.0	98.8	100.8	100.3	104.9	110.4
Output	50.7	77.0	95.9	91.9	93.6	105.3	108.2	103.5	106.1	99.3	104.4	115.3
Inputs:												
Hours of all persons	84.4	97.3	103.1	101.2	95.9	104.4	106.5	101.7	101.1	92.7	93.5	99.8
Capital services	57.6	83.9	86.6	92.2	97.4	103.8	108.8	114.1	118.0	119.8	119.2	120.2
Combined units of labor and capital inputs	75.6	93.5	99.0	98.7	96.3	104.2	107.1	104.8	105.2	99.0	99.5	104.5
Capital per hour of all persons	68.3	86.2	85.9	91.1	101.6	99.4	102.1	112.2	116.7	129.2	127.5	120.4

44. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years

(1977 = 100)

Item	1960	1970	1973	1974	1976	1978	1979	1980	1981	1982	1983	1984	1985
Business:													
Output per hour of all persons	67.5	88.3	95.9	93.9	98.3	100.8	99.6	99.2	100.7	100.3	103.2	105.2	105.3
Compensation per hour	33.6	57.7	70.9	77.8	92.8	108.5	119.1	131.5	143.7	154.9	161.9	168.2	175.0
Real compensation per hour	68.8	90.1	98.7	95.4	98.7	100.8	99.4	98.7	95.7	97.3	98.5	98.2	98.6
Unit labor costs	49.8	65.4	73.9	82.7	94.3	107.7	119.6	132.6	142.7	154.5	157.0	159.9	166.2
Unit nonlabor payments	46.3	59.4	72.5	76.4	93.4	106.7	112.5	118.8	134.7	136.8	145.4	156.5	157.7
Implicit price deflator	48.5	63.2	73.4	80.5	94.0	107.3	117.0	127.6	139.8	148.1	152.8	158.7	163.1
Nonfarm business:													
Output per hour of all persons	70.9	89.1	96.4	94.3	98.5	100.8	99.2	98.6	99.8	99.2	102.6	104.1	103.9
Compensation per hour	35.3	58.1	71.2	78.0	92.8	108.6	118.9	131.3	143.6	154.8	162.1	168.0	174.2
Real compensation per hour	72.2	90.7	97.1	95.9	98.8	100.9	99.2	98.6	95.7	97.2	98.6	98.0	98.1
Unit labor costs	49.8	65.2	73.9	82.7	94.2	107.7	119.8	132.9	144.0	156.0	158.0	161.4	167.7
Unit nonlabor payments	46.2	60.0	69.4	74.0	93.1	105.6	110.5	118.5	133.5	136.6	147.0	156.3	159.5
Implicit price deflator	48.5	63.4	72.3	79.7	93.8	107.0	116.5	127.8	140.3	149.2	154.1	159.6	164.8
Nonfinancial corporations:													
Output per hour of all employees	73.4	91.1	97.5	94.6	98.4	100.8	99.8	99.1	99.6	100.4	104.0	106.2	105.9
Compensation per hour	36.9	59.2	71.6	78.2	92.9	108.4	118.7	131.1	143.3	154.3	160.6	166.1	171.3
Real compensation per hour	75.5	92.4	97.6	96.1	98.9	100.7	99.1	98.4	95.5	96.9	97.7	96.9	96.5
Unit labor costs	50.2	65.0	73.4	82.6	94.3	107.8	119.0	132.3	143.8	153.8	154.5	156.4	161.7
Unit nonlabor payments	51.5	60.1	68.9	73.1	93.8	104.4	108.4	118.6	137.8	142.1	152.2	161.4	165.5
Implicit price deflator	50.7	63.3	71.9	79.4	94.2	106.6	115.4	127.6	141.7	149.8	153.7	158.1	163.0
Manufacturing:													
Output per hour of all persons	62.2	80.8	93.4	90.6	97.1	101.5	101.4	101.4	103.6	105.9	112.9	118.5	121.6
Compensation per hour	36.5	57.3	68.8	76.2	92.1	108.2	118.6	132.4	145.2	157.5	163.2	169.1	176.6
Real compensation per hour	74.7	89.4	93.8	93.6	98.1	100.5	99.1	97.4	96.7	98.9	99.3	98.7	99.5
Unit labor costs	58.7	70.9	73.7	84.1	94.9	106.6	117.0	130.6	140.1	148.7	144.5	142.8	145.2
Unit nonlabor payments	60.2	64.3	70.7	67.7	93.5	101.9	98.9	97.8	111.8	114.0	132.4	140.5	-
Implicit price deflator	59.1	69.0	72.8	79.3	94.5	105.2	111.7	121.0	131.8	136.6	141.0	142.1	-

- Data not available.

45. Unemployment rates in nine countries, quarterly data seasonally adjusted

Country	Annual average		1984		1985				1986
	1984	1985	III	IV	I	II	III	IV	I
Total labor force basis									
United States	7.4	7.1	7.3	7.1	7.2	7.2	7.1	6.9	7.0
Canada	11.2	10.4	11.2	11.1	11.0	10.5	10.2	10.1	9.7
Australia	8.9	8.2	8.8	8.5	8.5	8.4	8.1	7.7	7.9
Japan	2.7	2.6	2.8	2.7	2.6	2.6	2.6	2.8	2.6
France	9.7	10.1	9.9	10.0	10.2	10.1	10.1	9.9	10.0
Germany	7.7	7.7	7.8	7.7	7.8	7.8	7.7	7.7	7.7
Great Britain	12.8	13.1	13.0	12.8	13.0	13.1	13.3	12.9	-
Italy [1], [2]	5.8	6.0	5.7	5.7	5.8	5.8	6.0	6.2	6.2
Sweden	3.1	2.8	3.0	3.0	3.0	2.9	2.7	2.7	2.8
Civilian labor force basis									
United States	7.5	7.2	7.4	7.2	7.3	7.3	7.2	7.0	7.1
Canada	11.3	10.5	11.3	11.1	11.1	10.6	10.2	10.1	9.7
Australia	9.0	8.3	8.8	8.6	8.5	8.5	8.2	7.8	8.0
Japan	2.8	2.6	2.8	2.7	2.6	2.6	2.7	2.9	2.7
France	10.0	10.3	10.1	10.3	10.4	10.3	10.4	10.1	10.2
Germany	7.8	7.9	7.9	7.8	7.9	8.0	7.9	7.8	7.8
Great Britain	13.0	13.3	13.2	13.0	13.1	13.3	13.4	13.1	-
Italy	5.9	6.1	5.8	5.8	5.9	5.9	6.2	6.3	6.3
Sweden	3.1	2.8	3.1	3.0	3.0	2.9	2.8	2.7	2.8

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[1] Quarterly rates are for the first month of the quarter.

[2] Major changes in the Italian labor force survey, introduced in 1977, resulted in a large increase in persons enumerated as unemployed. However, many persons reported than they had not actively sought work in the past 30 days, and they have been provisionally excluded for comparability with U.S. concepts. Inclusion of such persons would more than double the Italian unemployment rate shown.

- Data not available.

NOTE: Quarterly and monthly figures for France, Germany, and Great Britain are calculated by applying annual adjustment factors to current published data and therefore should be viewed as less precise indicators of unemployment under U.S. concepts than the annual figures.

46. Annual data: Employment status of the civilian working-age population, ten countries

(Numbers in thousands)

Employment status and country	1976	1977	1978	1979	1980	1981	1982	1983	1984
Labor force									
United States	96,158	99,009	102,251	104,962	106,940	108,670	110,204	111,550	113,544
Canada	10,203	10,500	10,895	11,231	11,573	11,904	11,958	12,183	12,399
Australia	6,244	6,358	6,443	6,519	6,693	6,810	6,910	6,997	7,133
Japan	53,100	53,820	54,610	55,210	55,740	56,320	56,980	58,110	58,480
France	22,010	22,320	22,490	22,680	22,810	22,950	23,170	23,110	23,260
Germany	25,900	25,870	26,000	26,240	26,500	26,610	26,640	26,640	26,700
Great Britain	25,290	25,430	25,620	25,710	25,870	25,870	25,880	25,980	26,390
Italy	20,300	20,530	20,630	20,910	21,210	21,410	21,450	21,610	21,600
Netherlands	4,890	4,950	5,010	5,100	5,290	5,500	5,560	5,720	5,740
Sweden	4,149	4,168	4,203	4,262	4,312	4,328	4,350	4,369	4,385
Participation rate									
United States	61.6	62.3	63.2	63.7	63.8	63.9	64.0	64.0	64.4
Canada	61.1	61.6	62.7	63.4	64.1	64.8	64.1	64.4	64.8
Australia	62.7	62.7	62.0	61.7	62.2	62.0	61.8	61.5	61.5
Japan	62.4	62.5	62.8	62.7	62.6	62.6	62.7	63.1	62.7
France	57.4	57.6	57.6	57.5	57.2	57.1	57.1	56.5	56.6
Germany	53.8	53.4	53.3	53.3	53.2	52.9	52.5	52.8	53.1
Great Britain	63.2	63.2	63.3	63.2	63.2	62.2	61.9	62.2	62.7
Italy	47.8	48.0	47.7	47.8	48.0	48.0	47.4	47.2	47.5
Netherlands	49.1	49.0	48.8	49.0	50.0	51.3	51.2	52.4	52.3
Sweden	66.0	65.9	66.1	66.6	67.0	66.8	66.8	66.9	67.0
Employed									
United States	88,752	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005
Canada	9,477	9,651	9,987	10,395	10,708	11,006	10,644	10,734	11,000
Australia	5,946	6,000	6,038	6,111	6,284	6,416	6,415	6,300	6,490
Japan	52,020	52,720	53,370	54,040	54,600	55,060	55,620	56,550	56,870
France	21,020	21,200	21,280	21,310	21,340	21,220	21,250	21,150	20,940
Germany	25,010	24,970	25,130	25,460	25,730	25,520	25,060	24,650	24,610
Great Britain	23,810	23,840	24,040	24,360	24,100	23,190	22,820	22,650	22,960
Italy	19,600	19,800	19,870	20,100	20,380	20,480	20,430	20,470	20,400
Netherlands	4,630	4,700	4,750	4,830	4,960	4,990	4,930	4,890	4,880
Sweden	4,083	4,093	4,109	4,174	4,226	4,218	4,213	4,218	4,249
Employment-population ratio									
United States	56.8	57.9	59.3	59.9	59.2	59.0	57.8	57.9	59.5
Canada	56.7	56.6	57.5	58.7	59.3	59.9	57.0	56.7	57.4
Australia	59.7	59.2	58.1	57.9	58.4	58.4	57.3	55.4	56.0
Japan	61.1	61.2	61.3	61.4	61.3	61.2	61.2	61.4	61.0
France	54.8	54.7	54.5	54.0	53.5	52.8	52.4	51.7	50.9
Germany	52.0	51.8	51.5	51.7	51.6	50.7	49.4	48.8	48.9
Great Britain	59.5	59.3	59.4	59.8	58.9	55.8	54.6	54.2	54.6
Italy	46.1	46.3	45.9	45.9	46.1	45.9	45.2	44.7	44.8
Netherlands	46.5	46.5	46.3	46.4	46.9	46.5	45.4	44.8	44.5
Sweden	64.9	64.8	64.6	65.3	65.6	65.1	64.7	64.4	64.7
Unemployed									
United States	7,406	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539
Canada	726	849	908	836	865	898	1,314	1,448	1,399
Australia	298	358	405	408	409	394	495	697	642
Japan	1,080	1,100	1,240	1,170	1,140	1,260	1,360	1,560	1,610
France	990	1,120	1,210	1,370	1,470	1,730	1,920	1,960	2,320
Germany	890	900	870	780	770	1,080	1,580	1,990	2,090
Great Britain	1,480	1,590	1,580	1,350	1,770	2,680	3,060	3,330	3,430
Italy	700	740	760	810	830	920	1,020	1,140	1,200
Netherlands	260	250	260	270	330	510	630	830	860
Sweden	66	75	94	88	86	108	137	151	136
Unemployment rate									
United States	7.7	7.1	6.1	5.8	7.1	7.6	9.7	9.6	7.5
Canada	7.1	8.1	8.3	7.4	7.5	7.5	11.0	11.9	11.3
Australia	4.8	5.6	6.3	6.3	6.1	5.8	7.2	10.0	9.0
Japan	2.0	2.0	2.3	2.1	2.0	2.2	2.4	2.7	2.8
France	4.5	5.0	5.4	6.0	6.4	7.5	8.3	8.5	10.0
Germany	3.4	3.5	3.4	3.0	2.9	4.1	5.9	7.5	7.8
Great Britain	5.9	6.3	6.2	5.3	6.8	10.4	11.8	12.8	13.0
Italy	3.4	3.6	3.7	3.9	3.9	4.3	4.8	5.3	5.9
Netherlands	5.3	5.0	5.2	5.3	6.2	9.3	11.3	14.5	15.0
Sweden	1.6	1.8	2.2	2.1	2.0	2.5	3.1	3.5	3.1

47. Annual indexes of productivity and related measures, twelve countries

(1977 = 100)

Item and country	1960	1970	1973	1974	1976	1977	1979	1980	1981	1982	1983	1984
Output per hour												
United States	62.2	80.8	93.4	90.6	97.1	100.0	101.4	101.4	103.6	105.9	112.9	116.5
Canada	50.3	76.8	91.3	93.4	96.2	100.0	104.2	101.9	104.0	101.0	107.6	111.5
Japan	23.2	64.8	83.1	86.5	94.3	100.0	114.8	122.7	127.2	135.0	142.3	152.2
Belgium	32.8	60.0	78.3	82.7	95.1	100.0	112.1	119.7	128.0	134.0	143.0	149.6
Denmark	36.4	65.3	82.8	85.5	96.0	100.0	106.3	114.3	116.2	115.3	119.4	120.4
France	36.4	69.6	82.2	85.2	95.0	100.0	110.3	112.0	116.4	123.5	128.6	135.9
Germany	40.5	71.5	84.2	87.6	96.6	100.0	107.8	108.3	110.6	112.4	119.3	124.8
Italy	36.5	72.7	90.9	95.3	98.9	100.0	110.5	116.9	121.0	123.4	126.4	134.7
Netherlands	32.4	64.3	81.5	88.1	95.8	100.0	112.3	113.9	116.9	119.8	126.1	139.3
Norway	54.6	81.7	94.6	97.7	99.7	100.0	107.1	109.3	109.7	112.7	119.0	121.4
Sweden	42.3	80.7	94.8	98.8	101.7	100.0	110.9	112.7	113.2	116.5	125.5	132.6
United Kingdom	53.9	77.7	93.1	95.5	99.5	100.0	101.9	99.7	105.9	110.6	118.7	124.3
Output												
United States	52.5	76.6	96.3	91.7	93.1	100.0	106.1	103.2	104.8	98.4	105.6	117.9
Canada	41.5	75.1	94.6	98.0	98.1	100.0	110.9	107.7	108.8	96.4	101.7	110.1
Japan	19.2	69.9	91.9	91.7	94.8	100.0	113.9	124.1	129.8	137.3	148.2	165.2
Belgium	41.7	78.1	95.8	99.6	99.5	100.0	104.2	107.2	105.9	109.1	110.7	112.8
Denmark	48.2	81.7	95.4	96.8	99.4	100.0	107.2	112.1	108.5	110.2	114.2	120.6
France	35.4	73.3	88.6	91.8	96.1	100.0	106.1	106.6	105.9	106.0	107.4	109.6
Germany	50.0	86.6	98.1	95.4	98.0	100.0	106.6	106.6	104.9	102.4	103.5	107.5
Italy	37.4	78.0	90.5	98.3	97.9	100.0	108.6	115.4	114.3	111.6	109.0	113.1
Netherlands	44.8	84.4	95.8	100.0	99.0	100.0	106.1	106.6	106.7	105.0	105.3	110.8
Norway	55.1	87.0	99.5	104.0	101.4	100.0	100.3	101.3	100.1	99.9	98.7	101.2
Sweden	52.6	92.5	100.3	105.7	106.1	100.0	103.6	104.0	100.6	100.1	105.2	112.4
United Kingdom	71.0	94.7	104.7	103.5	98.2	100.0	100.5	91.7	96.2	96.4	96.9	92.4
Total hours												
United States	84.4	97.3	103.1	101.2	95.9	100.0	106.5	101.7	101.1	92.9	93.5	99.5
Canada	82.6	97.7	103.6	105.0	102.0	100.0	106.4	105.7	104.6	95.4	94.6	98.7
Japan	82.7	107.9	110.7	106.1	100.6	100.0	99.3	101.2	102.0	101.7	104.2	108.5
Belgium	127.1	130.2	122.3	120.4	104.6	100.0	93.0	89.6	82.8	81.4	77.4	75.4
Denmark	132.4	125.1	115.2	113.2	101.4	100.0	99.0	98.0	93.4	95.6	95.6	100.2
France	97.2	105.3	107.8	107.8	101.2	100.0	96.2	95.2	91.0	85.9	83.5	80.7
Germany	123.4	121.2	114.2	108.9	101.5	100.0	96.9	96.4	94.9	91.1	86.8	86.2
Italy	102.3	107.4	99.6	101.0	98.0	100.0	98.2	98.7	94.5	90.5	86.2	83.9
Netherlands	136.4	131.2	117.6	113.5	103.3	100.0	94.4	93.6	91.2	87.7	83.5	79.5
Norway	101.0	106.4	105.1	106.5	101.7	100.0	93.6	92.6	91.3	88.6	82.9	83.4
Sweden	124.4	114.6	105.7	107.0	104.3	100.0	93.4	92.3	86.9	85.9	83.9	84.8
United Kingdom	131.8	121.9	112.4	108.4	98.7	100.0	96.6	92.0	81.5	78.1	74.9	74.3
Compensation per hour												
United States	36.5	57.3	68.8	76.2	92.1	100.0	118.6	132.4	145.2	157.5	163.2	169.1
Canada	27.1	46.5	59.2	68.5	89.9	100.0	118.3	130.6	151.5	167.1	179.3	181.8
Japan	8.9	33.9	55.1	72.3	90.7	100.0	113.4	120.7	129.8	136.6	140.7	144.8
Belgium	13.9	34.7	53.6	65.4	89.4	100.0	117.5	130.4	144.9	152.1	164.4	174.9
Denmark	12.6	36.3	56.1	67.9	90.4	100.0	123.2	135.9	149.7	161.1	174.3	184.0
France	15.1	36.6	52.3	62.0	88.9	100.0	129.3	147.5	170.3	200.8	225.0	244.0
Germany	16.9	48.4	67.9	77.4	91.7	100.0	116.0	125.7	134.6	141.3	149.4	155.0
Italy	8.3	26.1	43.7	54.5	84.1	100.0	134.7	160.2	197.1	237.3	277.0	306.9
Netherlands	12.5	39.0	60.5	71.9	91.9	100.0	117.0	123.6	129.1	138.0	144.7	152.8
Norway	15.8	37.9	54.5	63.6	88.8	100.0	116.0	128.0	142.8	156.0	173.4	185.6
Sweden	14.7	38.5	54.2	63.8	91.5	100.0	120.1	133.6	148.1	158.9	173.3	190.7
United Kingdom	14.8	30.8	44.9	57.1	88.8	100.0	137.3	163.3	185.4	202.6	217.8	233.6
Unit labor costs: National currency basis:												
United States	56.7	70.9	73.7	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.8
Canada	53.9	60.8	64.8	73.3	93.5	100.0	113.5	128.1	145.7	165.4	166.7	163.0
Japan	38.4	52.3	66.4	83.6	96.2	100.0	98.8	98.4	102.0	101.2	98.9	95.1
Belgium	42.3	57.9	66.5	79.0	94.1	100.0	104.8	108.9	113.2	113.5	114.9	116.9
Denmark	34.5	55.6	67.8	79.4	92.3	100.0	113.7	118.9	128.8	139.7	148.0	152.8
France	41.6	52.6	63.6	72.8	93.6	100.0	117.3	131.7	146.3	162.6	175.0	179.5
Germany	46.8	67.6	80.6	86.3	95.0	100.0	107.7	116.1	121.7	125.7	125.3	124.2
Italy	22.8	36.0	48.1	57.2	85.1	100.0	121.9	137.0	162.9	192.4	219.2	227.7
Netherlands	38.5	60.7	74.3	81.6	98.0	100.0	104.1	108.5	110.4	115.2	114.7	109.7
Norway	29.0	46.4	57.6	65.2	89.1	100.0	108.2	117.0	130.2	138.5	145.6	152.9
Sweden	34.8	47.7	57.2	64.6	90.0	100.0	108.3	118.6	130.9	136.3	138.1	143.8
United Kingdom	27.6	39.7	48.2	59.7	89.2	100.0	134.7	163.8	175.1	183.1	183.5	187.9
Unit labor costs: U.S. dollar basis:												
United States	56.7	70.9	73.7	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.8
Canada	59.0	61.7	68.8	79.7	100.7	100.0	103.0	116.4	129.1	142.3	143.7	133.7
Japan	28.5	39.1	65.6	76.8	86.9	100.0	121.3	116.8	123.8	108.8	111.5	107.2
Belgium	30.4	41.8	63.2	72.8	87.4	100.0	128.1	133.7	109.5	88.9	80.6	72.5
Denmark	30.1	44.5	67.6	78.4	91.7	100.0	129.7	126.8	108.4	100.5	95.8	88.6
France	41.7	46.8	70.4	74.5	96.3	100.0	135.5	153.4	132.2	121.5	112.9	101.0
Germany	26.0	43.1	70.7	79.4	87.6	100.0	136.4	148.5	125.3	120.2	113.9	101.3
Italy	32.5	50.6	73.1	77.6	90.5	100.0	129.5	141.4	128.3	125.4	127.4	114.5
Netherlands	25.1	41.2	65.6	74.6	89.1	100.0	127.4	134.2	108.9	105.8	98.6	83.9
Norway	21.7	34.5	53.4	62.8	86.9	100.0	113.8	126.2	120.6	114.1	108.2	99.7
Sweden	30.1	41.1	58.7	65.1	92.3	100.0	112.9	125.3	115.4	96.9	80.4	77.7
United Kingdom	44.4	54.4	67.7	80.1	92.3	100.0	163.9	218.3	203.1	183.5	159.4	143.9

– Data not available.

48. Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]						
	1978	1979	1980	1981	1982	1983	1984
PRIVATE SECTOR[3]							
Total cases	9.4	9.5	8.7	8.3	7.7	7.6	8.0
Lost workday cases	4.1	4.3	4.0	3.8	3.5	3.4	3.7
Lost workdays	63.5	67.7	65.2	61.7	58.7	58.5	63.4
Agriculture, forestry, and fishing[3]							
Total cases	11.6	11.7	11.9	12.3	11.8	11.9	12.0
Lost workday cases	5.4	5.7	5.8	5.9	5.9	6.1	6.1
Lost workdays	80.7	83.7	82.7	82.8	86.0	90.8	90.7
Mining							
Total cases	11.5	11.4	11.2	11.6	10.5	8.4	9.7
Lost workday cases	6.4	6.8	6.5	6.2	5.4	4.5	5.3
Lost workdays	143.2	150.5	163.6	146.4	137.3	125.1	160.2
Construction							
Total cases	16.0	16.2	15.7	15.1	14.6	14.8	15.5
Lost workday cases	6.4	6.8	6.5	6.3	6.0	6.3	6.9
Lost workdays	109.4	120.4	117.0	113.1	115.7	118.2	128.1
General building contractors:							
Total cases	15.9	16.3	15.5	15.1	14.1	14.4	15.4
Lost workday cases	6.3	6.8	6.5	6.1	5.9	6.2	6.9
Lost workdays	105.3	111.2	113.0	107.1	112.0	113.0	121.3
Heavy construction contractors:							
Total cases	16.6	16.6	16.3	14.9	15.1	15.4	14.9
Lost workday cases	6.2	6.7	6.3	6.0	5.8	6.2	6.4
Lost workdays	110.9	123.1	117.6	106.0	113.1	122.4	131.7
Special trade contractors:							
Total cases	15.8	16.0	15.5	15.2	14.7	14.6	15.8
Lost workday cases	6.6	6.9	6.7	6.6	6.2	6.4	7.1
Lost workdays	111.0	124.3	118.9	119.3	118.6	119.0	130.1
Manufacturing							
Total cases	13.2	13.3	12.2	11.5	10.2	10.0	10.6
Lost workday cases	5.6	5.9	5.4	5.1	4.4	4.3	4.7
Lost workdays	84.9	90.2	86.7	82.0	75.0	73.5	77.9
Durable goods							
Lumber and wood products:							
Total cases	22.6	20.7	18.6	17.6	16.9	18.3	19.6
Lost workday cases	11.1	10.8	9.5	9.0	8.3	9.2	9.9
Lost workdays	178.8	175.9	171.8	158.4	153.3	163.5	172.0
Furniture and fixtures:							
Total cases	17.5	17.6	16.0	15.1	13.9	14.1	15.3
Lost workday cases	6.9	7.1	6.6	6.2	5.5	5.7	6.4
Lost workdays	95.9	99.6	97.6	91.9	85.6	83.0	101.5
Stone, clay, and glass products:							
Total cases	16.8	16.8	15.0	14.1	13.0	13.1	13.6
Lost workday cases	7.8	8.0	7.1	6.9	6.1	6.0	6.6
Lost workdays	126.3	133.7	128.1	122.2	112.2	112.0	120.8
Primary metal industries:							
Total cases	17.0	17.3	15.2	14.4	12.4	12.4	13.3
Lost workday cases	7.5	8.1	7.1	6.7	5.4	5.4	6.1
Lost workdays	123.6	134.7	128.3	121.3	101.6	103.4	115.3
Fabricated metal products:							
Total cases	19.3	19.9	18.5	17.5	15.3	15.1	16.1
Lost workday cases	8.0	8.7	8.0	7.5	6.4	6.1	6.7
Lost workdays	112.4	124.2	118.4	109.9	102.5	96.5	104.9
Machinery, except electrical:							
Total cases	14.4	14.7	13.7	12.9	10.7	9.8	10.7
Lost workday cases	5.4	5.9	5.5	5.1	4.2	3.6	4.1
Lost workdays	75.1	83.6	81.3	74.9	66.0	58.1	65.8
Electric and electronic equipment:							
Total cases	8.7	8.6	8.0	7.4	6.5	6.3	6.8
Lost workday cases	3.3	3.4	3.3	3.1	2.7	2.6	2.8
Lost workdays	50.3	51.9	51.8	48.4	42.2	41.4	45.0
Transportation equipment:							
Total cases	11.5	11.6	10.6	9.8	9.2	8.4	9.3
Lost workday cases	5.1	5.5	4.9	4.6	4.0	3.6	4.2
Lost workdays	78.0	85.9	82.4	78.1	72.2	64.5	68.8
Instruments and related products:							
Total cases	6.9	7.2	6.8	6.5	5.6	5.2	5.4
Lost workday cases	2.6	2.8	2.7	2.7	2.3	2.1	2.2
Lost workdays	37.0	40.0	41.8	39.2	37.0	35.6	37.5
Miscellaneous manufacturing industries:							
Total cases	11.8	11.7	10.9	10.7	9.9	9.9	10.5
Lost workday cases	4.5	4.7	4.4	4.4	4.1	4.0	4.3
Lost workdays	66.4	67.7	67.9	68.3	69.9	66.3	70.2

See footnotes at end of table.

48. Continued—Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]						
	1978	1979	1980	1981	1982	1983	1984
Nondurable goods							
Food and kindred products:							
Total cases	19.4	19.9	18.7	17.8	16.7	16.5	16.7
Lost workday cases	8.9	9.5	9.0	8.6	8.0	7.9	8.1
Lost workdays	132.2	141.8	136.8	130.7	129.3	131.2	131.6
Tobacco manufacturing:							
Total cases	8.7	9.3	8.1	8.2	7.2	6.5	7.7
Lost workday cases	4.0	4.2	3.8	3.9	3.2	3.0	3.2
Lost workdays	56.6	64.8	45.8	56.8	44.6	42.8	51.7
Textile mill products:							
Total cases	10.2	9.7	9.1	8.8	7.6	7.4	8.0
Lost workday cases	3.4	3.4	3.3	3.2	2.8	2.8	3.0
Lost workdays	61.5	61.3	62.8	59.2	53.8	51.4	54.0
Apparel and other textile products:							
Total cases	6.5	6.5	6.4	6.3	6.0	6.4	6.7
Lost workday cases	2.2	2.2	2.2	2.2	2.1	2.4	2.5
Lost workdays	32.4	34.1	34.9	35.0	36.4	40.6	40.9
Paper and allied products:							
Total cases	13.5	13.5	12.7	11.6	10.6	10.0	10.4
Lost workday cases	5.7	6.0	5.8	5.4	4.9	4.5	4.7
Lost workdays	103.3	108.4	112.3	103.6	99.1	90.3	93.6
Printing and publishing:							
Total cases	7.0	7.1	6.9	6.7	6.6	6.6	6.5
Lost workday cases	2.9	3.1	3.1	3.0	2.8	2.9	2.9
Lost workdays	43.8	45.1	46.5	47.4	45.7	44.6	46.0
Chemicals and allied products:							
Total cases	7.8	7.7	6.8	6.6	5.7	5.5	5.3
Lost workday cases	3.3	3.5	3.1	3.0	2.5	2.5	2.4
Lost workdays	50.9	54.9	50.3	48.1	39.4	42.3	40.8
Petroleum and coal products:							
Total cases	7.9	7.7	7.2	6.7	5.3	5.5	5.1
Lost workday cases	3.4	3.6	3.5	2.9	2.5	2.4	2.4
Lost workdays	58.3	62.0	59.1	51.2	48.4	46.8	53.5
Rubber and miscellaneous plastics products:							
Total cases	17.1	17.1	15.5	14.6	12.7	13.0	13.6
Lost workday cases	8.1	8.2	7.4	7.2	6.0	6.2	6.4
Lost workdays	125.5	127.1	118.6	117.4	100.9	101.4	104.3
Leather and leather products:							
Total cases	11.7	11.5	11.7	11.5	9.9	10.0	10.5
Lost workday cases	4.7	4.9	5.0	5.1	4.5	4.4	4.7
Lost workdays	72.5	76.2	82.7	82.6	86.5	87.3	94.4
Transportation and public utilities							
Total cases	10.1	10.0	9.4	9.0	8.5	8.2	8.8
Lost workday cases	5.7	5.9	5.5	5.3	4.9	4.7	5.2
Lost workdays	102.3	107.0	104.5	100.6	96.7	94.9	105.1
Wholesale and retail trade							
Total cases	7.9	8.0	7.4	7.3	7.2	7.2	7.4
Lost workday cases	3.2	3.4	3.2	3.1	3.1	3.1	3.3
Lost workdays	44.9	49.0	48.7	45.3	45.5	47.8	50.5
Wholesale trade:							
Total cases	8.9	8.8	8.2	7.7	7.1	7.0	7.2
Lost workday cases	3.9	4.1	3.9	3.6	3.4	3.2	3.5
Lost workdays	57.5	59.1	58.2	54.7	52.1	50.6	55.5
Retail trade:							
Total cases	7.5	7.7	7.1	7.1	7.2	7.3	7.5
Lost workday cases	2.8	3.1	2.9	2.9	2.9	3.0	3.2
Lost workdays	39.7	44.7	44.5	41.1	42.6	46.7	46.4
Finance, insurance, and real estate							
Total cases	2.1	2.1	2.0	1.9	2.0	2.0	1.9
Lost workday cases	.8	.9	.8	.8	.9	.9	.9
Lost workdays	12.5	13.3	12.2	11.6	13.2	12.8	13.6
Services							
Total cases	5.5	5.5	5.2	5.0	4.9	5.1	5.2
Lost workday cases	2.4	2.5	2.3	2.3	2.3	2.4	2.5
Lost workdays	36.2	36.1	35.8	35.9	35.8	37.0	41.1

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[1] Total cases include fatalities.

[2] The incidence rates represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as:
(N/EH) X 200,000, where:

N = number of injuries and illnesses or lost workdays.
EH = total hours worked by all employees during calendar year.
200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year.)

[3] Excludes farms with fewer than 11 employees since 1976.

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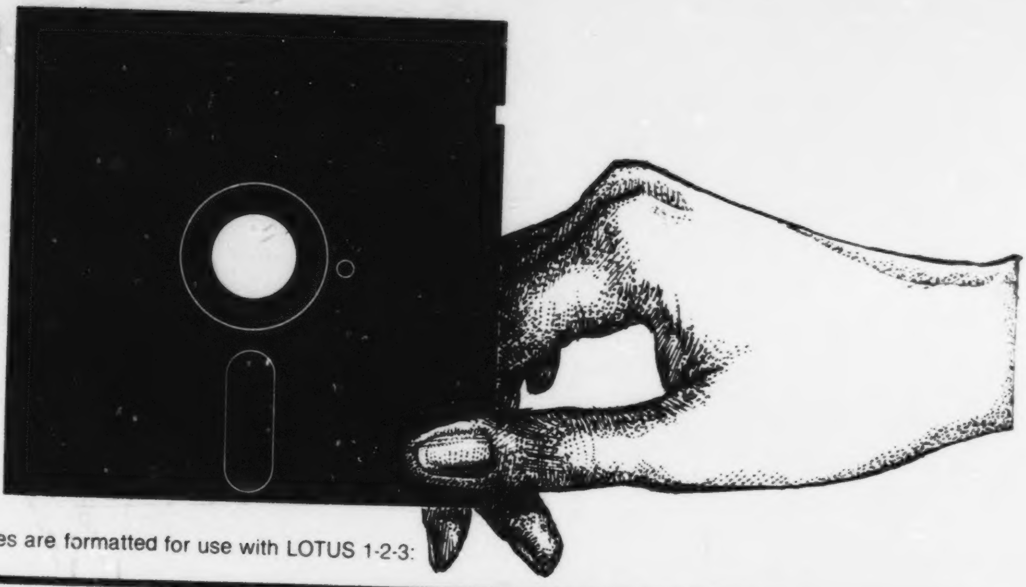

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MONTHLY LABOR REVIEW

U.S. Department of Labor
Bureau of Labor Statistics
July 1986

In this issue:

More on the revised CPI
Divergent trends in income
The Labor Department and Ellis Island

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William E. Brock, *Secretary*

BUREAU OF LABOR STATISTICS
Janet L. Norwood, *Commissioner*

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"From Ellis Island, a young boy points out the Statue of Liberty to his parents." Photograph (circa 1930) courtesy the Library of Congress, Washington, D.C. (Negative #LC-USZ62-50904)

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MONTHLY LABOR REVIEW

JULY 1986
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Henry Lowenstern, Editor-in-Chief
Robert W. Fisher, Executive Editor

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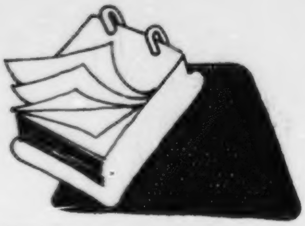


LABOR LAW STUDY. The Department of Labor began a study of the Nation's labor laws and collective bargaining practices to identify possible conflicts between these laws and practices and the kind of labor-management cooperation the Department is seeking to encourage. Stephen I. Schlossberg, Deputy Under Secretary for Labor-Management Cooperation, and Steven M. Fetter, his executive assistant, discuss the project in a background paper issued June 16. Here are brief excerpts:

DOL's position. The Department of Labor has taken a strong position in support of labor-management cooperation as an important prerequisite to America's return to preeminence in the world marketplace. Secretary of Labor William E. Brock has said that our country must develop a "solid atmosphere of cooperation, based on the concept of worker dignity and equality and grounded in a mutual respect for collective bargaining, [which] enables both unions and management to maintain individual integrity while working for the good of all."

Experiments spread. A 1982 survey found that at least one-third of the Fortune 500 companies, with both organized and unorganized work forces, have some form of participative management or quality of work life program in operation and that these efforts have, by and large, resulted in measurably improved employee morale and increased productivity.

While many of the more experimental efforts may have resulted from endangered corporations needing wage concessions to give them a better chance at economic survival, the programs' achievements have proved to be so attractive that they have captured the attention of other firms not in financial trouble. While noteworthy worker participation plans are in place at AT&T with the Communications Workers of America and the International Brotherhood of Electrical Workers, at Xerox with the Amalgamated Clothing and Textile Workers Union, and in several steel companies with the United Steelworkers of America, two of the most auspicious are between the UAW and the GM-Toyota joint venture at New United Motors Manufacturing, Inc. (NUMMI) in Fremont, California, and between Ford Motor Company and the UAW.

Within many companies, a new cooperative attitude is reordering labor-management priorities so that unions are more concerned about the financial health of the business and management seeks a relationship which enhances the role of workers by seeking their input and ideas. Both sides see the value of replacing distrust and hostility with equity and sharing. While the parties recognize that there are risks in altering their traditional antagonistic relationship, they are convinced that the risks are even greater if they do nothing at all. Thus, because of factors beyond their control, but also with an interest in achieving the differing yet complementary goals of increased productivity and an improved quality of work life, certain segments of the labor-management community are becoming "partners in the enterprise."

Legal considerations. Unfortunately, the mutual desires of labor and management to cooperate have not put an end to their problems. The new hybrids they have created—often called quality of work life, employee involvement, worker participation, labor-management participation teams or committees, or any of a number of other motivational names—do not easily fit within the framework of our existing labor laws and labor-management culture.

The history of labor relations in this country has been, and to a large degree continues to be, characterized by confrontation. In most cases, the relationship, from initial organization through contract negotiation and administration, has been driven by law and legal considerations; the motivation for action has rarely been cooperation, mutuality of interest, or principles of human relations. Rules, not goals, have set the tone.

In the past, our labor relations have exhibited a remarkable ability to adapt to the changing needs of an evolving, but flourishing, industrial economy. Now we must wait to see whether the creative steps taken by labor and management to deal with a declining industrial manufacturing base can pass muster with the agencies and courts charged with interpreting our labor laws. If they cannot, then the two sides must work together to formulate the legislative strategy necessary to modify our laws to permit such innovation.

Working together. The American economy can ill afford to continue the escalation of confrontation that has traditionally divided labor and management. There will always be bargaining to distribute gains and losses between the parties; but in those aspects of the relationship that clearly involve shared interests, we should emphasize mutuality rather than militancy and seek to advance a new ordering of labor relations which aligns manager and worker on the same side—working together for the common good. Clearly, cooperation and problem solving offer more promise for productive labor-management relationships than the combat of the past. If our statutes and practices are an impediment to change, we must be willing to consider reasonable alterations in that basic framework to encourage a process that will ultimately benefit society as a whole.

Copies of the 32-page paper are available from Office of Labor-Management Relations and Cooperative Programs, Room N5402, U.S. Department of Labor, Washington, DC 20210. ☐

An analysis of regional employment growth, 1973–85

Shifts in regional economic performance and job growth generally have been from the Snowbelt to the Sunbelt; however, many factors can alter regional advantage, often suddenly

PHILIP L. RONES

Reference to the transfer of economic power from old industrial regions of the North to the South and West has become almost a cliche. The term "Sunbelt" is generally associated with population growth, economic prosperity, and a bright future, while "Snowbelt" connotes economic decline. How then do we reconcile these perceptions with the fact that New England, which a decade ago was rapidly losing population and jobs, presently has the lowest unemployment rate of any region; or that in late 1985, a considerable majority of the States in the West and South had jobless rates above the national average; or that, since the recession trough in late 1982, housing costs in Boston have risen dramatically while those in Houston, an often cited symbol of the prosperity of the new South, have declined?[1]

Such recent developments have made it clear that the situation is more complex than commonly thought. There has been, and most likely will continue to be, a shift in economic influence towards the South and West. Such movements are the expected result of historic differences in regional income, wages, and cost of living, as well as shifts in the importance of each region's geographic and resource endowments. Yet within that context, long-term changes in the structure of our economy, cyclical swings, and unanticipated "shocks" all can alter regional advantage. The economic "Power Shift,"[2] as it has been called, is clearly not as immutable as once thought.

The first section of this article describes some of the changes in regional employment over the past decade or so, with particular emphasis on the industrial components of those changes. The second section examines some of the reasons for dramatically uneven regional employment growth, focusing on such aspects as population and business migration, regional income inequality, and economic shocks. Finally, because New England has done the most in recent years to break the stereotype of the Snowbelt versus Sunbelt economies, some of the causes of the resurgence of that region's economy are examined.

Shift-share analysis

The technique employed in examining trends in regional job growth is called shift-share analysis, a statistical method which has been commonly used in regional analysis for several decades.[3] It can be used to allocate regional growth among three components: national share, industry mix, and regional share. National share indicates the employment change that would have occurred if a region's employment growth rate had equaled the national growth rate over the study period. Industry mix shows the amount of regional employment growth attributable to the region's initial industry mix; that is, it reflects a region's mix of fast- and slow-growth industries. Finally, regional share indicates whether a region's industries performed better or worse than the national average for each industry.[4] This last component is essentially a measure of competitive advantage—the end result of the many varied factors which can cause uneven regional growth. For analytical purposes, the industry mix and regional share statistics are the more interesting, because they relate regional changes to developments at the national level.

Philip L. Rones is a senior economist in the Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

The data. This analysis uses data from the Current Employment Statistics Survey, a nationwide survey of business establishments which provides information by industry on employment, hours, and earnings of workers on nonagricultural payrolls. The survey is a cooperative effort of the State Employment Security Offices and the BLS, through which data are obtained from employer reports filed monthly with the State agencies.

For this analysis, State data were aggregated into the nine census divisions, shown in exhibit 1. (The terms region and division, in reference to geography, often are used interchangeably in this analysis.) Industry data were treated at the major division level, with manufacturing divided into its durable and nondurable goods components.[5] The exclusion of agriculture from survey coverage would have only a minor impact on most regions, but for the West North Central area, the exclusion could be critical. Certainly, poor agricultural performance would be felt throughout that region's nonagricultural sector. Even so, estimates presented here probably understate the economic difficulties in that part of the country.

Exhibit 1. Census regions and divisions

- **Northeast**
  - New England
    - Maine
    - New Hampshire
    - Vermont
    - Massachusetts
    - Rhode Island
    - Connecticut
  - Middle Atlantic
    - New York
    - New Jersey
    - Pennsylvania
- **Midwest**
  - East North Central
    - Ohio
    - Indiana
    - Illinois
    - Michigan
    - Wisconsin
  - West North Central
    - Iowa
    - Missouri
    - Nebraska
    - Kansas
    - Minnesota
    - North Dakota
    - South Dakota
- **South**
  - South Atlantic
    - Delaware
    - Maryland
    - District of Columbia
    - Virginia
- **South—Continued**
    - West Virginia
    - North Carolina
    - South Carolina
    - Georgia
    - Florida
  - East South Central
    - Kentucky
    - Tennessee
    - Alabama
    - Mississippi
  - West South Central
    - Arkansas
    - Louisiana
    - Oklahoma
    - Texas
- **West**
  - Mountain
    - Montana
    - Wyoming
    - Colorado
    - Utah
    - Idaho
    - Arizona
    - Nevada
    - New Mexico
  - Pacific
    - California
    - Hawaii
    - Washington
    - Oregon
    - Alaska

Region-by-industry employment matrices were prepared for 1973, 1975, 1979, and 1985. All years but 1975 were chosen because they represented relative high points in the business cycle. Data for 1975 were included to isolate the effects of the 1973–75 recession on regional performance.

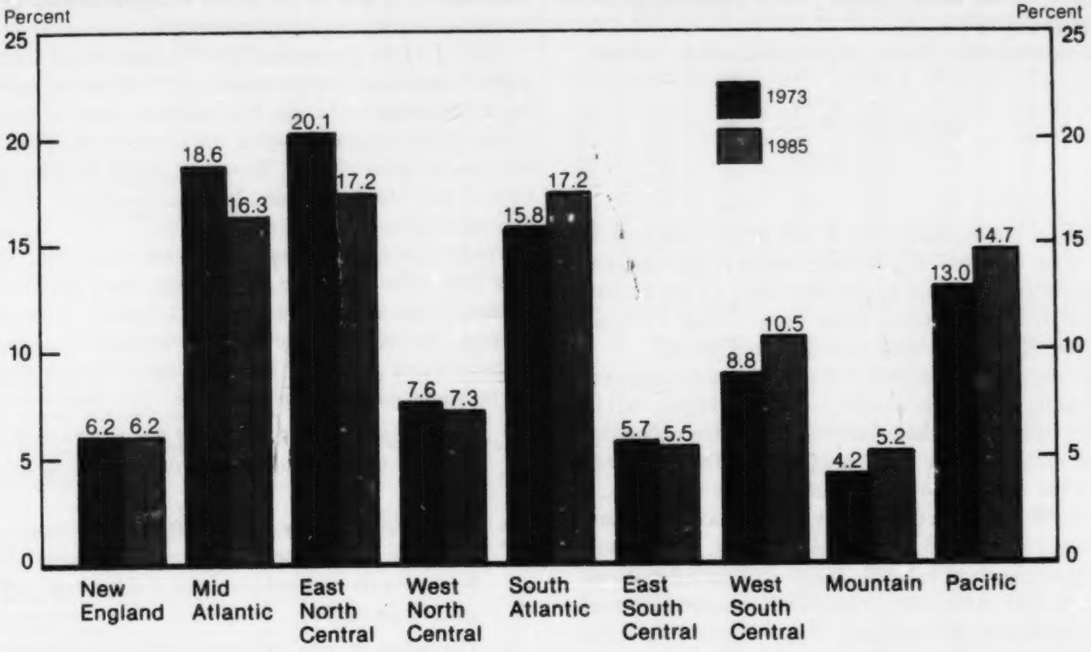
There is often quite valid concern about the usefulness of the regional aggregations, because regions are not homogeneous economic units. For instance, population and employment growth in the South Atlantic region have been well above the national average principally because a single State, Florida, has dominated the region in terms of both size and relative rate of growth. California similarly dominates the Pacific region. However, the argument of a lack of homogeneity is probably no more valid in its application to regional data than it would be to State or local data. The local economies that make up many States are as diverse in their industrial makeup and performance as are the State economies that make up any region. Hence, there is enough to gain in using any of these "aggregated" data—local, State, or regional—to warrant their use in labor market analysis.

The results. The first two columns in table 1 show the actual change in each region's total employment between 1973 and 1985 and the national share component of the change. The national share represents the employment growth that a region would have experienced if its number of jobs had expanded at the national average rate over the 12-year period. Where the actual change in employment is greater than the national share, a region's employment grew at a faster rate than the national average. The West South Central region, for example, grew twice as fast as the Nation as a whole. Conversely, where actual growth is less than national share, a region's jobs grew at a slower than average rate. Employment in the East North Central region, for example, grew only one-third as fast as the national average.

It is not surprising that the slowest employment growth areas were generally in the Northeast and Midwest and the fastest in the South and West. The regional variation, however, was quite dramatic. At the extremes, the East North Central region's nonfarm payroll jobs grew by only 8 percent over the study period, while employment gains of 57 percent were registered in the Mountain States. The range of employment growth performance is reflected in the changing regional distribution of national employment, shown in chart 1.

As previously stated, the industry mix column of the table reflects the advantage or disadvantage bestowed on a region by virtue of its industrial makeup in the initial year of the study. A region would stand to grow more slowly than the average if it had a relatively large share of industries with slower than average growth over the 12-year period—government, construction, and, more importantly, manufacturing, particularly nondurable goods. A region would be favored if it began the period with a higher than average

Chart 1. Distribution of nonagricultural payroll employment by census division, 1973 and 1985



employment concentration in mining and in any of the service-producing industries other than government. Because this statistic compares a region's industry mix to a national average, the net impact of the industry mix (and regional share, for that matter) across regions is by definition zero.

It should be kept in mind that the industry mix statistic has substantial limitations. Because manufacturing showed relatively slow growth over the study period, a region with little or no manufacturing would appear to have a positive industry mix. Manufacturing activity, however, is generally viewed as a prerequisite for strong growth in the service sector. Thus, the effect of this hypothetical industry distribution would undoubtedly show up as poor regional share performance in other industries.

As expected, the area most hurt by its poor industry mix was the East North Central region, with its initially high proportion of heavy manufacturing jobs. That region's employment would have increased by an additional 420,000 over the study period if the area had had an "average" industry mix in 1973. But in virtually all cases, the industry mix statistic is a poor second to regional share in explaining the gap between actual regional job growth and the national average. The Middle Atlantic States, for instance, experienced little industry mix impact and yet had very slow growth, while the South Atlantic region, also with a neutral industry distribution, experienced quite rapid growth. The West South Central, Mountain, and Pacific regions all prospered, in terms of the industry mix measure, from their emphasis on mining (except in recent years) or service-sector jobs and their relative lack of factory employment. However, in none of these rapid-growth regions did the 1973 industry mix explain as much as 20 percent of employment change above or below the national share.

The regional share measure explains most of the geographic differences in employment growth. The Middle Atlantic and East North Central regions combined registered 5 million fewer jobs than their industry mix alone would have predicted, while the Southern and Western gainers (minus the East South Central) added 5 million jobs more than their "fair share." The following analysis, then, will focus on the regional share component of change, identifying the industries in which regional growth has been particularly strong or weak and examining the change in regional advantage and disadvantage that occurred within three subperiods of the 1973–85 span.

The regional share component reflects how a region's industries performed compared to the national average for each industry. The interpretation of the results is simplified by the use of the indexes shown in table 2 in place of absolute numbers.[6] If an industry within a particular region grew at the same rate as that industry nationwide, then the index figure would be 1. An index greater than 1 represents better than average performance (a figure of 1.100, for example, represents employment growth 10 percent above average), and an index of less than 1 represents below-average performance.

The regional share index, RSI, is calculated as follows:

$$\mathrm{RSI} = \frac{E_{ir}^{t+1}}{E_{ius}^{t+1}\left(E_{ir}^{t}/E_{ius}^{t}\right)}$$

where E_{ir} is employment in each industry (i) and each region (r) (or division); E_{ius} is employment in each industry for the United States as a whole; and t and $t+1$ are the base year and final year in any comparison—either 1973 and 1985, respectively, or some narrower time frame.

More simply, the calculation divides actual industry employment in each region in 1985 (or another target year) by what the figure would have been had the region maintained its base-year share of industry employment. The calculation ignores the rate of growth of each industry nationally, a factor that shows up in the industry mix statistic. For example, New England had 5.47 percent of U.S. construction industry employment in 1973. Had it maintained that proportion in 1985, it would have had .0547 × 4,646,000 (total 1985 construction employment), or approximately 254,000 construction jobs. Actual employment slightly exceeded that mark—258,000. Thus, the regional share index is 258,000/254,000, or 1.016.

In this presentation, the mix and share components of regional change are separated as if they were unrelated factors, but in reality, they are quite interrelated. In a study of the effects of industry mix on State unemployment rates, Robert McGee estimated that the indirect (or "spillover") effect of industry mix was, on average, about 15 percent higher than the direct effect.[7] For example, an area with an unfavorable industry mix is likely to experience above-average unemployment (or below-average employment growth) not only in its disadvantaged industries but also in its stronger ones. The measure used here identifies only the direct effects of industry mix; the spillover effects are incorporated in the regional share component. Thus, the true impact of a poor industry mix is understated in the results for that component, and the dichotomy used here to some extent oversimplifies a complex relationship.

Table 1. Components of change in nonagricultural payroll employment by census division, 1973–85

[Numbers in thousands]

Census division	Employment change, 1973–85	Components of change		
		National share	Industry mix	Regional share
New England	1,317	1,267	12	62
Middle Atlantic	1,512	3,840	51	−2,379
East North Central	1,252	4,148	−419	−2,477
West North Central	1,306	1,562	68	−324
South Atlantic	4,600	3,249	−60	1,411
East South Central	970	1,173	−146	−57
West South Central	3,475	1,809	127	1,539
Mountain	1,852	869	150	833
Pacific	4,317	2,677	234	1,406

NOTE: See text footnote 4 for description of components of change.

Table 2 shows the regional share indexes for all nonfarm payroll employees for the entire 1973–85 period and for three subperiods. The top line indicates that, at the extremes, the West South Central and Mountain divisions had competitive gains of about 20 percent, while the East North Central and Middle Atlantic had losses of more than 15 percent relative to the national average.

The RSI patterns for many regions have changed markedly over time. (For simplicity of language, RSI's significantly greater or less than 1 will be termed "gains" or "losses," although, technically, they describe movements *relative to a national average* rather than absolute changes.) Among the highlights of the RSI trend results:

- New England, formerly one of the worst performers in terms of employment growth, is now among the best.
- The Middle Atlantic States suffered their worst performance in the late 1970's; even in recent years, Pennsylvania continued to exert a downward pull on the 3-State totals.
- The failure of the East North Central to recoup manufacturing job losses has been felt in all sectors in recent years. The cumulative effects are the worst suffered by any region.
- The entire West North Central region has fared poorly in the 1980's, largely because of weakness in the agricultural sector. The exclusion of agriculture from the employment data probably serves to understate the weakness in the region's economy.
- The South Atlantic and East South Central areas both mirrored national performance through the late 1970's. Since then, the former, paced by Florida's boom, has outperformed all other regions, while its more industrialized neighbor has fared quite poorly.
- The West South Central, Mountain, and Pacific regions each experienced gains throughout the three subperiods.

The health of a region's manufacturing industries is generally regarded as the most important and most visible indicator of the area's economic performance. It is in the construction industry, however, that a region's fortunes are most dramatically reflected in the index. In all of the regions in each of the three subperiods examined, only three times (out of 27 chances) was the construction RSI closer to 1 than the region's total RSI; that is, construction almost always showed more dramatic shifts in regional advantage than did the all-employee totals. This is because construction is the industry most dependent on population growth. Many urban

Table 2. Regional share index for nonagricultural payroll employment by major industry and census geographic divisions, selected periods, 1973–85

Period and industry	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
1973 to 1985									
Total	1.009	.873	.853	.966	1.087	.963	1.193	1.238	1.129
Mining	—	.616	.788	.750	.862	.949	1.410	.855	1.231
Construction	1.016	.882	.790	.948	1.017	.854	1.244	1.201	1.171
Durable goods	1.287	.808	.776	1.008	1.241	1.003	1.271	1.509	1.293
Nondurable goods	.804	.843	.936	1.088	1.022	1.009	1.178	1.331	1.243
Transportation and public utilities	.962	.847	.860	.986	1.100	1.055	1.157	1.294	1.089
Trade	1.001	.863	.877	.920	1.111	.998	1.159	1.175	1.109
Finance, insurance, and real estate	1.018	.865	.905	.963	1.031	.954	1.201	1.244	1.130
Services	1.006	.900	.904	.950	1.111	.941	1.104	1.188	1.068
Government	.933	.907	.903	.939	1.090	1.040	1.175	1.119	1.003
1973 to 1975									
Total	.978	.968	.974	1.020	.991	1.000	1.063	1.048	1.037
Mining	—	.949	.963	.896	1.000	1.172	1.013	.991	.976
Construction	.872	.927	1.005	1.151	.891	1.055	1.186	.948	1.090
Durable goods	1.040	1.005	.952	1.023	.989	.966	1.106	1.043	1.048
Nondurable goods	.959	.942	1.004	1.033	.986	1.011	1.089	1.068	1.078
Transportation and public utilities	.956	.962	.980	1.019	.996	1.014	1.064	1.065	1.021
Trade	.976	.957	.991	1.023	.985	1.007	1.055	1.036	1.030
Finance, insurance, and real estate	1.000	.965	1.007	1.010	.998	1.033	1.033	1.018	1.010
Services	.995	.959	.999	1.022	.998	1.002	1.039	1.049	1.014
Government	.973	.994	.985	.964	1.024	1.005	1.006	1.020	1.013
1975 to 1979									
Total	.991	.920	.969	.997	1.017	1.013	1.059	1.104	1.056
Mining	—	.845	.908	.963	.853	.958	1.141	1.043	.961
Construction	.889	.841	.957	1.006	.960	.956	1.096	1.254	1.145
Durable goods	1.127	.890	.942	1.025	1.059	1.017	1.088	1.173	1.085
Nondurable goods	.861	.952	.997	1.019	1.018	1.010	1.053	1.093	1.090
Transportation and public utilities	.959	.918	.965	1.021	1.011	1.063	1.060	1.120	1.037
Trade	.968	.920	.970	.983	1.026	1.019	1.053	1.088	1.061
Finance, insurance, and real estate	.960	.909	.978	.997	.991	.978	1.051	1.150	1.131
Services	.992	.944	.969	.992	1.020	.991	1.007	1.091	1.068
Government	1.011	.929	.976	.986	1.051	1.071	1.059	1.036	.972
1979 to 1985									
Total	1.041	.980	.903	.950	1.078	.950	1.059	1.070	1.031
Mining	—	.776	.897	.882	.779	.843	1.222	.825	1.280
Construction	1.310	1.133	.820	.819	1.190	.851	.956	1.015	.939
Durable goods	1.098	.904	.865	.962	1.184	1.021	1.054	1.235	1.136
Nondurable goods	.973	.940	.985	1.033	1.017	.988	1.028	1.119	1.059
Transportation and public utilities	1.050	.960	.911	.947	1.092	.978	1.027	1.083	1.028
Trade	1.061	.961	.912	.914	1.099	.974	1.044	1.042	1.016
Finance, insurance, and real estate	1.061	.987	.920	.957	1.044	.939	1.110	1.060	.989
Services	1.020	.995	.934	.938	1.092	.949	1.055	1.037	.986
Government	.947	.981	.939	.968	1.015	.966	1.103	1.057	1.019

NOTE: A regional share index greater than 1 represents faster than average industry growth; a value less than 1 represents slower than average growth. See text for further explanation.

areas in the Northeast and Midwest regions have shown very slow growth or absolute declines in population in recent decades, a factor which results in excess housing stock, depressed housing prices, and vastly reduced demand for new residential construction. Likewise, substantial expansion of commercial footage would be unlikely in a stagnant local economy. Conversely, those Southern and Western regions experiencing a rapid influx of both population and business have had to provide new housing, plants, and office space for newcomers.

The RSI's reflect the relationship between construction activity and both population and job growth. For example, while construction activity nationwide was down substantially during the years 1973–75, New England's employment performance for the industry was about 13 percent worse than average, but the West South Central States experienced a relative increase of nearly 20 percent. The construction RSI's reflect the West South Central division's standing as the best performer during that recessionary period in terms of employment growth; it was second only to the Mountain region in population growth.[8]

Outside of developments in mining, the 1979–85 performance of construction in both Midwest divisions was the worst of any region-industry combination. The loss of nearly 20 percent in the regions' employment share is in marked contrast to the 30-percent gain for New England. The former is a dramatic indication of the Midwest's industrial and agricultural woes, while the latter reflects not only New England's improved overall economy but also a catching-up after years of lagging construction activity.

For the entire 1973–85 span, manufacturing is the only industry division for which a decline in regional share reflects an absolute drop in jobs. This is because nationwide manufacturing employment declined by about 800,000 during that period. Thus, the RSI's for durable and nondurable manufacturing closely reflect the regional redistribution of factory jobs. Virtually all of the durable goods job losses occurred in the Middle Atlantic and East North Central divisions. (The East South Central and West North Central's near-unity RSI's reflect a small absolute loss due to the sector's national employment decline.) Their regional share losses, in terms of jobs, were more than 400,000 and 800,000, respectively, or about 19 and 22 percent. Five regions were strong gainers, paced in relative terms by the Mountain States, followed by the Pacific, New England West South Central, and South Atlantic.

The Middle Atlantic States were the only region to experience serious job losses in both durable and nondurable manufacturing. New England continued to suffer from the long-term decline in its textiles and apparel industries in the earlier years of the study period, but experienced little further erosion of nondurables employment after 1979. The only substantial winners in nondurables were the West South Central, Mountain, and Pacific regions.

The industries in the service-producing sector tend to follow the overall regional pattern of population and economic growth. The use of aggregated industry data limits the analysis of these industries. For example, while real estate employment probably follows the economic trends of each region, finance and insurance, which are "exportable," may follow a different pattern. The aggregated data, of course, cannot be used to address this point.

Government employment trends are interesting in that they often differ substantially from regional averages. For example, between 1979 and 1985, New England gained more than its fair share of employment in virtually every industry, but had one of the lowest rates of government employment growth. In the Pacific States, government employment also lagged total regional job growth, largely reflecting California's imposition of restrictions on State and local taxing power.

In summary, the Nation's regions have experienced virtually every pattern of job growth over the 12-year study period—consistently good, as in the Pacific, Mountain, and West South Central; consistently bad, as in the East North Central; improving, as in New England; and deteriorating, as in the East South Central. Strength in manufacturing probably has the broadest impact on regional economic well-being (with certain exceptions, such as the West North Central States where farming is so critical). However, that well-being is most dramatically reflected in construction activity, which can increase or decrease precipitously in response to changing regional fortunes. Service-sector employment most closely mirrors a region's overall population and employment patterns.

Why these shifting fortunes?

Up to this point, the evidence presented has documented the change in regional employment performance, particuarly as it relates to regions' relative competitive position in each industry. What causes these changes in regional advantage? The complexity of this question is reflected in the fact that analysts have not been successful in explaining a substantial portion of regional growth differences. Several important regional growth factors are discussed here—migration, regional income and wages, business location decisions, and economic shocks. The list obviously is not exhaustive, but only representative of the wide range of possible regional growth forces. Finally, some key elements of the economic renaissance in New England are examined.

Migration and jobs. The relationship between population and job growth is complex. It is perhaps best viewed as a cycle that, once begun, is self-sustaining and reinforcing. Certainly, the availability of jobs in an area is an attraction to jobseekers from other regions. Michael Greenwood and Gary Hunt have estimated that in metropolitan areas each 100 additional jobs attract about 45 employed net migrants, with local residents filling the remaining openings.[9] However, migration in and of itself results in a substantial increase in employment above and beyond the migrant's own job. These jobs can be filled by either additional migration or increased labor force participation of the indigenous population. This direction of causation—with population growth causing job expansion—would be reflected in the regional share indexes for industries providing locally consumed products.

Migrants may influence labor demand in several ways.[10] For example, they may bring with them assets or income sources above their wages. Retirees are the prime example of the indirect effect of migration on jobs because the retirees themselves have little or no direct effect on local labor markets. Migrants may cause an increase in demand for infrastructure (roads, schools, utilities, and housing). They may also transport qualities that change the human capital makeup of the sending and receiving areas, to the extent that their age, skills, education, or entrepreneurial talent may be different than the average in either area. Migration may directly affect local labor force participation rates, in that the demographic characteristics of the migrants may differ from the averages in the receiving area. In fact, migrants tend to be concentrated in the 20-to-34 age range, have the highest levels of education, and are somewhat disproportionately male.[11] Also, migrants may influence the prices and profitability of goods and services by changing demand for those items; housing would be the most common example of this.

Table 3 shows percentage changes in population and nonagricultural payroll employment by geographic division between 1973 and 1985.[12] The columns in which the regions are ranked from 1 to 9 according to those changes show that

New England and the East South Central division break an otherwise close match between population and employment change rankings. The jump in New England's employment, despite slow population growth, resulted in a 5-point increase in the region's employment-population ratio, a gain which was more than triple the national average.[13] The East South Central's employment ratio declined a percentage point, for the worst regional performance. The strong relationship between employment and population growth, with causation running in both directions, is obvious.

Regional income and wages. The second explanation for the shift in regional economic power towards the South and West falls under the general heading of regional income (or factor price) inequality. One common theory states that if the factors of production—labor, capital, and so forth—are free to move between regions in order to obtain their highest return, convergence of factor prices among regions will occur in the long run.[14] As an example, table 4 shows regional per capita income in relation to the national average. While per capita income changes may come from several sources, wage rates are by far the most important factor.[15]

All other things being equal, firms will tend to locate where labor costs are low. Workers, on the other hand, are attracted by high wages, but even so, there has been substantial migration from high- to low-wage areas, as from the Midwest to the South. One partial explanation for this trend is the historic regional difference in living costs, which gave wages earned in the South more real purchasing power than those earned in higher-cost regions. The key to migration is in the relationship between wages and job growth. Mancur Olson, citing his own work and that of Charles Hulten and Robert Schwab, provides a theoretical framework for such migration from high- to low-wage regions.[16] Olson proposes that regional economic growth in the United States (and worldwide) is largely dependent on the level of cartelization in each region. In this argument, cartelization refers to "any organizations or groups that lobby for favorable legislation and administrative rulings or act cartelistically to influence prices or wages."[17] Although labor unions are most often cited in this regard, the theory applies equally to producers, professional associations, and so forth.

Olson suggests that the older the region, the more established are these special interests and the more difficult it becomes for many firms to compete in the restrictive environment. One result of these forces is "supra-competitive" wages in the Midwest. Firms which do not benefit from location-specific advantages (proximity to markets or natural resources) or that are less efficient cannot compete in the high-wage environment and will fail or locate elsewhere. Hulten and Schwab conclude that this effect increases productivity and has reduced jobs in the North as employers in that region limit employment until the marginal product of labor equals the "inflated" wage.

Table 3. Percent change in total population and nonagricultural payroll employment by census division, 1973–85

Census division	Percent change, 1973–85		Regional ranking[1]	
	Population	Employment	Population	Employment
New England	4	28	7	5
Middle Atlantic	−1	11	9	8
East North Central	2	8	8	9
West North Central	5	22	6	6
South Atlantic	22	38	4	4
East South Central	12	22	5	7
West South Central	29	51	2	2
Mountain	37	57	1	1
Pacific	26	43	3	3

[1] Based on percent change in columns 1 and 2.

SOURCE: Bureau of the Census and Bureau of Labor Statistics. See text footnote 12.

As the economic situation in the high-wage Midwest has deteriorated, particularly since 1979, the lack of adequate downward flexibility of wages in response to labor market changes has led to an outflow of jobs.[18] Thus, high wages are insufficient to attract migrants in the absence of job growth. In contrast, there has been considerable migration to the high-growth, and relatively high-wage, Pacific region.[19] Olson suggests, however, that low wages will cease to draw industry and workers to the South as the regional wage differentials disappear and as the South loses its economic and social peculiarities. The same institutional arrangements that have led to market inefficiencies in the North, he predicts, will accelerate in the South.

That a general convergence of regional incomes has occurred over time is clearly shown in table 4. During the past decade, however, regional changes have not necessarily led towards further convergence. Thus, it seems that while wage differentials have been an important factor in the location decisions of individuals and businesses, they may no longer contribute as heavily to those decisions in the future.

Regional location—the firm. As we have seen, many of the factors affecting an individual's decision to migrate may be similar to those that influence a firm's investment location decision. Other factors that may be as important to the firm as to the individual include climate, population density, and taxes. While the intricacies of location theory are beyond the scope of this analysis, it would be a serious omission to completely ignore the topic.

Two important conclusions can be drawn from a survey of the literature on business location: These decisions tend to be quite complex and to be firm- and industry-specific—why else would new business investment be so geographically dispersed, even within specific industries? Also, such predictable factors as wages, taxes, unionization, and energy costs fail to explain much of the differences in investment location.

Researchers are unanimous in their finding that the differences in regional employment growth rates generally are not the result of actual movement of firms out of the North and into the South and West.[20] The notion of firm relocation is based largely on the observed migration of textiles manufacturers out of New England and into North and South Carolina in the 1940's and 1950's. In fact, regional employment growth is mostly the result of the formation of new firms and the expansion of existing ones.

How are business investment decisions made? One technique used in location factor studies is to list factors assumed to be, or identified by businesses as being, important in the location decision and to rank States according to those factors.[21] These may include taxes, wages, unionization, energy costs, and cost of living, among others. As expected, high-growth States tend to perform well in such rankings. Studies may also include such factors as supply and quality of labor and proximity to markets. Generalizations about regional advantages in the second group of measures are more difficult to make. However, the importance of such factors makes it clear that "business climate," in the low-wage, low-tax sense, is not enough to attract some investment. For example, a new firm may require certain highly technical consulting services available in only a few areas of the country. That requirement alone may make other considerations irrelevant.

Lynn Brown and fellow analysts have shown that the location factors do not overwhelmingly favor a particular region.[22] Substantial investment occurs in States with a high-wage or high-energy-cost profile, for example. In fact, the authors find that the most common factors associated with regional investment account for only a third of the regional variation. The conclusion is that States should not feel helpless in the face of uncontrollable negative business climate factors. Development strategies can be devised to attract those firms which may benefit from the State's positive attributes. As will be shown later in the discussion, New England has benefited from its historical position as a manufacturing and finance center, as well as from its history of academic excellence. Substantial economic progress has been made there in the face of other business climate factors which are not so favorable.

Economic "shocks." The factor that may best explain recent regional shifts in economic performance is economic "shocks," those largely unforeseen circumstances that not only change the Nation's competitive position in the world economy but also change the regional locus of economic power within the United States. Bernard Weinstein and others have described the takeoff in economic growth in the Southern and Western States in terms of W.W. Rostow's stages-of-growth model, in which sustained growth does not occur without some dramatic external stimulus.[23] Prior to World War II, the South was a relatively underdeveloped economy—the only employment shares above the national average were in the most basic sectors, agriculture and basic energy.[24] World War II saw the infusion of billions of dollars in investment into the Sunbelt, with an estimated 60 percent of the $74 billion wartime expenditures going to 15 Southern and Western States.[25] Particularly important was the birth and continued expansion of substantial high-technology and aerospace industries in the Sunbelt. This event is seen as the takeoff necessary for sustained growth according to the Rostow model. The distribution of defense funds continues to have a strong regional impact. However, as New England, another large defense contracting region, witnessed during the years following the Vietnam conflict, such dependence makes a region's economy susceptible to the vagaries of defense budgets.[26]

While not of the same magnitude as the effects of World War II on regional development, changing energy prices are generally cited as the most important shock event in the recent experience. First, rising energy prices, which prevailed throughout most of the study period, change the relative regional cost of production and transportation. To some extent, labor costs also may be affected, as workers attempt to recoup losses in their standard of living. Second, price changes affect the revenues of producers and, in effect, redistribute income from energy "have-not" to energy "have" regions. While the energy sector itself is not a large employer, the employment effects in related industries—finance, drilling equipment, and technical services, among others—can be quite large.

Regarding the first issue, table 5 suggests the effects on residential business consumers of the two large OPEC price increases during the 1970's. Hans Landsberg stresses that

Table 4. Index of per capita income by region, selected years, 1940–85
[National average=100]

Year	Region									Standard deviation
	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific	
1940	126	132	112	81	77	49	64	87	132	30.9
1950	107	117	111	95	81	61	81	95	120	19.5
1960	110	116	108	92	84	69	82	93	119	17.5
1970	109	113	104	94	91	75	85	91	111	13.0
1977	102	106	105	97	93	81	92	94	111	9.1
1985	114	110	99	98	96	77	92	92	110	10.9

SOURCE: Bureau of Economic Analysis, U.S. Department of Commerce. Data through 1977 are published in Lynn Brown, "Narrowing Regional Income Differentials," *New England Economic Review* (Federal Reserve Bank of Boston), September/October 1980, p. 37.

one must consider both actual cost levels, in that certain regions characteristically have greater energy costs, and changes in those levels.[27] The latter would be most likely to affect regional competitive positions. For example, while industrial energy users in the South paid 26 percent less than the national average in 1970, that advantage had declined to 12 percent by 1980. Landsberg indicates that "it may be much more punishing for the prosperity of an area with low energy prices to suffer drastic boosts, while still remaining *below* the national average, than for a high-cost area to undergo modest boosts and still stay *above* the national average."[28]

Residents of the Northeast may have suffered the most from energy price rises because they were triply penalized; they use more energy, they depend disproportionately on expensive fuel oil, and fuel oil prices rose faster than those for natural gas, its chief competitor. But with recent decontrol of natural gas prices, the current softness in the world oil market, and the additional cost some low-energy-price areas have faced since 1980 due to nuclear plant construction, regional advantage in the energy area has tended to narrow.[29]

While the above discussion focuses on the energy consumer, recent shifts in world oil prices have considerably altered the fortunes of energy-producing areas as well. For example, Weinstein and others have commented, not too facetiously, that "the OPEC oil embargo did more to revive Appalachia than ten years and $10 billion of federal aid."[30] Partly as a result of strong growth in its mining sector, West Virginia's jobless rate was about the national average in the late 1970's.[31] However, as weak energy prices, conservation, and concerns over pollution have lessened the demand for coal, more recent jobless rates for the State have been twice the national average. Likewise, Texas had very low jobless rates, with some labor shortages, during the late 1970's and early 1980's, and the State was relatively unaffected by the 1981–82 recession. More recently, however, lower energy prices have contributed to a deterioration in the State's job market. Jobless rates in early 1986 were above the national average, housing prices were weak, and housing foreclosure rates were the highest in the country.[32] Similar examples of energy-price induced boom and bust economies can be seen in Alaska, Wyoming, and several other States in the Mountain and West South Central regions.

While defense expenditures and energy prices may be among the most visible of shock factors which are exogenous to regional economies, many other such events occur continuously. For example, foreign exchange rates, foreign policy objectives, social expenditures, and technological discoveries all affect regions differently. Thus, while certain redistribution of regional wealth and economic growth is structural in nature, unanticipated events can render many regional "power shifts" transitory.

New England's restructured economy

The key ingredient in the economic turnaround in New England probably has been time. While the deterioration of the economy in the industrial Midwest is fairly recent, New England had begun a period of "deindustrialization" at least four decades ago. The region's economy initially was dominated by textiles; in 1950, for example, textiles firms employed 265,000 of the region's workers.[33] By 1984, that figure had been reduced to 50,000, both because of the early outmigration of firms to the Carolinas and the long-term structural decline in the industry nationwide. However, even as the region's economic performance deteriorated, New England already had in place many of the requirements for reindustrialization. That this process has occurred is dramatically demonstrated by the regional share indexes in table 2; over the 1973–85 period, New England's performance in nondurable goods was the worst in the Nation, while that in durables was nearly the best. Time and certain other prerequisites have allowed a major industrial restructuring of the region's economy.

What were the prerequisites for the reindustrialization of New England? John Hekman and John Strong suggest that development of a high technology industrial region is most likely when three factors are at work—a strong research, or scientific, component; industrial experience; and financial resources.[34] In tracking New England's development, the authors cite the region's strong historical standing in all three areas.

The Massachusetts Institute of Technology was founded in the 19th century partly as a way of advancing industrial technology. By the early 1900's, the relationship between MIT and the area's industry was beginning to make original scientific contributions in the areas of electrical and chemical engineering. Many companies in the region were formed or expanded based on the skills and discoveries of MIT-trained scientists.

Because scientific manpower tends to be in short supply, high tech firms cluster around academic centers. Many

Table 5. Average residential and industrial energy prices by region, 1970 and 1980

[Dollars per billion BTU's]

Region	1970	1980	Percentage increase, 1970–80
Residential:			
United States	$1,403	$4,472	219
Northeast	1,598	5,808	263
Midwest	1,430	4,388	207
South	1,411	4,136	193
West	1,098	3,603	228
Industrial:			
United States	628	3,166	403
Northeast	847	4,256	402
Midwest	723	3,130	333
South	462	2,795	505
West	651	3,167	386

SOURCE: *National and State Energy Expenditures 1970–1980* (Washington, Northeast-Midwest Institute, July 1981).

firms are then spawned from these early enterprises, and these start-ups virtually never involve relocation.[35] One reason is that new firms need access to the same limited pool of technical manpower. Thus, the regional manpower advantage of a major academic center is in product design and development, not necessarily in the production phase.

For over a century, New England has been on the cutting edge of new technology—in the manufacture of textiles, guns, and machine tools, for example, and later, in applications of electricity. Some older firms have continued their technological innovations into today's high tech fields; others can trace their lineage back to those firms.[36] Thus, to some extent it is inaccurate to describe today's high-tech firms as having "chosen" to locate in New England. To a large degree, they were already there.

One reason for the continuation of the region's tradition of industrial innovation is that it has remained a center for venture capital. Not only are the region's banks and other major financial institutions more inclined toward venture finance than those in other areas, but the region has also been a leader in the formation of venture capital firms. And, in another example of the university-business link, some academic institutions, such as Harvard and MIT, have been actively involved in risk financing.[37] Conversely, the lack of venture capital has been cited as an impediment to the growth of high tech firms in other regions, such as the Southeast.[38]

New England was hit very hard by the 1973–75 recession, in large part because of the combined effects of the oil price increases and earlier defense cutbacks. However, this overall weakness tended to obscure the fact that certain of the region's industries were expanding. Many of the budding high tech firms were little affected by the downturn. As these firms matured, they entered the production stages, in which labor costs begin to take on a greater role in profitability. While New England's per capita income levels have never fallen below the national average, its wage rates have been low and were driven lower by the 1969–70 and 1973–75 recessions.[39] (The reader should also note that the per capita income figures are inflated by the region's traditionally high labor force participation rates.) The evidence indicates that capital/labor ratios in New England have been very low over the study period, and firms have taken advantage of these relatively low labor costs.[40] Recently, New England and other regions have seen the movement of some production facilities to very low-wage foreign countries such as those in the Pacific Basin. This is to be expected in the highly cost-sensitive and labor-intensive mass production phase of the firms' growth cycle. What employment effect these movements will have in the future is unclear.

Another key factor most frequently cited in New England's resurgence is the overall quality of education in the area, from the public schools through the top levels of higher education. The region has higher than average rates of high school and college graduation and a disproportionately large cadre of scientific manpower.[41] Bernard Wei stein and Harold Gross cite educational attainment of th population as one of the key impediments to continue growth in some Sunbelt areas and the critical factor in Ne England's prominence.[42]

Thus, New England has benefited from the close an long-standing relationship among the business, academic and financial communities. Employment growth has accelerated due to the combined influence of low real wages an a highly skilled and educated work force. At the same time slow population growth has allowed much of the region's economic expansion to show up in a rapid rise in its employment-population ratio and in declining joblessness.

While the region suffered from rising energy costs and defense cutbacks in the early 1970's, energy prices have remained soft in recent years, and the region's defense contracts have grown in the 1980's. It should be pointed out that New England's economy remains susceptible to changes in those two factors.[43] The region provides clear evidence that an area can key its growth to the manufacturing sector if its industries are innovative and government is responsive.[44]

Conclusions

Over roughly the last decade, the Nation has seen a continuation of the long-term trend of employment and population shifts from much of the Northeast and Midwest to the South and West. However, the rather poor recent performance of the East South Central region and the economic rebirth of New England demonstrate that the shift in economic power from Snowbelt to Sunbelt is far from immutable.

Many of the factors that have made the South and West so attractive to both firms and individuals are becoming less pronounced. Interregional differences in wages and cost of living have narrowed, as have differences in nonpecuniary factors of urban life—population density, pollution, crime, and congestion. Just as much of the North is affected by a declining tax base and aging infrastructure, some areas of the South have been unable to keep pace with the growing demands for new infrastructure. For example, water availability may be the "shock" factor that some day forces a halt to the Southwest's rapid growth.[45]

Other developments may place limits on growth in some rapidly expanding areas. The economies of the West South Central and Mountain regions benefited greatly from the energy boom of the 1970's and early 1980's, but have been hurt badly by the recent collapse in the price of oil. And, as mentioned earlier, the quality of education in much of the South is often perceived as a limiting factor. Also, the South's attractiveness as a low-wage area for production may be declining as the drawing power of foreign competitors increases.

None of this is to say that an economic shift back towards the North is inevitable, or even expected. Rather, the evidence suggests that regional advantage is often short-lived. The lesson of New England is that it takes time to restructure a region's economy to meet the requirements of changing national and world economic environment. But the period of decline may actually create the conditions for future growth, while the forces of growth may ultimately result in a loss of competitive edge.

A decade ago, an analysis of the future of the Northern regions' economies typically read like a eulogy. Today, the scenario of continued deterioration of the Northern areas and rapid growth in the South and West seems not nearly so inevitable. □

FOOTNOTES

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[1] Unemployment data are presented in *Employment and Earnings* and Consumer Price Index data in *CPI Detailed Report*, both published monthly by the Bureau of Labor Statistics.

[2] Kirkpatrick Sale, *Power Shift* (New York, Random House, 1975).

[3] For examples of the application of shift-share analysis, see M.F. Petrulis, "Regional Manufacturing Employment Growth Patterns," *Rural Development Research Report No. 13* (U.S. Department of Agriculture, Economics, Statistics, and Cooperative Service, June 1979); and Edgar S. Dunn, Jr., "A Statistical and Analytical Technique for Regional Analysis," *Papers and Proceedings of the Regional Science Association*, Volume 6, 1960, pp. 97–112.

[4] The three components of regional change are defined as follows:

$$E^{t+1} - E^{t} =$$

$$E^{t}\left(\left(E^{t+1}_{us}/E^{t}_{us}\right) - 1\right) \qquad \text{(National share)}$$

$$+\ \Sigma_i E^{t}_i\left(\left(E^{t+1}_{ius}/E^{t}_{ius}\right) - \left(E^{t+1}_{us}/E^{t}_{us}\right)\right) \qquad \text{(Industry mix)}$$

$$+\ \Sigma_i E^{t}_i\left(\left(E^{t+1}_i/E^{t}_i\right) - \left(E^{t+1}_{ius}/E^{t}_{ius}\right)\right) \qquad \text{(Regional share)}$$

where:

E = total regional employment;
E_i = regional employment in industry i;
E_{us} = total national employment;
E_{ius} = national employment in industry i; and
t and $t+1$ = the base and target years, respectively.

[5] The use of this technique does have several limitations. First, as applied here, the use of broad aggregate industries ignores the possible effects of industry distributions within those aggregates. For example, if a region had a higher than average proportion of durable goods industries in the base year, that would have a negative effect on the region's industry mix statistic. However, it is possible that the particular region had a very large share of employment in fast-growth durable goods industries. In that event, the industry mix statistic would paint too negative a picture of the manufacturing sector's effect on the region's industry mix. It would be unusual, however, for a region's employment mix within a broad industry group to differ so markedly from the national average as to change the sign of the industry mix statistic for that particular industry (unless, of course, if the statistic were already close to zero).

Second, because the technique must be applied over a discrete time period, the choice of the base year distribution for the industry mix statistic may bias the results. Changes in a region's industry mix over time may alter the ratio of slow- to fast-growth industries. The longer the period to which the technique is applied, the greater the effect of a change in a region's industry mix relative to a national average. A check of the data used here shows that this potential problem has little effect. The industry mix statistics for the most recent period, 1979 to 1985, show essentially the same pattern as those for the entire 1973–85 span, although the levels are much smaller because they have a much smaller regional employment growth to explain. Thus, regional industry distributions have not changed in a pattern markedly dissimilar to that of the entire Nation.

[6] Unlike individual industries, the regional totals are affected by industry mix in that they reflect the growth rates in each industry, weighted for the change in the relative size of the industry. The top line totals thus incorporate the (usually small) effects of industry mix—that is, they measure the combined effects of regional share and industry mix.

[7] Robert McGee, "State Unemployment Rates: What Explains the Differences?" *Quarterly Review* (Federal Reserve Bank of New York), Spring 1985, pp. 28–35.

[8] "Estimates of the Population of States: 1970 to 1983," *Current Population Reports, Population Estimates and Projections*, Series P–25, No. 957 (Bureau of the Census, October 1984).

[9] Michael J. Greenwood and Gary L. Hunt, "Migration and Interregional Employment Redistribution in the United States," *The American Economic Review*, December 1984, pp. 957–69. Regions are not equal in their ability to attract migrants by offering jobs. Greenwood and Hunt found that 10 jobs in the South or West would attract 1 more migrant than an equal number of jobs in the Northeast or North Central regions, indicating some nonpecuniary component to migration.

[10] Greenwood and Hunt, "Migration," p. 957.

[11] "Geographic Mobility, March 1982 to March 1983," *Current Population Reports, Population Characteristics*, Series P–20, No. 393 (Bureau of the Census, October 1984).

[12] Employment data are from the Current Employment Statistics Survey. Population data are derived from "Estimates of the Population of States: 1970 to 1983," *Current Population Reports, Population Estimates and Projections*, Series P–25, No. 957 (Bureau of the Census, October 1984) and preliminary 1985 data.

[13] Employment-population ratios for 1984 are from *Geographic Profile of Employment and Unemployment, 1984*, Bulletin 2234 (Bureau of Labor Statistics, May 1985). Employment-population ratios for 1973 are unpublished BLS data.

[14] Bernard L. Weinstein, Harold T. Gross, and John Rees, *Regional Growth and Decline in the United States* (New York, Praeger, 1985), p. 49.

[15] Lynn E. Brown, "Narrowing Regional Income Differentials: II," *New England Economic Review* (Federal Reserve Bank of Boston), November/December 1980, pp. 40–59.

[16] Mancur Olson, "The South Will Fall Again: The South as Leader and Laggard in Economic Growth," *Southern Economic Journal*, April 1983, pp. 917–32; and Charles R. Hulten and Robert M. Schwab, "Regional Productivity and Growth in U.S. Manufacturing: 1951–78," *The American Economic Review*, March 1984, pp. 152–62.

[17] Olson, "The South," p. 917.

[18] Lynn E. Brown, "How Different are Regional Wages? A Second Look," *New England Economic Review* (Federal Reserve Bank of Boston), March/April 1984, pp. 40–47.

[19] This phenomenon is discussed in Bernard Okun and Richard W. Richardson, "Regional Income Inequality and Internal Population Migration," in John Friedman and William Alonso, eds., *Regional Development and Planning, A Reader* (Cambridge, MA, the MIT Press, 1964), pp. 303–18.

[20] See, for example, James P. Miller, "Manufacturing Relocations in the United States," in Richard B. McKenzie, ed., *Plant Closing: Public or Private Choices* (Washington, Cato Institute, 1982), pp. 19–36; and Carol L. Jusenius and Larry C. Ledebur, "Where Have All the Firms Gone? An Analysis of the New England Economy," in the same volume, pp. 65–104.

[21] See, for example, Fantus Company, *Comparative Business Climate Study* (Chicago, Illinois Manufacturer's Association, 1975); and Alexander

Grant & Co., *The Fourth Study of General Manufacturing Business Climates* (Chicago, Alexander Grant & Co., 1983).

[22] Lynn E. Brown, Peter Mieszkowski, and Richard F. Syron, "Regional Investment Patterns," *New England Economic Review* (Federal Reserve Bank of Boston), July/August 1980, pp. 5–23.

[23] Weinstein, Gross, and Rees, *Regional Growth*, p. 45, from W.W. Rostow, *The Stages of Economic Growth* (Cambridge, Cambridge University Press, 1960).

[24] William H. Miernyk, *The Changing Structure of the Southern Economy* (Research Triangle Park, NC, Southern Growth Policies Board, 1977), p. 18.

[25] Sale, *Power Shift*, p. 25.

[26] Lynn E. Brown and John S. Hekman, "New England's Economy in the 1980's," *New England Economic Review* (Federal Reserve Bank of Boston), January/February 1981, pp. 5–16. See p. 8.

[27] Hans H. Landsberg, "Energy 'Haves' and 'Have-Nots'," in Kent A. Price, ed., *Regional Conflict and National Policy* (Washington, Resources for the Future, Inc., 1982), pp. 52–53.

[28] *Ibid*., p. 53.

[29] *Ibid*., p. 55.

[30] Weinstein, Gross, and Rees, *Regional Growth*, p. 63.

[31] State unemployment rates come from *Geographic Profiles of Employment and Unemployment*, published annually by the Bureau of Labor Statistics.

[32] Bernard L. Weinstein and Harold T. Gross, "The Frost Belt's Revenge," *The Wall Street Journal*, Nov. 19, 1985, p. 30.

[33] Brown and Hekman, "New England's Economy," p. 7.

[34] John S. Hekman and John S. Strong, "The Evolution of New Engl
Industry," *New England Economic Review* (Federal Reserve Bank
Boston), March/April 1981, pp. 35–46.

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Pamela V. Whigham, "High Technology: The Southeast Reaches Our
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September 1983, pp. 4–16. See p. 13.

[36] *Ibid*., p. 40–43.

[37] *Ibid*., p. 44–46.

[38] Koch and others, "High Technology," p. 13.

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[40] James M. Howell and Linda M. Frankel, "Economic Revitalizatio
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sented at the American Enterprise Institute/Institut La Boetie Conference
Paris, France, October 24–25, 1985.

[41] Lynn E. Brown, "A Quality Labor Supply," *New England Economi
Review* (Federal Reserve Bank of Boston), July/August 1981, pp. 19–36

[42] Weinstein and Gross, "The Frost Belt's Revenge."

[43] Brown and Hekman, "New England's Economy in the 1980's," p. 15.

[44] See regional share indexes for government employment in New England.

[45] William Ashworth, *Nor Any Drop to Drink* (New York, Summit Books, 1982).

A note on communications

The *Monthly Labor Review* welcomes communications that supplement, challenge, or expand on research published in its pages. To be considered for publication, communications should be factual and analytical, not polemical in tone. Communications should be addressed to the Editor-in-Chief, *Monthly Labor Review*, Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C. 20212.

The revised Consumer Price Index: changes in definitions and availability

The Consumer Price Index for January 1987 will incorporate some new series and will reflect changes in several old series; the availability of some indexes will be affected

JOHN L. MARCOOT AND RICHARD C. BAHR

The release of the January 1987 Consumer Price Index (CPI) in February will introduce updated market baskets that reflect population distributions from the 1980 census of population and spending patterns from the 1982-84 Consumer Expenditure Survey. This release will be part of a 5-year program to update the CPI market basket and incorporate numerous technical enhancements.[1]

Although the CPI is a measure of price change for a market basket of constant quality and quantity, it also needs to retain its relevance to consumers' experience by pricing items currently purchased. New consumer purchasing patterns occur as a result of changes in a number of factors, such as relative prices, income, tastes, demographic characteristics, technological changes, and population shifts. Thus, periodic revisions of the CPI are necessary to incorporate updated versions of the market basket.

This article is one of a series that provides detailed information about the CPI revision. It highlights the changes that will occur in the availability and in the definitions of indexes. Many of the changes derive from shifts that have occurred in the spending patterns of the American public. Nearly five decades of spending patterns as reflected in the CPI expenditure weighting patterns and the corresponding relative importance of major groups are shown in table 1. A later article will discuss the new expenditure weights in detail.

Item indexes

One clear trend in consumer spending has been a reduction in the relative importance of expenditures for food, especially grocery food. Although it is not immediately obvious from the data in table 1, there have been corresponding increases in importance for new products and services such as video recorders and day care. To ensure the most accurate CPI possible, it has been necessary to allocate more pricing and calculation resources to these new and growing expenditure categories, with the correlative result that proportionately fewer resources will be available for items of declining importance. This means new indexes for previously unpriced products will become available. But it also means that there will be some reduction in product detail for expenditure categories with declining relative importance. The discontinuation of an index does not mean that the item is no longer priced for the CPI. All of the previously priced items will continue to be priced, but with much smaller samples. The relative proportions that these items constitute of the new combined strata (class of similar items) to which they are assigned will also be subject to annual updating through the sample rotation process.[2]

Exhibit 1 summarizes the definitions for new item indexes and explains the definitional changes that some other indexes are undergoing. These definitional changes arise from the need to combine some previously separate items, the addition of some previously unpriced items, and conceptual or coverage changes which enhance the measurement or interpretation of the index.

Some of the items that are being discontinued as separate

John L. Marcoot is the manager of the CPI Revision Program and Richard C. Bahr is an economist in the Office of Prices and Living Conditions, Bureau of Labor Statistics.

item strata because of their reduced relative importance have significant applications independent of their use in the CPI. To accommodate users of these indexes, BLS will continue to publish a limited number of them as special sub-strata CPI-U indexes. These sub-strata indexes will be based on extremely small samples and will be less reliable than the pre-1987 numbers. Footnote 3 lists the item strata that are being discontinued and indicates whether a corresponding sub-strata index will be available.[3]

Beginning with the CPI-U for January 1983, BLS adopted an improved method—called rental equivalence—for estimating homeowner shelter costs.[4] (The change was made in January 1985 for the CPI-W.) The 1987 CPI revision continues the definitional and coverage features associated with that change. In addition, it incorporates two new refinements consistent with that change. First, the new index for materials, supplies, and equipment for home repairs, which combines three more detailed old indexes, will include for pricing only those types of items that would be purchased by tenants and exclude those typically purchased by landlords for major repairs or capital improvements. Second, the rental value of owner-used vacation property is included in lodging while out of town.

The definitional treatment of premium costs for health care insurance will have a change which will affect the structure of the expediture weights for health insurance, but not the methodology for estimating price changes affecting the costs of health insurance. Beginning with January 1987, the CPI will define the cost of health insurance as the portion of premium payments which is retained by the insurer in the form of profits and operating expenses. The portion of the premium which is either paid directly by the insurer to health care providers or as reimbursements to policyholders will no longer be defined as a health insurance expenditure, but rather as a direct medical care expenditure.

This definitional change will slightly modify the method used for estimating changes in health insurance premiums. An indirect method has been used to estimate the changes in costs of health insurance. The expenditure for health insurance has been defined as total consumer premium payments. The price change for these premiums has been e mated with a combination of the changes in cost for cove medical services and the changes in premium retained insurers for operating costs and profit.[5]

The revised definition will result in the portion of health insurance expenditure that is paid as benefits by insurer being included in the directly priced medical ca strata, for example, physician services, hospital room, a eye care. The result of this treatment is that the expenditu weights of these directly priced medical care strata will increased, and they will also receive a greater proportion the price quotations in the CPI. The expenditure weight f health insurance will represent only the portion of the pr mium retained by the insurers, and changes in its costs wi continue to be estimated using an indirect pricing procedur that relies both on CPI changes for covered medical expense and secondary data on premiums retained by insurers. Thi definitional change will result in the discontinuation of th index for "Other medical care services."

Local area indexes

As announced in 1984, BLS has allocated the price quotation samples among the 91 pricing areas in a sample desigr which will produce the most accurate national CPI possible with the funds authorized. The decision to improve the national CPI estimate will reduce the frequency of publication for some areas. Beginning in 1987, semiannual average indexes will replace bimonthly indexes for 12 currently published areas. (See table 2.) These semiannual average indexes, which are the averages of the 6-month periods from January through June and from July through December, will be published with the release of the July CPI in August and the January CPI in February.

The method of calculating the averages for a semiannual average index derives from the one currently used for calculating annual average indexes which BLS publishes at the end of each year. Because monthly and bimonthly indexes are not published in those areas, the first step will be intermediate monthly and bimonthly calculations for use in the average computation. For those items which are priced monthly,

Table 1. The Consumer Price Index market basket by major expenditure group and benchmark year

[Percent distribution]

Major group	Wage earners and clerical workers (CPI-W)						All urban consumers (CPI-U)		
	1939[1]	1952[2]	1963[3]	1977[4]	1984[5]	1982–84[6]	1977[4]	1982[5]	1982–84[6]
Food and beverages	35.4	32.2	25.2	20.5	21.3	20.1	18.8	20.1	18.0
Housing	33.7	33.5	34.9	40.7	34.9	39.2	43.9	37.7	42.2
Apparel	11.0	9.4	10.6	5.8	5.0	6.5	5.8	5.2	6.6
Transportation	8.1	11.3	14.0	20.2	24.1	21.2	18.0	21.8	18.9
Medical care	4.1	4.8	5.7	4.5	5.6	3.9	5.0	6.0	4.7
Entertainment	2.8	4.0	3.9	3.9	3.9	4.1	4.1	4.2	4.5
Other goods and services	4.9	4.8	5.7	4.4	5.2	5.0	4.4	5.0	5.1

[1] Relative importance for the expenditure survey period 1934–36 updated for price change.

[2] Relative importance for the expenditure survey period 1950 updated for price change.

[3] Relative importance for the expenditure survey period 1960–61 updated for price change.

[4] Relative importance for the expenditure survey period 1972–73 updated for price change.

[5] Relative importance for the expenditure survey period 1972–73 with the rental equivalence approach to homeowners' costs updated for price change. The rental equivalence approach to homeowners' costs was introduced into CPI-U effective January 1983 and into the CPI-W effective January 1985.

[6] Relative importance for the expenditure survey period 1982–84. Revised indexes which require expenditure weights updated for price change between the survey period and December 1986 will differ from those shown.

Exhibit 1. Title and definition changes in the Consumer Price Index, beginning with January 1987 data

New series title	Definition change
Food and beverages	
Fresh other breads, biscuits, rolls, and muffins[1]	Combines "Other breads" and "Fresh biscuits, rolls, and muffins."
Cookies, fresh cakes, and cupcakes[1]	Combines "Fresh cakes and cupcakes" and "Cookies."
Other bakery products[1]	Combines "Fresh sweetrolls, coffeecake, and donuts" and "Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers."
Ham[1]	Combines "Ham other than canned" and "Canned ham."
Other pork, including sausage[1]	Combines "Sausage" and "Other pork."
Other dairy products, including butter[1]	Combines "Butter" and "Other dairy products."
Oranges, including tangerines (Old title—Oranges)	Adds tangerines.
Other fresh fruits (Old title—Same)	Excludes tangerines.
Fruit juices and frozen fruit[1]	Combines "Frozen fruit and fruit juices" and "Fruit juices other than frozen."
Other processed vegetables[1]	Combines "Cut corn and canned beans except lima" and "Other canned and dried vegetables."
Sweets, including candy[1]	Combines "Candy and chewing gum" and "Other sweets."
Carbonated drinks[1]	Combines "Cola drinks, excluding diet cola" and "Carbonated drinks, including diet cola."
Coffee[2]	Combines "Roasted coffee" and "Freeze dried and instant coffee."
Seasonings, condiments, sauces, and spices[1]	Combines "Seasonings, olives, pickles, relish" and "Other condiments."
Miscellaneous prepared foods, including baby food[1]	Combines "Miscellaneous prepared foods" and "Other canned and packaged prepared foods."
Distilled spirits (at home)[1]	Combines "Whiskey (at home)" and "Other alcoholic beverages (at home)."
Housing	
Lodging while out of town (Old title—Same)	Adds the rental equivalence value of owner-used vacation property.
Materials, supplies, and equipment for home repairs	Combines "Paint and wallpaper, supplies, tools, and equipment," "Lumber, awnings, glass, and masonry," and "Plumbing, electrical, heating, and cooling supplies." Excludes capital improvements and major repair items typically provided by landlords.
Other maintenance and repair commodities (Old title—Miscellaneous supplies and equipment)	Adds hardsurface floor covering and landscaping items not previously priced.
Other household fuel commodities (Old title—Same)	Adds wood, charcoal, and peat not previously priced.
Other video equipment	Consists of video cameras, recorders, players, cassettes, disks, and related equipment.
Major household appliances	Consists of index series titles: "Refrigerator and home freezer;" "Laundry equipment;" and "Stoves, ovens, dishwashers, and air conditioners."
Stoves, ovens, dishwashers, and air conditioners	Combines parts of "Stoves, dishwashers, vacuums, and sewing machines" and "Office machines, small electric appliances, and air conditioners."
Information processing equipment	Consists of home computers, telephones, and other electronic and office equipment for nonbusiness use.
Other housefurnishings	Consists of index series titles: (1) "Floor and window coverings, infants', laundry, cleaning, and outdoor equipment;" (2) "Clocks, lamps, and decor items;" (3) "Tableware, serving pieces, and nonelectric kitchenware;" (4) "Lawn equipment, power tools, and other hardware;" and (5) "Sewing, floor cleaning, and small kitchen and portable heating appliances."
Sewing, floor cleaning, and small kitchen and portable heating appliances	Combines parts of "Stoves, dishwashers, vacuums, and sewing machines" and "Office machines, small electric appliances and air conditioners."
Lawn equipment, power tools, and other hardware (Old title—Same)	Adds hand tools.
Laundry and cleaning products including soap[1]	Combines "Soaps and detergents" and "Other laundry and cleaning products."
Household paper products and stationery supplies[1]	Combines "Cleansing and toilet tissue, paper towels, and napkins" and "Stationery, stationery supplies, and giftwrap."
Other household, lawn, and garden supplies[1]	Combines "Miscellaneous household products" and "Lawn and garden supplies."

Exhibit 1. Continued—Title and definition changes in the Consumer Price Index, beginning with January 1987 data

New series title	Definition change
Gardening and other household services	Combines "Moving, storage, freight, household laundry and dry cleaning services" with "Gardening and lawn care services," which was previously unpublished.
Indoor plants and fresh flowers	
Care of invalids, elderly and convalescents in the home	Not published initially; will be published when sample is adequate.
Apparel	
Men's suits, sport coats, coats, and jackets[1]	Combines "Men's suits, sportcoats, and jackets" and "Men's coats and jackets."
Women's underwear, nightwear, hosiery, and accessories (Old title—Women's underwear, nightwear, and hosiery)	Adds women's accessories.
Sewing materials, notions, and luggage	Combines "Sewing materials and notions" with part of "Jewelry and luggage."
Watches	Formerly was part of "Jewelry and luggage."
Jewelry	Formerly was part of "Jewelry and luggage." Excludes watches.
Transportation	
New cars (Old title—Same)	Transaction expenditure not reduced by market value of vehicle traded in.
New trucks[3]	Transaction expenditure not reduced by market value of vehicle traded in.
New motorcycles	Transaction expenditure not reduced by market value of vehicle traded in.
Used cars (Old title—Same)	Purchase of used cars from the business sector. Excludes value of used cars sold or traded by consumers.
Automobile registration, licensing; and inspection fees[1]	Combines "State registration," "Automobile inspection," "Local registration" (unpublished), and "Drivers' license."
Other automobile related fees (Old title—Same)	Adds rentals of vehicle equipment.
Other intercity public transportation[1]	Combines "Intercity bus fares" and "Intercity train fares"
Intracity public transportation[1]	Combines "Intracity mass transit" and "Taxi fare."
Medical care	
Prescription drugs (Old title—Same)	Adds benefits paid by consumer-purchased insurance.
Nonprescription drugs and medical supplies (Old title—Same)	Excludes eyeglasses.
Physicians' services (Old title—Same)	Adds benefits paid by consumer-purchased insurance.
Dental services (Old title—Same)	Adds benefits paid by consumer-purchased insurance.
Eye care	Includes all consumer out-of-pocket expenses for eye care commodities and services as well as benefits paid by consumer-purchased insurance.
Services by other medical professionals	Includes services rendered by therapists, nurses, and other practitioners including both out-of-pocket expenses and benefits paid by consumer purchased insurance.
Hospital and related services (Old title—Hospital and other medical services)	Adds previously unpriced outpatient hospital services.
Hospital room (Old title—Same)	Adds benefits paid by consumer-purchased insurance.
Other inpatient services	Consists of other hospital and inpatient services including nursing and convalescent home service, paid out of pocket as well as benefits paid by consumer-purchased insurance.
Outpatient services	Consists of emergency room services, laboratory fees, and x-rays, including both out-of-pocket expenses and benefits paid by consumer purchased insurance.
Health insurance (unpublished) (Old title—Same)	Portion of premium paid by consumer not paid out in benefits.
Entertainment	
Sport vehicles, including bicycles[1]	Combines "Sport vehicles" and "Bicycles."
Other sporting goods[1]	Combines "Indoor and warm weather sport equipment" and "Other sporting goods and equipment" as well as equipment for water sports.
Club memberships	Formerly part of "Fees for participant sports."
Fees for participant sports, excluding club memberships	Portion of "Fees for participant sports" exclusive of club membership dues and fees.
Fees for lessons or instructions	Formerly part of "Other entertainment services."
Other entertainment services (Old title—Same)	Includes film processing, photographer fees, veterinarian services, pet services, and rental of miscellaneous entertainment equipment.

Exhibit 1. Continued—Title and definition changes in the Consumer Price Index, beginning with January 1987 data

New series title	Definition change
Other goods, services	
Tobacco and smoking products (Old title—Tobacco products)	
Other toilet goods and small personal care appliances, including hair and dental products[1]	Combines "Products for the hair, hairpieces, and wigs;" "Dental and shaving products;" and "Other toilet goods and small personal appliances."
Child daycare/nursery school	Not published initially; will be published when sample is adequate.
Technical and other tuition	Not published initially; will be published when sample is adequate.
Legal fees	Consists of the legal fees portion of "Personal expenses."
Banking and accounting expenses	Consist of the safe deposit box rental and bank service charge portion of "Personal expenses" plus fees for accounting services not previously priced.
Funeral expenses	Consist of the funeral services portion of "Personal expenses" plus charges for cemetery lots and vaults not previously priced.

[1] Historical data available back to January 1978.

[2] Historical data available back to January 1967.

[3] Historical data available back to January 1984.

such as food at home, an intermediate monthly calculation will be prepared for each of the 6 months. These six calculated numbers will be summed and then divided by six to obtain the semiannual index. A similar but more complex technique is used for items priced bimonthly in each area. An intermediate calculation will be compiled for each of the 3 months that items are actually priced during the 6-month period. The monthly calculation for each of the other 3 months will be interpolated by calculating a geometric mean of the months adjacent to the one being estimated. For example, in an area priced in even-numbered months, a January interpolation would be estimated by taking the geometric mean between the indexes calculations for December and February. Interpolations would be made in a similar manner for March and May. The three intermediate numbers for February, April, and June, calculated with collected prices, would be summed with the three interpolations and divided by six to obtain the semiannual average index for the first 6 months of the calendar year.

The calculation of semiannual indexes for areas in which bimonthly items are priced only in odd-numbered months would use the same methodology except that the data for February, April, and June would be interpolated by using the geometric mean between the calculations for their adjacent months. For example, the June interpolation would be estimated from the calculations made for May and July.

Although BLS will calculate semiannual indexes for these 12 areas from intermediate estimates of monthly data, the samples are much too small to produce a reliable bimonthly or monthly estimate of price change. Estimates based on a small number of observations in a single month would be subject to extremely high volatility resulting primarily from sampling error. The averaging of 6 months of price data increases the reliability of the estimate. The new semiannual index estimates of price change will be as accurate as the old bimonthly index estimates which they replace for the 12 local areas identified in table 2.

The BLS has systematically advised users that local area CPI's (including the new semiannual averages) are subject to substantially more statistical error and variability than the national index. As a result, local indexes should not be used in escalation provisions. Some individuals may have already adopted escalation clauses using one of the local indexes that will change from bimonthly to semiannual publication. After the data for December 1986, it will not be possible to use individual monthly estimates for these 12 areas, and parties to agreements using these indexes may want to agree on some alternative. BLS does not provide contract interpretation assistance but can provide limited technical assistance for transition, if requested by both parties to an agreement.

The use of the new Consolidated Metropolitan Statistical Area (CMSA) definitions, issued by the Office of Management and Budget, resulted in a number of the published areas becoming larger in terms of their sampled geography.[6] Of the 27 local areas to be published, 5 (Anchorage, Buffalo-Niagara Falls, Honolulu, Milwaukee, and San Diego) did not have changes to the geographic coverage currently being priced by BLS. Only Dallas-Fort Worth became smaller, with Wise County being removed from the official definition.

Several areas have had significant expansions of their sampled geography. For example, the New York area now includes Danbury and other parts of Connecticut; the Philadelphia area has added Wilmington and Trenton;

Table 2. Consumer Price Index sample areas and regions, by size classes, publication schedule, and 1980 and 1970 population weights

Sample areas or counties	Publication schedule	1980 CPI population weight		1970 CPI population weight	
		CPI-U	CPI-W	CPI-U	CPI-W
Northeast region					
Metropolitan areas of 1.2 million and above	Monthly	23.997	22.967	26.521	27.468
New York-Northern New Jersey-Long Island, NY-NJ-CT	Monthly	16.241	15.150	16.743	17.452
New York portion:	Monthly	9.252	8.426	10.006	10.401
Bronx, Kings, New York, Queens, Richmond, Nassau, Orange, Putnam, Rockland, Suffolk, Westchester					
New Jersey portion:					
Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union					
Connecticut portion:					
Fairfield, Litchfield (part), New Haven (part)					
Philadelphia-Wilmington-Trenton, PA-DE-NJ-MD	Monthly	2.920	2.834	2.825	3.023
Pennsylvania portion:					
Bucks, Chester, Delaware, Montgomery, Philadelphia					
New Jersey portion:					
Burlington, Camden, Cumberland, Gloucester, Mercer, Salem					
Delaware portion:					
New Castle					
Maryland portion:					
Cecil					
Boston-Lawrence-Salem, MA-NH	Bimonthly[1]	2.141	1.884	1.737	1.658
Massachusetts portion:					
Bristol (part), Essex, Middlesex (part), Norfolk (part), Plymouth (part), Suffolk, Worcester (part)					
New Hampshire portion:					
Hillsborough (part), Rockingham (part)					
Pittsburgh-Beaver Valley, PA	Bimonthly[2]	1.276	1.327	1.403	1.510
Allegheny, Beaver, Fayette, Washington, Westmoreland					
Buffalo-Niagara Falls, NY	Semiannually	.653	.678	.772	.860
Erie, Niagara					
Northeast metropolitan areas of 500,000 to 1.2 million	Monthly	3.579	3.663	4.331	4.473
Northeast metropolitan areas of 75,000 to 500,000	Monthly	3.098	3.124	3.688	3.800
Northeast nonmetropolitan areas of 2,500 to 75,000	None	1.080	1.030	1.759	1.743
North Central region					
Metropolitan areas of 1.2 million and above[3]	Monthly	24.606	26.795	26.506	28.663
Chicago-Gary-Lake County, IL-IN-WI	Monthly	13.262	14.665	12.982	14.691
Illinois portion:	Monthly	4.039	4.550	4.436	5.180
Cook, Du Page, Grundy, Kane, Kendall, Lake, McHenry, Will					
Indiana portion:					
Lake, Porter					
Wisconsin portion:					
Kenosha					
Detroit-Ann Arbor, MI					
Lapeer, Livingston, Macomb, Oakland, St Clair, Washtenaw, Wayne	Bimonthly[2]	2.363	2.587	2.497	2.833
St Louis-East St Louis, MO-IL					
Missouri portion:	Bimonthly[1]	1.201	1.208	1.376	1.511
Franklin, Jefferson, St Charles, St Louis, St Louis City					
Illinois portion:					
Clinton, Jersey, Madison, Monroe, St Clair					
Cleveland-Akron-Lorain, OH					
Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, Summit	Bimonthly[1]	1.478	1.675	1.208	1.391
Minneapolis-St Paul, MN-WI					
Minnesota portion:	Semiannually	1.155	1.228	1.118	1.148
Anoka, Carver, Chisago, Dakota, Hennepin, Isanti, Ramsey, Scott, Washington, Wright					
Wisconsin portion:					
St Croix					
Milwaukee, WI					
Milwaukee, Ozaukee, Washington, Waukesha	Semiannually	.740	.851	.803	.918
Cincinnati-Hamilton, OH-KY-IN					
Ohio portion:	Semiannually	.855	.946	.787	.865
Butler, Clermont, Hamilton, Warren					
Kentucky portion:					
Boone, Campbell, Kenton					
Indiana portion:					
Dearborn					
Kansas City, MO-Kansas City, KS					
Missouri portion:	Semiannually	.754	.859	.757	.845
Cass, Clay, Jackson, Lafayette, Platte, Ray					
Kansas portion:					
Johnson, Leavenworth, Miami, Wyandotte					
North Central metropolitan areas of 360,000 to 1.2 million	Monthly	3.189	3.683	3.912	4.320
North Central metropolitan areas of 75,000 to 360,000	Monthly	5.076	5.377	5.360	5.521
North Central nonmetropolitan areas of 2,500 to 75,000	Monthly	3.081	3.050	4.254	4.131

Table 2. Continued—Consumer Price Index sample areas and regions, by size classes, publication schedule, and 1980 and 1970 population weights

Sample areas or counties	Publication schedule	1980 CPI population weight		1970 CPI population weight	
		CPI-U	CPI-W	CPI-U	CPI-W
Southern region	Monthly	30.097	30.287	27.794	26.289
Metropolitan areas of 1.2 million and above[3]	Monthly	10.304	10.279	7.298	7.477
Washington, DC-MD-VA District of Columbia portion: Washington, DC Maryland portion: Calvert, Charles, Frederick, Montgomery, Prince Georges Virginia portion: Arlington, Fairfax, Loudoun, Prince William, Stafford, Alexandria City, Fairfax City, Falls Church City, Manassas City, Manassas Park City	Bimonthly[1]	1.766	1.489	1.786	1.621
Dallas-Fort Worth, TX Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, Tarrant	Bimonthly[2]	1.556	1.793	1.405	1.538
Baltimore, MD Anne Arundel, Baltimore, Carroll, Harford, Howard, Queen Annes, Baltimore City	Bimonthly[1]	1.124	1.164	1.201	1.316
Miami-Ft. Lauderdale, FL Broward, Dade	Bimonthly[1]	1.526	1.267	.831	.783
Houston-Galveston-Brazoria, TX Brazoria, Fort Bend, Galveston, Harris, Liberty, Montgomery, Waller	Bimonthly[2]	1.621	1.974	1.147	1.277
Atlanta, GA Barrow, Butts, Cherokee, Clayton, Cobb, Coweta, De Kalb, Douglas, Fayette, Forsyth, Fulton, Gwinnett, Henry, Newton, Paulding, Rockdale, Spalding, Walton	Semiannually	1.118	1.234	.928	.942
Southern metropolitan areas of 450,000 to 1.2 million	Monthly	7.938	8.272	7.883	7.539
Southern metropolitan areas of 75,000 to 450,000	Monthly	7.881	7.813	7.700	6.662
Southern nonmetropolitan areas of 2,500 to 75,000	Monthly	3.973	3.923	4.913	4.611
Western region	Monthly	21.299	19.952	19.177	17.580
Metropolitan areas of 1.2 million and above[3]	Monthly	14.116	13.548	9.319	8.877
Los Angeles-Anaheim-Riverside, CA Orange, Riverside, San Bernardino, Los Angeles, Ventura	Monthly	6.291	6.201	5.443	5.362
San Francisco-Oakland-San Jose, CA Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma	Monthly	3.156	2.855	2.131	1.984
Seattle-Tacoma, WA King, Pierce, Snohomish	Semiannually	1.193	1.196	.890	.893
San Diego, CA San Diego	Semiannually	.987	.803	.855	.638
Portland-Vancouver, OR-WA Oregon portion: Clackamas, Multnomah, Washington, Yamhill Washington portion: Clark	Semiannually	.744	.771	.627	.625
Denver-Boulder, CO Adams, Arapahoe, Boulder, Denver, Douglas, Jefferson	Semiannually	.929	.945	.750	.725
Western metropolitan areas of 330,000 to 1.2 million[3]	Monthly	2.787	2.550	4.915	4.561
Honolulu, HI Honolulu	Semiannually	.320	.298	.344	.327
Western metropolitan areas of 75,000 to 330,000[3]	Monthly	2.611	2.301	3.028	2.506
Anchorage, AK Anchorage Borough	Semiannually	.086	.077	.070	.037
Western nonmetropolitan areas of 2,500 to 75,000	None	1.785	1.553	1.915	1.636
All metropolitan areas over 1.2 million	Monthly	53.922	53.661	46.342	48.497
Midsized metropolitan areas Northeast: 500,000 to 1.2 million North Central: 360,000 to 1.2 million South: 450,000 to 1.2 million West: 330,000 to 1.2 million	Monthly	17.493	18.168	21.041	20.893
Small metropolitan areas Northeast: 75,000 to 500,000 North Central: 75,000 to 360,000 South: 75,000 to 450,000 West: 75,000 to 330,000	Monthly	18.666	18.616	19.776	18.489
All nonmetropolitan areas 2,500 to 75,000	Monthly	9.919	9.555	12.841	12.121

[1] Odd months (Jan., Mar., May, July, Sept., Nov.).

[2] Even months (Feb., Apr., June, Aug., Oct., Dec.).

[3] Includes areas not identified separately.

NOTE: The size class boundaries have changed since 1978. As shown above, the boundaries between the midsized and small areas are variable. Previously, the limits were 1.25 million and above; midsized—385,000 to 1.25 million; small—75,000 to 385,000; and less than 75,000.

Boston now includes some parts of New Hampshire; the Chicago area has three additional counties including Kenosha, WI; Houston has added Galveston; Los Angeles includes Riverside-San Bernardino; and San Francisco includes San Jose. Table 2 contains a complete list of counties for each local area with a published CPI.

Table 2 also shows the population for both the CPI-U and CPI-W in each of the publication areas as a percentage of their respective total U.S. 1980 urban population. If these weights are compared with the weights shown for 1970, one can ascertain the degree of relative population change in each area since 1970. For example, the weight for the CPI-U population in the Northeast region declined from 26.521 in 1970 to 23.997 in 1980. This decline reflects the faster growth rate of the population of the South and West in recent years, compared with the Northeast. Even though the New York area has expanded since 1970, its relative population weight has declined.

The population weight for the San Francisco-Oakland-San Jose area has become larger than that for the Detroit-Ann Arbor area. Based on population growth since 1970 and the expansion of its definition, the San Francisco area has superseded the Detroit area as the fifth largest area covered by the CPI indexes. For that reason, the San Francisco area, beginning with data for January 1987, will be published monthly while the Detroit area will be published bimonthly (even-numbered months). The publication of indexes for Cleveland are changing from even-numbered months to odd-numbered months, D-size (that is, urban areas with populations under 75,000) strata indexes will not be published in the Northeast and West, and indexes will no longer be published for the Scranton-Northeast Pennsylvania area.

Both the CPI-U and the CPI-W for January 1987 will be linked to the present series of each index as of Decemb 1986 to provide a continuous series. For most indexes, th linking will be accomplished by setting the index levels the revised CPI with the updated expenditure weights ar samples equal to those published for the present series December 1986. Each index will move upward or dow ward from the December 1986 level in accordance wit subsequent changes in prices. The local area indexes whic are calculated and published for the odd-numbered month will be linked to their present series in November 1986 an subsequent changes in prices measured from that point i time. For new items and for those items that have undergon significant definition changes, indexes will be introduce with November or December 1986=100.

As in the past, BLS will publish selected indexes using th old expenditure weights for 6 months after the issuance o the revised CPI. Unlike earlier revisions, these overlap indexes will be calculated from the updated item, outlet, an area samples and will differ from the revised indexes onl by their expenditure weights. As a result of a number o enhancements made in the CPI during this and the previou revision, the costly activities of replacing the entire set o item, outlet, and area samples prior to the issuance of the revised CPI have been eliminated. Substantial cost reductions in the revision process were achieved by replacing only those item, outlet, and area samples which were necessary for estimating a CPI based on the 1980 population and the 1982–84 market basket of expenditures. In earlier revisions, the 6-month overlap old series indexes used not only the old expenditure weights but also the old item, outlet, and area samples. The base period for the revised CPI for January 1987 will be 1967=100, the same as for the present index. □

——FOOTNOTES——

[1] See John L. Marcoot, "Revision of the Consumer Price Index is now under way," *Monthly Labor Review*, April 1985, pp. 27–38, for a fuller description of the revision and its enhancements.

[2] See *BLS Handbook of Methods: Volume 2—The Consumer Price Index*, Bulletin 2134–2 (Bureau of Labor Statistics, 1984), p. 12, for a description of the current rotation process. The post-1986 CPI will have an even broader rotation process as described in Marcoot, "Revision of the Consumer Price Index," pp. 34–35.

[3] The following item strata are being discontinued, but a corresponding sub-strata index will be available:

Other breads
Fresh biscuits, rolls, and muffins
Fresh cakes and cupcakes
Cookies
Crackers and bread and cracker products
Fresh sweetrolls, coffee cake, and donuts
Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers
Ham other than canned
Pork sausage
Other pork
Frankfurters
Bologna, liverwurst, salami
Other lunchmeats
Lamb and organ meats
Butter
Other dairy products
Frozen fruit and fruit juices
Other fruit juices
Cut corn and canned beans except lima
Other processed vegetables
Candy and chewing gum
Other sweets
Margarine
Other fats, oils, salad dressing
Nondairy substitutes and peanut butter
Roasted coffee
Instant and freeze-dried coffee
Seasonings, olives, pickles, relish
Other condiments
Miscellaneous prepared food and baby foods
Other prepared foods
Whiskey at home
Other alcoholic beverages at home
Household linens
Curtains, drapes, slipcovers, sewing materials
Soaps and detergents
Other laundry and cleaning products
Cleansing and toilet tissue, paper towels, and napkins
Stationery, stationery supplies, and gift wrap
Men's suits, sport coats, and jackets
Men's coats and jackets
Boys' coats, jackets, sweaters, and shirts
Boys' suits, trousers, sport coats, and jackets
Girls' coats, jackets, dresses, and suits
Girls' separates and sportswear
State automobile registration
Products for hair, hair pieces, wigs

A sub-strata index will not be available for the following items:

Canned ham
Cola drinks excluding diet cola
Other carbonated drinks
Paint, wallpaper supplies, tools, equipment
Lumber, awnings, glass, masonry materials
Plumbing, electrical, heating, cooling supplies and equipment

Other property maintenance and repair commodities
Stoves, dishwashers, vacuums, and sewing machines
Office machines, small electric appliances, and air conditioners
Miscellaneous household products
Lawn and garden supplies
Moving, storage, freight, household laundry, and dry cleaning
Boys' furnishings
Girls' underwear, nightwear, hosiery and accessories
Sewing materials and notions
Driver's license
Automobile inspection
Intercity bus fares
Intercity train fares
Intracity mass transit
Taxi fare
Anti-infective drugs
Tranquilizers and sedatives
Circulatories and diuretics
Hormones, diabetic drugs, biologicals, and prescription medical supplies
Pain and symptom control drugs
Supplements, cough and cold preparations, and respiratory agents
Eyeglasses
Other professional (medical) services
Other hospital and medical care services
Sports vehicles
Bicycles
Indoor, warm weather sport equipment
Other sporting goods and equipment
Dental and shaving products
Other toilet goods and personal care appliances
Cigarettes
Other tobacco products and smoking accessories

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[4] See Robert Gillingham and Walter Lane, "Changing the treatment of shelter costs for homeowners in the CPI," *Monthly Labor Review*, June 1982, pp. 9–14; and "Changing the Homeownership Component of the Consumer Price Index to Rental Equivalence," *CPI Detailed Report*, January 1983, pp. 7–11, for descriptions of the rental equivalence method.

[5] See Marcoot, "Revision of the Consumer Price Index," pp. 36–37.

[6] Because of time constraint, the CPI area samples were drawn on preliminary new Consolidated Metropolitan Statistical Area (CMSA) definitions obtained from the Office of Management and Budget (OMB). When the official definitions were issued, several had been modified slightly. The most notable difference is that Racine, WI, was sampled as a separate area in the Class C (population of 75,000 to 385,000) stratum, whereas the final OMB definition for the Milwaukee CMSA included Racine. Similarly, Monroe County, MI, was dropped by OMB from the Toledo definition and added to Detroit.

Theories of worker satisfaction

Job satisfaction or, in its broader form, work satisfaction, is a difficult entity to define even in simplistic terms. For the individual worker, it exists when the perceived benefits of the work exceed the perceived costs by a margin deemed by the worker to be adequate under the circumstances. It is not, however, a static state and is subject to influence and modification from forces within and outside of the immediate work environment. One school of thought . . . examines the problem in terms of its extrinsic or intrinsic orientation, that is whether the worker is primarily concerned with work as a means to provide fulfillment outside of the job, or finds fulfillment in the work itself, the former perhaps tending to be more of a working-class value and the latter more of a middle-class one. Furthermore, job satisfaction is not the unitary or integrated state that the name would imply. There are multiple facets to the working state, some of which are more satisfying, or perhaps more acceptable, and others less. Job satisfaction at best describes in comparative terms some integrated mean of that state at some point in time. There is no absolute on some infinite scale. At best, we can state that at this particular time one is more satisfied with some aspect of one's job than at some other time.

—T. M. FRASER
Human Stress, Work and Job Satisfaction: A Critical Approach (Washington, International Labor Office, 1983), p. 24.

Reconciling divergent trends in real income

Growth rates in real per capita income and real family income diverged between 1970 and 1984 because the concepts and components of the two series reflected economic, social, and demographic changes in different ways

Paul Ryscavage

The real incomes of American families have not grown very much since the early 1970's. Rather, they have varied with the swings in the business cycle, and the steady increases so evident in the 1960's have been absent. But the real incomes of *individual* Americans have continued to rise. While they too were affected by the economic slowdowns, real incomes of persons have pushed upward as they did in the 1960's. The question is: Why did these trends in real incomes diverge over the last decade and a half?

Family income data are collected every year in the Current Population Survey (CPS), conducted by the Bureau of the Census. Aggregate personal income is measured each month by the Commerce Department's Bureau of Economic Analysis (BEA), and can easily be converted into a per capita income series.[1] (Income data for individuals are also collected in the CPS and a per capita series from that survey is published by the Bureau of the Census.) Both the CPS family income data and the BEA personal income data are used extensively by economists for assessing the Nation's economic well-being. The difference in their trends in recent years is disturbing and raises questions as to what has happened to real incomes.

This article first discusses these divergent trends within the context of the economic setting and components from which they emerged. We then examine the concepts underlying each measure of real income and conclude with a reconciliation of the two. (A reconciliation of the BEA per capita series is also presented.) A technical appendix with tables is found at the end of the article.

The setting and the trends

The 1970's and early 1980's were years of significant economic, social, and demographic change. The recessions during this period caused millions of workers to lose jobs. Inflation eroded incomes, with particularly strong price increases occurring during the recessions. Along with these economic developments, profound social and demographic changes, begun years before, continued and intensified. Women joined the labor force in record numbers; the incidence of single-parent families increased as the divorce rate soared; the birth rate dropped further and population growth slowed relative to the 1960's; and the baby-boom generation flooded the labor market and sought its place in society. Because of these changes and a weak economy, governments struggled to help the poor, the unemployed, the medically needy, and others. Personal and family earnings were, therefore, frequently supplemented by transfer payments, such as unemployment insurance, aid to families with dependent children, and food stamps. Many of these changes affected BEA personal income and CPS family income differ-

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Paul Ryscavage is a labor economist in the Population Division of the Bureau of the Census. The views expressed in this article do not necessarily represent those of the Bureau of the Census.

ently and caused their trends to diverge.

The divergence can be best observed when the BEA personal income series is converted into a per capita series. As shown in chart 1 and table 1, both the real BEA per capita income series and the real CPS family income series rose at an average annual rate of slightly more than 3.0 percent between 1960 and 1970.[2] In sharp contrast, real BEA per capita income continued to grow moderately, at a 1.8-percent rate, during the next 14 years while real CPS mean family income showed little growth—only 0.3 percent a year.

Differences in the levels of these two income series can be expected, of course, because one relates to the entire population and the other only to families. In 1984, for example BEA per capita income was $13,145 and CPS mean family income was $31,052. But differences in these series' trends of the magnitude that occurred in the 1970–84 period are unsettling, especially after they behaved so similarly during the 1960's.

Concepts and components

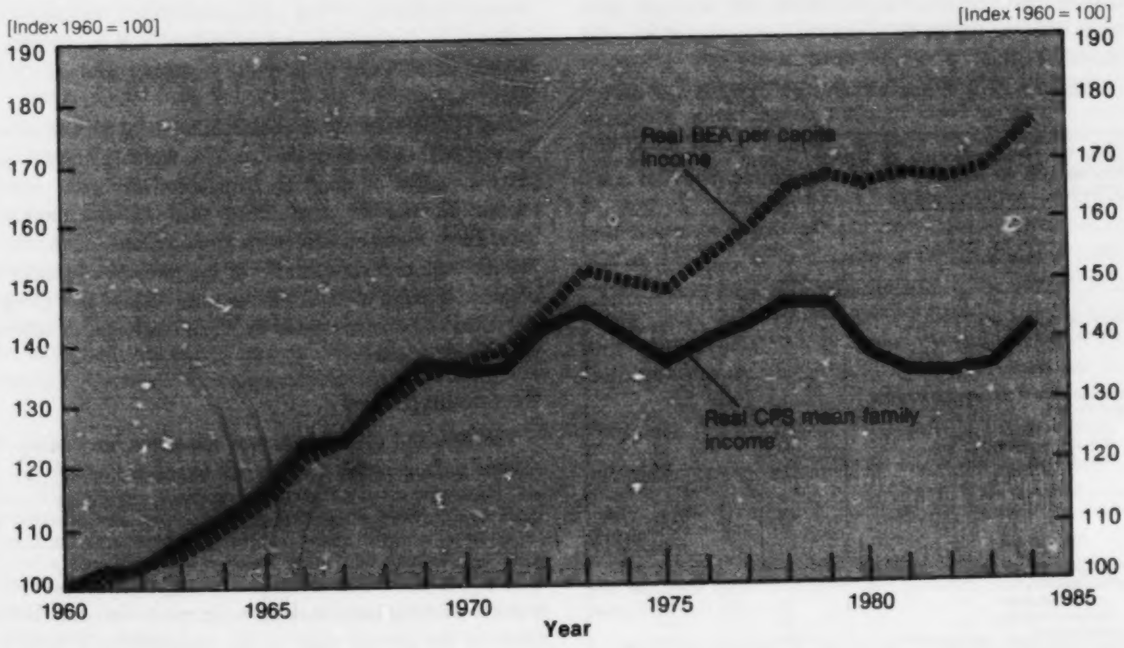
To understand why these real income measures diverged, it is important to understand the concepts behind them. As explained below, each measure has similar components, but conceptual differences exist between them.

Aggregate income. A major difference between the BEA and CPS income concepts is that BEA personal income relates to income from all sources, while CPS income relates only to money income.

The BEA series is developed from a variety of government statistics, the most important being the Federal tax records of the U.S. Department of the Treasury, the insurance files of the Social Security Administration, and the State unemployment records collected by the U.S. Department of Labor. Personal income comprises wages and salaries, including cash and in-kind payments; other labor income such as employer contributions to private pension, welfare, and workers' compensation funds; proprietors' income; the income from rental properties; dividends and interest; and government and business transfer payments (Social Security, food stamps, corporate cash prizes, and so forth). The sum of all these items minus the amounts paid by individuals for old age, survivors, disability, and health insurance (OASDHI), government retirement, and other social programs equals BEA's aggregate personal income.[3]

The CPS series is based on a sample of about 60,000 households designed to represent all households in the country. Each March, Census Bureau interviewers ask household respondents about their money income in the previous year. Important nonmoney income items excluded from the CPS

Chart 1. Indexes of real BEA per capita income and real CPS mean family income, 1960-84



series but included in the BEA series are wages received in-kind, food stamps, medicare and medicaid, the net rental value of owner-occupied homes, goods produced and consumed at home, and various fringe benefits provided by employers, such as health insurance and pension plans.[4] Most of the other income items reported in the BEA data are also collected in the CPS—money wages and salaries, self-employment income, interest and dividends, rental income, Social Security, cash transfer payments, and so on—but because this information is obtained from a sampling of households, a certain amount of income underreporting occurs.[5]

Price deflators. Another important conceptual difference between the BEA real income series and the CPS series concerns the price deflators used to convert nominal incomes into real incomes.[6]

CPS family income is converted into real dollars using the Consumer Price Index (CPI) produced by the Bureau of Labor Statistics. The CPI is obtained through direct price collection and measures price changes for a fixed market basket of goods and services (established in the 1972–73 period) that represents the average expenditures of urban consumers. BEA personal income is deflated by the implicit price deflator for personal consumption expenditures, hereafter referred to as the PCE Deflator. The weights for the commodities priced in this index are obtained in the period for which the index is to be computed. The PCE Deflator, unlike the CPI, is obtained by dividing current consumer expenditures by real, or constant dollar, expenditures. (To deflate current consumer expenditures, the BEA uses price indexes from the CPI for 85 of the 115 commodities included in the PCE Deflator.)

During the 1970's, many analysts suggested that the CPI was overstating the inflation rate when compared to the PCE Deflator. It was true that the homeownership component of the CPI (which consisted of house prices, mortgage interest, and the cost of maintaining a house) was very sensitive to the activity in the housing market and the wildly fluctuating mortgage interest rates. After a review of its pricing of homeownership, BLS concluded that its approach had investment and consumption aspects which were inconsistent with the principle that the CPI should focus only on current consumption. BLS therefore began experimenting with a rental equivalence approach—one similar to the one used in the PCE Deflator—and eventually adopted it beginning with publication of the January 1983 CPI.

Table 1. Reconciliation of trends in real BEA per capita income and in real CPS income measures, 1960–70 and 1970–84

Series and reasons for differences	Average annual rate of change (in percent)[1]	
	1960–70	1970–84
Real BEA per capita income	3.2	1.8
Real CPS family income	3.1	0.3
Total difference	0.1	1.5
Percentage points of difference due to varying growth rates in:		
Aggregate incomes	–0.1	0.8
Number of recipients	0.1	0.3
Price deflators	0.1	0.4
Real BEA per capita income	3.2	1.8
Real CPS per capita income	3.1	1.4
Total difference	0.1	0.4
Percentage points of difference due to varying growth rates in:		
Aggregate incomes	0.0	0.1
Number of recipients	0.0	–0.1
Price deflators	0.1	0.4

[1] See text footnote 2.

Table 2. Changes in components of BEA personal income and CPS family income estimates, 1960–70 and 1970–84

Year or period	Aggregate income (billions of dollars)		Income recipients (thousands)		Income deflator	
	BEA personal income	CPS family income	BEA population estimate	CPS family estimate	PCE Deflator (1982=100)	Consumer Price Index (1967=100)
1960	$ 409.4	$ 283.6	180,760	45,539	32.9	88.7
1970	831.8	580.0	205,089	52,227	42.9	116.3
1984	3,111.9	1,947.1	236,731	62,706	108.2	311.1
Average annual percent change:[1]						
1960–70	7.1	7.2	1.3	1.4	2.7	2.7
1970–84	9.4	8.7	1.0	1.3	6.6	7.0

[1] See text footnote 2.

Income recipients. The income recipients, of course, are different in the BEA per capita income and the CPS family income series. One relates to the population and the other to families.

BEA per capita income is calculated using an annual estimate of population from the CPS. This annual estimate represents averages of quarterly population estimates and includes inmates of institutions and military personnel overseas or living on post in the United States. In the family income measure, an estimate of the number of families is obtained through the CPS. Families are defined as a group of two or more persons related by birth, marriage, or adoption who reside together.

Reconciling trends

The BEA and CPS real income measures are constructed similarly. In general, they can be expressed as:

$$\overline{Y} = \frac{Y}{N \times D}$$

where $\overline{Y}$ is real mean income; Y is aggregate income; N is number of recipients; and D is the price deflator. Differences in the growth rates of the components in both real income measures were responsible for the divergent trends in real income. Indeed, it will be shown that these differences approximately equal the overall trend differences between the measures.[7] (See the appendix for a description of the reconciliation method.)

As indicated, the difference in annual growth rates in the per capita and family income series in the 1970–84 period was 1.5 percentage points. Based on the reconciliation method used in this article, about half of the trend difference, or 0.8 percentage points, was caused by different rates of growth in the aggregate incomes used in each series. Another 0.4 percentage points was the result of differential growth rates in the price deflators—the CPI and PCE Deflator—of the series. And the remaining difference of 0.3 percentage points was due to different growth rates in population and in number of families. (See table 1.) These differences are examined in detail below.

Aggregate incomes in the BEA per capita series and the CPS family income series grew at about the same average annual rate in the 1960's, but between 1970 and 1984, the BEA aggregate rose by 9.4 percent a year, compared to an 8.7-percent growth rate in the CPS aggregate (table 2). Two factors may have been responsible for the faster growth in BEA aggregate income. First, nonmoney income (such as food stamps, medicare, medicaid, and certain fringe benefits) grew rapidly in recent years, and much of the growth occurred in nonfamily households. (As mentioned earlier, nonmoney income is included under the BEA income concept, but excluded in the CPS concept.) Second, BEA aggregate income growth was also boosted by the maturing of the baby-boom generation. Many of the individuals from this group have not married, preferring to live alone or with other unrelated individuals. (The number of unrelated individuals age 25 to 34 grew from 1.8 million in 1970 to 7.3 million by 1984.) Their income is included in the BEA aggregate, but excluded from the CPS family income aggregate.

Table 2 shows that both the PCE Deflator and CPI measured inflation at the same annual rate during the 1960's—2.7 percent. Over the 1970–84 period, however, the CPI recorded a slightly faster increase in consumer prices than did the PCE Deflator, with the largest annual differences occurring in the late 1970's and early 1980's. The homeownership component of the CPI was greatly affected by the activity in the housing and money markets, and analysts have identified this component as responsible for the disparate inflation rates.[8] Consequently, use of the PCE Deflator in the BEA series would, other things equal, have less of an eroding effect on income than would the CPI in the CPS family income series.

Differences in the rates of growth of the Nation's population and families also affected the trends. As presented in table 2, the BEA estimate of population growth and CPS estimate of growth in numbers of families were very similar in the 1960–70 period—about 1.3 to 1.4 percent. But between 1970 and 1984, the number of families continued to grow by about 1.3 percent a year while population growth slackened to a 1.0-percent rate.

BEA and CPS per capita income. Income data are also collected for individuals in the CPS, and this information is published at the same time as the family income data.[9] The level of CPS real per capita income is slightly lower than the BEA estimate (as shown in appendix table A-3) because the CPS aggregate income estimate is less inclusive than the BEA estimate. Both series exhibited similar trends in the 1960's but then diverged slightly toward the end of the 1970–84 period. As shown in table 1, the trend difference was 0.1 percentage points a year between 1960 and 1970, but then widened to 0.4 points annually between 1970 and 1984. According to the reconciliation methodology used in this article, all of the difference in the growth rates of these two series was caused by the different price deflators. As mentioned earlier, the CPI rose much faster than the PCE Deflator at the end of the 1970's and beginning of the 1980's.

THE DIVERGENT TRENDS in real BEA per capita income and real CPS family income between 1970 and 1984 are reconcilable. Each measure reflected the economic, social, and demographic changes of the period to the extent that its concepts and components allowed. And this illustrates an important point: During times of rapid economic, social, and demographic changes, a single income measure may give a less than complete picture of what has happened because of the way in which it is constructed. In the case just discussed, a global measure of real income indicated that real incomes were rising in the 1970's and 1980's, while a narrower measure showed little growth taking place. Once the concepts and components of each measure were understood, however, it could be shown that both trends were compatible. □

FOOTNOTES

[1] BEA publishes a series on per capita "disposable" income (personal income minus tax and nontax payments, divided by the population). The population estimates used in that series were used in deriving the per capita personal income series discussed in this article. Statistics on per capita personal income have been published before. For example, see *Social Indicators III* (Bureau of the Census, December 1980), pp. 474–75.

[2] The average annual rates of change in this report have been calculated by the following formula:

$$r = \ln \frac{P_1}{P_0} \div N \times 100$$

where *ln* is the natural logarithm of the ratio; P_1 is a number at the end of some time interval; P_0 is a number at the beginning of the interval; N is the number of years in the interval; and r is the average annual rate of percent change.

[3] For a thorough discussion of the BEA income concept, see *Business Statistics 1979* (U.S. Department of Commerce, Bureau of Economic Analysis, 1981).

[4] For a full discussion of the CPS money income concept, see *Money Income of Households, Families, and Persons in the United States: 1983*, Current Population Reports, Series P-60, No. 146 (Bureau of the Census,

1985), pp. 207–19.

[5] In 1983 (the last year for which such data are available), the CPS collected 90.1 percent of an independent estimate of aggregate income adjusted to the CPS money income concept. See *Money Income of Households*, p. 219.

[6] The discussion in this section is based on two articles: Jack E. Triplett, "Reconciling the CPI and the PCE Deflator," *Monthly Labor Review*, September 1981, pp. 3–15; and Robert Gillingham and Walter Lane, "Changing the treatment of shelter costs for homeowners in the CPI," *Monthly Labor Review*, June 1982, pp. 9–14.

[7] The same methodology was used by the author in reconciling trends in real per capita disposable income and real net spendable earnings. See Paul Ryscavage, "Two divergent measures of purchasing power," *Monthly Labor Review*, August 1979, pp. 25–30.

[8] Triplett, "Reconciling the CPI and PCE Deflator," p. 4.

[9] *Money Income of Households*, p. 121.

APPENDIX: Reconciliation method

The method used to reconcile the trends in real BEA per capita income and real CPS mean family income proceeds as follows. Let the change in real BEA per capita income be defined as:

$$\frac{\overline{Y}_1}{\overline{Y}_0} = \frac{\dfrac{Y_1}{N_1 \times D_1}}{\dfrac{Y_o}{N_o \times D_o}}$$

where in periods 0 and 1, $\overline{Y}$ equals real per capita income, *Y* the aggregate personal income, *N* the population of recipients, and *D* the implicit price deflator for personal consumption expenditures. This expression can then be written as:

$$\frac{\overline{Y}_1}{\overline{Y}_0} = \frac{Y_1}{Y_0} \times \frac{N_0}{N_1} \times \frac{D_0}{D_1}$$

Table A-1. Components of the real BEA personal income per capita series, 1960–84

Year	Real BEA per capita income (1982 dollars)	BEA per capita income	BEA aggregate personal income (billions)	BEA population[1] (thousands)	PCE Deflator (1982=100)
1960	$ 6,884	$ 2,265	$ 409.4	180,760	32.9
1961	6,961	2,318	426.0	183,742	33.3
1962	7,165	2,429	453.2	186,590	33.9
1963	7,314	2,516	476.3	189,300	34.4
1964	7,594	2,658	510.2	191,927	35.0
1965	7,978	2,840	552.0	194,347	35.6
1966	8,327	3,056	600.8	196,599	36.7
1967	8,625	3,243	644.5	198,752	37.6
1968	8,964	3,523	707.2	200,745	39.3
1969	9,298	3,812	772.9	202,736	41.0
1970	9,455	4,056	831.8	205,089	42.9
1971	9,586	4,304	894.0	207,692	44.9
1972	10,013	4,676	981.6	209,924	46.7
1973	10,480	5,198	1,101.7	211,939	49.6
1974	10,323	5,657	1,210.1	213.898	54.8
1975	10,272	6,081	1,313.4	215,981	59.2
1976	10,631	6,655	1,451.4	218,086	62.6
1977	10,924	7,297	1,607.5	220,289	66.7
1978	11,370	8,141	1,812.4	222,629	71.6
1979	11,554	9,036	2,034.0	22[illegible]106	78.2
1980	11,452	9,917	2,258.5	227,732	86.6
1981	11,581	10,956	2,520.9	230,087	94.6
1982	11,493	11,493	2,670.8	232,376	100.0
1983	11,637	12,091	2,836.4	234.579	103.9
1984	12,149	13,145	3,111.9	236,731	108.2

[1] Includes members of the Armed Forces living abroad.

Table A-2. Components of the real CPS mean family income series, 1960–84

Year	Real CPS mean family income (1984 dollars)	CPS mean family income	CPS aggregate family income (billions)	Families (thousands)	Consumer Price Index (1967 = 100)
1960	$21,840	$ 6,227	$ 283.6	45,539	88.7
1961	22,468	6,471	300.4	46,418	89.6
1962	22,903	6,670	313.9	47,059	90.6
1963	23,741	6,998	332.7	47,540	91.7
1964	24,587	7,336	351.8	47,956	92.9
1965	25,362	7,704	373.7	48,509	94.5
1966	26,869	8,395	413.2	49,214	97.2
1967	27,380	8,801	441.0	50,111	100.0
1968	28,871	9,670	491.5	50,823	104.2
1969	29,968	10,577	545.6	51,586	109.8
1970	29,708	11,106	580.0	52,227	116.3
1971	29,707	11,583	617.3	53,296	121.3
1972	31,346	12,625	686.5	54,373	125.3
1973	31,839	13,622	749.9	55,053	133.1
1974	30,986	14,711	819.4	55.698	147.7
1975	30,002	15,546	874.4	56,245	161.2
1976	30,782	16,870	956.7	56,710	170.5
1977	31,305	18,264	1,045.0	57,215	181.5
1978	31,987	20,091	1,161.3	57,804	195.4
1979	31,934	22,316	1,328.9	59,550	217.4
1980	30,220	23,974	1,445.8	60,309	246.8
1981	29,509	25,838	1,576.6	61,019	272.4
1982	29,475	27,391	1,681.6	61,393	289.1
1983	29,826	28,608	1,774.1	62,015	298.4
1984	31,052	31,052	1,947.1	62,706	311.1

Taking the natural logarithms of each side yields the following equation:

$$\ln\frac{\overline{Y}_1}{\overline{Y}_0} = \ln\frac{Y_1}{Y_0} + \ln\frac{N_0}{N_1} + \ln\frac{D_0}{D_1}$$

and when the deflator and recipient components are inverted for the purpose of the reconciliation, the equation becomes:

$$\ln\frac{\overline{Y}_1}{\overline{Y}_0} = \ln\frac{Y_1}{Y_0} - \ln\frac{N_1}{N_0} - \ln\frac{D_1}{D_0}$$

The same procedure is used with real CPS family income, and for the purposes of this description, components are notated in the same, but lower case, letters. That is, $\overline{y}$ equals mean family income, *y* the aggregate family income, *n* the number of families, and *d* the Consumer Price Index (CPI). Consequently, the difference in growth rates between real

Table A-3. Components of the real CPS per capita income series, 1960–84

Year	Real CPS per capita income (1984 dollars)	CPS per capita income	CPS aggregate income (billions)	CPS population[1]	Consumer Price Index (1967 = 100)
1960	$ 6,204	$ 1,769	$ 320.6	181,252	88.7
1961	6,528	1,880	345.3	183,682	89.6
1962	6,569	1,913	357.1	186,695	90.6
1963	6,738	1,986	394.0	189,400	91.7
1964	6,989	2,087	400.6	191,967	92.9
1965	7,275	2,210	428.8	194,013	94.5
1966	7,569	2,365	463.2	195,855	97.2
1967	7,886	2,464	488.2	198,120	100.0
1968	8,154	2,731	546.6	200,139	104.2
1969	8,520	3,007	608.0	202.189	109.8
1970	8,498	3,177	652,0	205.214	116.3
1971	8,764	3,417	699.9	204,840	121.3
1972	9,358	3,769	777.6	206,302	125.3
1973	9,679	4,141	861.1	207,949	133.1
1974	9,362	4,445	931.5	209,572	147.7
1975	9,298	4,818	1,017.3	211,140	161.2
1976	9,618	5,271	1,120.4	212,566	170.5
1977	9,916	5,785	1,238.9	214,159	181.5
1978	10,277	6,455	1,393.9	215,935	195.4
1979	10,257	7,168	1,599.6	223,160	217.4
1980	9,816	7,787	1,754.0	225.242	246.8
1981	9,680	8,476	1,927.2	227,375	272.4
1982	9,863	8,980	2,061.7	229,587	289.1
1983	9,954	9,548	2,214.5	231,938	298.4
1984	10,328	10,328	2,417.4	234,066	311.1

[1] The population estimates are as of March of the following year. They represent the civilian noninstitutional population plus the Armed Forces personnel living off post or with their families on post in the United States.

BEA per capita income and real CPS mean family income is:

$$\text{DIFFERENCE} = \ln\frac{\bar{Y}_1}{\bar{Y}_0} - \ln\frac{\bar{y}_1}{\bar{y}_0}$$

or

$$\text{DIFFERENCE} = \ln\frac{Y_1}{Y_0} - \ln\frac{N_1}{N_0} - \ln\frac{D_1}{D_0} - \ln\frac{y_1}{y_0} + \ln\frac{n_1}{n_0} + \ln\frac{d_1}{d_0}$$

The terms in the above expression can be rearranged to define the following effects, all of which approximately add to the difference in growth rates between the real income measures:

$$\text{Aggregate income effect} = \ln\frac{Y_1}{Y_0} - \ln\frac{y_1}{y_0}$$

$$\text{Recipient effect} = -\ln\frac{N_1}{N_0} + \ln\frac{n_1}{n_0}$$

$$\text{Deflator effect} = -\ln\frac{D_1}{D_0} + \ln\frac{d_1}{d_0}$$

Appendix tables A-1, A-2, and A-3 contain the basic data to which this reconciliation method was applied.

Keeper of the gate

Ellis Island a welcome site? Only after years of reform

With the reopening of the immigration center as a historic landmark, it may surprise many to learn that the Labor Department operated the complex for years; administrators struggled to end corruption and the exploitation of aliens

HENRY P. GUZDA

Between 1903 and 1920, 10 million people emigrated to the United States by passing through the portals of the receiving station on Ellis Island. During that period, the U.S. Department of Labor and its predecessor agency, the Department of Commerce and Labor, administered the immigration laws of the country, including those providing for the operation of Ellis Island.

The island lies just a short distance from the New Jersey shoreline in New York Harbor. The Federal Government, over many years, expanded the land area from 7.5 acres to a landfilled 27.5 acres for new buildings, park areas, and other facilities. The main hall, a spacious brick building with white limestone trim, in French Renaissance style, is the most striking landmark on the island and the site where immigrants first entered for processing. Kitchen facilities, dormitories, a hospital, and a power plant also occupied island space. Docks to receive passenger and cargo vessels expanded in proportion to the island's growth.[1]

Men, women, and children segregated by sex, stood in lines on Ellis Island awaiting a barrage of questions on their potential destinations, intentions for going there, and job prospects upon arrival. Prearranged labor contracting was illegal and would mean deportation. Inspectors often had limited comprehension of certain languages, especially Slavic ones, and misinterpretations were common. The newcomers faced assembly-line medical exams and if doctors or nurses put certain chalk letters on an immigrant's outergarment it meant detention and possible deportation. (The letter T signified suspected trachoma, H meant a possible heart condition, and LCD translated as loathsome contagious disease. Nonmedical examiners could put LPC (likely to become a public charge) on a person's coat, which also could result in deportation.) One of the island's Public Health Service physicians commented, "these methods, crude as they seem, had to be used because of the great numbers [of immigrants] and the language difficulties."[2]

Detention could last weeks, even years in wartime. During detention the immigrants fell prey to the avarice of contractors handling food concessions, money exchanges, and other personal services. Federal employees of Ellis Island extorted money from detained immigrants by threatening them with deportation. Finally, a special board of inquiry determined whether a detainee was admissible or deportable, the latter was subject to approval by the Secretary of Labor. It was not incomprehensible why the immigrants referred to Ellis Island as the "Isle of Tears."

Processing millions of people, however, was a tedious and taxing chore. The Labor Department and Public Health

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Henry P. Guzda is an industrial relations specialist, Bureau of Labor-Management Relations and Cooperative Programs, U.S. Department of Labor, and was formerly a historian with the Department.

Service employees, grossly understaffed and overworked, faced difficult problems even during the ebb of immigration. During the peak year of 1907, an average 5,000 immigrants arrived daily and 11,747 landed on a recordbreaking day. Inspectors with command of certain languages were in demand, but the supply was always low. To compound these problems, the immigration laws were complex—defying interpretation even by some legal authorities—yet only 1.5 percent of all immigrants were excluded.[3]

Commerce and Labor: the first 10 years

When the Department of Commerce and Labor assumed responsibility for administration of the island from the Treasury Department in 1903, it received a rather sordid legacy. Both the friends of immigration and those favoring immigration restriction viewed the islands operation as disgraceful. President Theodore Roosevelt, who created the Department of Commerce and Labor in 1903, wanted the agency to reform conditions without delay.

William Williams to lead. Roosevelt chose the new Commissioner of Ellis Island, William Williams, a corporation lawyer from New York. He was an unlikely choice because of his jaundiced views on immigrants from Southern and Eastern Europe.

But Williams was honest, humane, and very concerned about reports from undercover agents on the conditions allowed by the former commissioner, Thomas Fitchie. Those reports illustrated that the depth of graft and corruption extended from the immigrant inspectors, who extorted bribes from aliens, to aldermen at New York's City Hall, who performed marriage ceremonies for exorbitant fees and "kicked back" commissions to Fitchie. Graft was so well-woven into the administrative fabric of the island's operations that the undercover agents feared for their lives if exposed.[4]

Williams acted quickly; his first official order was for employees to treat immigrants with "kindness and decency" or face dismissal. Several workers were fired after they tried to remove information on the confinement and isolation of immigrants into "pens" from official files. Williams told the President that the term "pen" intimated the kind of treatment the immigrants received, and that Fitchie was aware of the abuse and exploitation.

The food concession on Ellis Island particularly upset the new commissioner. Williams reported:

> "I witnessed with my own eyes the fact that immigrants were often fed without knives, forks, or spoons, and I saw them extract boiled beef from their bowls of soup with their fingers . . . (the meat was tainted) and the floors were covered with grease, bones, and other remnants of food for days at a time."

He canceled the existing food contract and awarded one to a different firm at a savings of 15 percent. In his annual report Williams noted that such reforms were gratifying, "but that numerous other instances of abuses or lack of system could be cited."[5]

Table 1. Immigration to the United States through Ellis Island and all entry ports, 1903–24

Year	Ellis Island	All entry ports
1903	631,835	857,046
1904	606,019	812,870
1905	788,219	1,026,499
1906	880,036	1,100,735
1907	1,004,756	1,285,349
1908	585,970	782,870
1909	580,617	751,786
1910	786,094	1,041,570
1911	637,003	878,587
1912	605,151	838,172
1913	892,653	1,197,892
1914	878,052	1,218,480
1915	178,416	326,700
1916	141,390	298,826
1917	129,446	295,403
1918	28,867	110,618
1919	26,731	141,132
1920	225,206	430,001
1921	560,971	805,228
1922	209,778	309,556
1923	295,473	522,919
1924	315,587	706,896
Total	10,988,270	15,739,135

SOURCE: Bureau of Immigration and Naturalization, Historical Study, 1935.

Reforming the deeply embedded corruption of many years took time, and it appeared too slow for some interested parties. Foreign language newspapers and immigrant aide societies, in particular, accused the Department of Commerce and Labor of countenancing exploitation of the immigrants. The *New York Staats Zeitung* so severely complained that Roosevelt appointed a special investigatory commission in September 1903. Its report illustrated that the drive for reform had taken hold very quickly. Buildings were clean and immigrants were well-fed, and treated with decency. Delays in processing functions and overcrowding resulted, the report concluded, from insufficient staffing and poor facilities, not mistreatment.[6]

By 1905, the island's operation ran very smoothly. Williams believed his job had been completed and returned to private law practice. Reforms continued, however, under his successor Robert Watchorn.

Robert Watchorn's administration. Watchorn, like many immigration officials, came from the labor movement, having served as an official of the United Mine Workers union. Unlike many of his labor colleagues, Watchorn was not an immigration restrictionist.[7]

Watchorn had a kindred spirit in Secretary of Commerce and Labor Oscar Straus. Straus, an immigrant and the first Jewish person to serve in a presidential cabinet, believed in an open-door policy for immigration. Whereas previous Secretaries of Commerce and Labor had viewed Ellis Island as an administrative headache, Straus took greater interest in immigration than his predecessors and gave full support to the views of the new commissioner.

The Straus-Watchorn tandem served during the "high tide" of immigration, 1905-09. In the peak year of 1907, 1.3

million people came to the United States. (See table 1 for immigration totals.) Delays in processing and admissions increased despite Watchorn's efforts to streamline operations. He abolished the "temporarily detained" category for immigrants suspected of a minor infraction of law or unable to produce a $10 minimum reserve before being allowed entry to the mainland. Steamship lines had to provide island officials with informational lists of all passengers before disembarking them. Nonetheless, immigrant inspectors worked 7 days a week from 9 a.m. to 9 p.m. for 31 consecutive days in which more than 5,000 persons arrived daily in 1907.[8]

Working conditions for Ellis Island employees worsened considerably during this period. The close proximity of so many people and unsanitary conditions on passenger ships, especially for the bulk of immigrants traveling in steerage, spread vermin and disease among both immigrants and Federal employees. To compensate for long hours and poor conditions, Watchorn petitioned the Congress to raise employees' wages, add staff positions, and appropriate funds for other morale-building efforts. But his endeavor was fruitless, and between 1905 and 1907 there was a turnover rate of approximately 40 percent. Immigration inspector Fiorello LaGuardia, who later became Mayor of New York, commented, "At best, the work was an ordeal. Our compensation, besides our salaries, for the heartbreaking scenes we witness (sic) was the realization that a large percentage of these people pouring into Ellis Island would probably make good and enjoy a better life than they had been accustomed to."[9]

Under Watchorn and Straus, general improvement in the prevention of immigrant exploitation accelerated. Watchorn assigned undercover agents to find abuses, and their reports confirmed his suspicions. For example, steamship companies made $39 of profit from the $42 charged to immigrants for transportation from Europe. Agents for employment services conducted an illicit business in contract labor and cooperated with both steamship lines and railroad interests to fleece the aliens. For example, one employment agent charged 50¢ for a short ride from the Ellis Island debarkation point to Grand Central Station and received an additional 45-cent commission for placing them on the New York, New Haven, and Hartford line, regardless of a passenger's actual destination. Railroads re-routed passenger service in order to maximize fares; immigrants bound for Chicago, therefore, often traveled a circuitous route through Norfolk, Virginia. "I am shocked and outraged," said Watchorn, "by the many pretexts resorted to by the opulent and powerful, and by petty grafters to squeeze the last dollars out of the immigrant in quest of work and wages. . . ." In 1907, Watchorn filed charges against railroad and steamship companies with the Interstate Commerce Commission and achieved some success in eliminating the worst abuses.[10]

Watchorn's crusade was noticed. Food contractors, transportation concerns, and employment agencies pressured Straus, the Congress, and President Roosevelt to remove the commissioner from office. In addition, organized labor complained that the new Ellis Island policies had swamped the U.S. work force with undesirables willing to work for below minimum wages. Even some Federal employees on Ellis Island protested that Watchorn had exceeded his authority by disregarding laws and longstanding work rules.[11] In response, Straus sent an investigatory commission to the island. This commission, headed by popular reformer and intellectual Washington Gladden, and consisting of other ministers and rabbis, found conditions to be exemplary. Gladden reported:[12]

> "I am sure that anyone who visits Ellis Island, and intelligently observes what is going on there; who sees the cleanliness and convenience and comfort by which the immigrants are surrounded when they first set foot upon our soil; the ample and beautiful dining room where good food is served to them; the commodious and comfortable sleeping apartments, the roof garden where, in the summer, they may breathe the cool air in the evening; the small army of intelligent and kindly men and women who speak to them in their own languages, and administer to all their wants; the vigilance with which they are safeguarded from the wolves and harpies which in former times were wont to make them a prey . . . I am sure that anyone who sees all this will feel that he has witnessed one of the triumphs of civilization."

Straus also ordered the Commissioner of Corporations to conduct an internal investigation of the island's operations. While not as ebullient and optimistic as the Gladden report, this study gave Watchorn and his administration a good rating. The facilities at the complex, it stated, were clean, sanitary, and well-organized. Watchorn, despite criticisms to the contrary, had deported more immigrants during his years than had Commissioner Williams and was not lax in law enforcement.[13]

Yet the very controversial nature of the immigration question eventually contributed to Watchorn's departure. His former colleagues in the labor movement vehemently opposed "open door" immigration policies, including redistribution of immigration away from labor surplus areas on the eastern seaboard and in the industrial north. Watchorn tried to explain that redistribution could work, at a Labor Department conference on the immigration issue, but ran into criticism from his agency associate, Commissioner of Labor Charles Neill, who argued that the plan wouldn't work.[14]

Such controversy illuminated the serious impediments to a reconfirmation of Watchorn as commissioner. Straus engaged an intensive campaign to have his friend reconfirmed. The Immigrant Protective League and other ethnic organizations joined the campaign, but there were just as many groups, the American Federation of Labor, for example, that opposed a second term. On March 4, 1909, the newly inaugurated President, William Howard Taft, withdrew Watchorn's name from consideration.[15]

Williams returns. Taft's Secretary of Commerce and Labor, Charles Nagel, also chose to avoid controversy by persuading William Williams to return as Ellis Island Commissioner in the role of a compromise appointment.

Williams' second term paralleled the first and mirrored that of Watchorn's in attacking corruption. For example, in December 1910, he had the Hellenic Transatlantic Steamship Company prosecuted for willfully smuggling diseased aliens through the island and attempting to bribe immigration officials; 15 company officials went to jail as a result. Williams also withdrew privileges for operating services on the island from some immigrant aid societies which ran unclean boarding houses on the mainland. Thus, Williams received criticism from both sides of the immigration question. Ironically, despite his own restrictive beliefs, he was criticized for lax administration of the immigration laws. Williams voluntarily resigned in 1913, leaving a fairly well-run and efficient operation.[16]

New problems

As World War I erupted in 1914, an ideological movement swept across the United States. Racial and ethnic stereotyping and eugenics were popularly discussed as an exact science. The president of the New York Zoological Society, Madison Grant, published *Passing of the Great Race*, which called for "Nordic supremacy;" Grant compared old immigration from Northern and Western Europe to the strong species of the animal kingdom and relegated new immigration from Southern and Eastern Europe to the weakest species. In addition, Majority Whip Harold Knutson complained about the "mongrelizing" effect the new immigration had on American society and the Eugenicist for the Congressional Committee on Immigration, Harry Laughlin, theorized that the recent immigration possessed a high percentage of inborn socially deviant qualities based on empirical data.[17]

These attitudes were prevalent when the newly created Department of Labor assumed responsibility for Ellis Island in 1913. The labor function in the Department of Commerce and Labor had been secondary in the organization and many interests, especially Samuel Gompers and the American Federation of Labor, wanted it removed and elevated to Cabinet status without nonrelated encumberances. Organized labor did not particularly want the immigration function placed in the Department of Labor but believed it could be monitored better under friends than in the employer-oriented Department of Commerce.[18]

The first Secretary of Labor, William B. Wilson, a longtime official of the United Mine Workers union, however, did not have the animus toward immigrants held by many labor leaders. His Commissioner of Ellis Island, Frederick C. Howe, was a philosophical ally of Robert Watchorn. While Howe did not have views concurrent with some other Labor Department officials, including his immediate superior Commissioner General of Immigration Anthony Caminetti, he had the support of Wilson and Assistant Secretary of Labor Louis Post.

Frederick C. Howe's efforts. Howe's goal was the complete "humanization" of Ellis Island. The temporary occupants of the station, he said, were human beings, not digits in an annual report. He ordered the employees of the island to treat immigrants with respect and, as one of his first acts, ordered the construction of playgrounds for children and opened restricted grassy areas for adults. His two predecessors, Howe noted, had done a fine job improving conditions of Ellis Island, and now it was time to refine their efforts. But World War I immediately altered his plans.[19]

The war severely restricted the flow of immigration. By late 1915, the island's staff faced a turnabout in their work environment. Almost 900,000 people passed through the island during fiscal year 1914, but the number declined to less than 200,000 in 1915 and to less than 30,000 by 1919. During the harsh winter of 1915, Howe provided sleeping quarters on the island to the indigent of New York, but this did not affect the staff. The previously overworked employees now faced Federal reductions-in-force. Howe complained that personnel reductions were harmful and would impair efficiency by decreasing morale. The previously excessive workloads would become normal because of a slack in immigration, he said, so the staff levels should be maintained. "Should immigration materially increase (following the war)," he told Secretary Wilson, "it will require considerable time to restore the staff operations to its former degree of efficiency." Immigration remained low until 1919, but personnel cutbacks resulted in Howe working many of the 400-person staff (650 was the pre-war level) overtime and in functions unfamiliar to employees.[20]

One of the war-related problems was that the island became a domicile for detained and potentially deportable immigrants unable to return to their conflict-ridden homelands. Detention periods extended from weeks to years, and Howe ordered the creation of schools and recreational areas. When some immigration employees protested that the grass and shrubs would be ruined, Howe answered that live babies took precedence over live grass. Buildings received fresh coats of colorful paint and plants were hung in all buildings; some members of the press criticized Federal expenditures for plants until they discovered Howe had paid for them from his own salary.[21]

Special efforts were made to provide for a healthy environment. Island staffers coordinated immigrant recreational events such as baseball games and sewing bees. Immigrant benevolent societies arranged for ethnic celebrations: and Americanization themes dominated events such as patriotic concerts. Immigrant children competed in essay contests describing the American way of life and were rewarded by raising the American flag in special ceremonies. Mrs. Harry Payne Whitney, of Whitney museum fame, donated over 30 paintings and statuary depicting immigrant contributions to America to adorn the grounds and the buildings of Ellis Island.[22]

Critics asked why the Ellis Island commissioner devoted so much time and effort to Americanize potentially deportable immigrants? Howe answered them by releasing some detainees labeled "likely to become a public charge" to sponsors on the mainland providing homes and employment. He conducted similar "work-release" programs for women charged with "moral turpitude," believing that such crimes were the results of poverty and lack of opportunity, not innate proclivities. In one 18-month period, only 6 of 340 people released had failed the program and other release groups had similar success ratios.[23]

Howe also tried to improve conditions for the Federal employees of Ellis Island. He persuaded the Secretary of Labor to give promotions to deserving employees and arranged for a guest lecture series for the staff; Secretary Wilson and former President William Howard Taft were among the speakers in this forum. Howe also published a series of articles on the competency and integrity of the workers at the complex. "I have never known a group of 500 men and women," he said in one article, "either in public or private work, who were more devoted to their employment or more willing to be of personal service than the government employees stationed at Ellis Island."[24]

Efforts turn to controversy. It was the promotion of Howe's own employees over the interests of private contractors that engulfed him in a major controversy. The private concession for feeding immigrants and operating the public restaurant on Ellis Island had been a source of anguish to all commissioners. When the contract for Hudgins and Dumas Co. expired in 1916, Howe did not renew it, operating the concession "in house" with Federal employees. The constant temptation for contractors to reduce food quality and quantity, he said, made such an action necessary. This step, however, aroused much protest from New York businessmen and especially from Congressman William Bennet, a former attorney for Hudgins and Dumas. Secretary Wilson feared a major political problem would develop and ordered Howe to award a contract to a concessionaire.[25]

This was not the sole controversy of Howe's administration. Many immigrants were taken advantage of by employment agents, transportation companies, boardinghouse operators, and other commercial interests. Howe proposed the creation of an Immigration Bureau to oversee the process of relocating aliens away from congested labor surplus areas. Even though he only got an immigration information division similar to the one Robert Watchorn created, it raised protest from businessmen who earned considerable profit from the immigration trade. When Howe broke up a pooling arrangement between steamship lines and railroads, stating, "immigrants should not be sent around Robin Hood's barn because the railroads decreed no single road should get the bulk of traffic," it spawned a letter-writing campaign to the Congress for his removal. Howe also disguised Federal employees as immigrants and uncovered fraud of up to $12 million propogated by area bankers; this, of course, drew the wrath of the less than honest members of the financial community.[26]

Cries for Howe's removal escalated inversely to the level of world-wide conflict. As the war waned, his critics, especially steamship lines, increased pressure on their lobbyists to persuade the Congress to restrict the commissioner's activities. Some officials of several steamship lines even paid an immigrant woman $500 to accuse Howe of engaging in illicit relationships with her and other immigrant women on Ellis Island. Secretary Wilson investigated and found all such charges against Howe were false, but pressure for removal from office did not abate until he resigned in September of 1919—10 months after the war terminated.[27]

Several other problems plagued the administration of Ellis Island during and after Howe's departure. On July 30, 1916, German saboteurs dynamited a munitions storage area near the island, and, while the only serious casualty of the "Black Tom Explosion" was a cat, property damage to the buildings and grounds was extensive. The military commandeered part of the complex to detain prisoners of war following America's entry into the conflict in 1917, and the detainees, confined to overcrowded facilities, conducted several mini-riots in protest. Conditions deteriorated to the point that the local chapter of the National Federation of Federal Employees filed an official protest over wage and working conditions with Howe's successor, Acting Commissioner Byron Uhl. Soon afterward, Secretary Wilson told Assistant Secretary Louis Post and Immigration Commissioner General Anthony Caminetti to "visit Ellis Island and clean up the mess."[28]

Immigrant radicals

With the end of World War I came one of the most controversial and notorious events in the history of civil rights, and Ellis Island was an integral part of the drama. War hysteria, fueled by yellow journal newspapers and eugenical publications, promoted the postwar phenomenon called the "red scare." The ghost of Bolshevism seemed, to many Americans, to haunt the land in the specter of immigrant radicals, especially after the 1919 wave of industrial unrest in immigrant-dominated work forces of the coal, steel, meatpacking, and transportation industries. In 1919, an anarchist placed a bomb on the doorstep of Attorney General A. Mitchell Palmer, and, while the blast's only victim was the would-be terrorist, it sparked Palmer and his assistant, J. Edgar Hoover, into a crusade to deport all alien "reds."

Department of Justice marshals swept into immigrant union halls, fraternal society meeting houses, dance halls, and saloons, arresting aliens en masse, often without warrants or concern for due process, under Palmer's orders. While Howe was commissioner only 60 of the 697 arrested aliens were actually deported for willful advocacy of the overthrow of the Federal Government (including membership in the Communist Party). But when Howe was away, and again after his departure, Acting Commissioner Uhl and Commissioner General Caminetti enthusiastically assisted the Justice Department. Ellis Island became a jail for the potential deportees and disembarkation point for shipment overseas.[29]

A heated political and administrative conflict occurred when Justice Department and Labor Department leaders interpreted the immigration laws differently. Secretary of Labor Wilson and Assistant Secretary Post believed the laws, which denied juridical rights to aliens and left their fate in the administrative hands of the Secretary of Labor, were poorly written and ambiguous. They believed that aliens should only face deportation if they openly advocated violent overthrow of the Government. Justice officials viewed membership in a radical organization as a deportable offense. When these officials arrested and scheduled deportation for more than 300 aliens in December 1919, Wilson, who believed some of the detainees were deportable, ordered a stay of deportation for aliens having families (who could not be deported even voluntarily under the immigration laws). All aliens arrested and taken to immigrant stations other than Ellis Island were spared, but Uhl, collaborating with Palmer and Hoover, ignored his superior's order and allowed 249 persons, including anarchists Emma Goldman and Alexander Berkman, to be deported.[30]

Apparently encouraged by their success, Hoover and Palmer ordered a massive arrest program in January 1920. Thousands of aliens, many of whom had attained U.S. citizenship, were arrested without warrants and placed in temporary jails to await transportation to Ellis Island. Immigration Commissioner Caminetti approved of *ex post facto* warrants and held special boards of inquiry to process deportation papers without notifying the Secretary of Labor, with whom responsibility for such a procedure rested.

After Wilson became ill, Assistant Secretary Post took immediate steps to correct the illegal and unethical actions of his subordinate. He ordered Caminetti to forward all cases to him and release all detainees on bail until the review process was complete. Post also told J. Edgar Hoover to cease interrogating aliens detained at Ellis Island unless approved by an official board of inquiry sanctioned by the Secretary of Labor or himself. Immigration officials, citing lack of evidence and a low percentage of "guilty" findings of those arrested previously, began refusing warrant requests from Justice officials.[31]

This battle between the two departments continued into the summer of 1920, but it was clear that the Labor Department would not let Ellis Island become a court of star chamber. When Attorney General Palmer ordered his agents to censor the mail of detained aliens on Ellis Island, Labor Department Solicitor Rowland B. Mahany informed him that censorship in peacetime would not be tolerated. Palmer withdrew all but a token force of agents from Ellis Island and other immigrant stations. By mid-1920 the "red scare" had abated, and Post, who faced a Congressional impeachment hearing for his stand against injustice, commented, "We have been going through a state of hysteria. Folks will look back with regret for having made fools of themselves, but there is nothing like a panic to make fools of us all."[32]

Restrictions begin, Island closes

Historian John Higham contends that the notion of 100 percent Americanism emerged from World War I and manifested itself in measures to restrict immigration. Ellis Island witnessed an immediate surge in postwar immigration, but soon afterward experienced a decline attributable to xenophobia. President Woodrow Wilson pocket-vetoed an immigration restriction bill in February 1921; however, the Congress reintroduced and passed it in April. President Warren G. Harding signed the Quota Act of 1921 into law on May 19th. The new Secretary of Labor, James J. Davis, approved of restrictive ideology stating, "I would say that the regulation of immigration is about the most important (issue facing him)". Davis even wrote a book entitled *Selective Immigration* in which he lamented the "mongrelizing" influences on American society wrought by the new immigrants.[33]

But the Quota Act of 1921 would have affected Ellis Island regardless of the philosophical leanings of the Secretary of Labor. It limited the number of foreign nationals allowed entry to 3 percent of their compatriots in the United States, according to the census of 1910; no more than 20 percent of the admissible number could arrive in a single month. The Quota Act of 1924 limited the number further by basing entry quotas on the census of 1890, when even fewer immigrants from Eastern and Southern Europe lived in the United States. Ellis Island assumed the role of a detention center for potential deportations more than of an entry-processing center because immigrant inspections began to occur to an increasing degree in Europe, and also because of the policies of the next Secretary of Labor, William N. Doak (1930–33). Doak so intently wanted to relieve the United States of a perceived foreign menace that he resurrected the Hooverian practice of mass arrests and deportations; this earned for Doak the nicknames "Secretary of Sedition" and "Deportation Chief." While several thousands of immigrants still passed through the station at the Port of New York, totals would never again approach those of 1903–14. And, conditions on the island during the Doak-Depression years reverted to those of the corrupt Fitchie administration, not to improve until 1934. In 1940, the responsibility for administering the immigration laws was transferred to the Department of Justice along with the responsibility for Ellis Island.[34]

The days of massive immigration, however, had passed. Ellis Island served its primary function for only 14 more years, and decay and disrepair had already set in when the doors closed in 1954. But the new historic site has generated considerable attention and enthusiasm; plans for reenactments of the immigrant experience—living history—have already been formulated. The administrative and institutional details of that experience, one hopes, will not be lost, and the roles played by both the Department of Commerce and Labor and the Department of Labor will not be forgotten. □

——FOOTNOTES——

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[15] William Howard Taft to Philander Knox, Dec. 22, 1908, William Howard Taft Papers, Library of Congress Manuscript Division; folder on Watchorn reappointment in 43/2, National Archives Record Group, 174.

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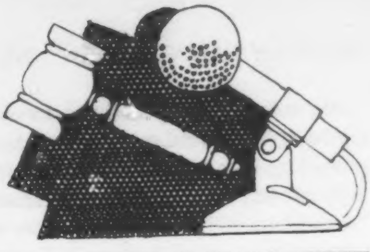


Conventions

Communications Workers focus on bargaining with AT&T

STEVEN M. DONAHUE

With the theme, "we're union, family, and proud," and promises that no concessions will be given to profitable companies, the Communications Workers of America (CWA) met in Washington, DC, for their 48th annual convention. Convention activities centered on current and pending negotiations, organizing, the union's finances, and the election of officers. In most of these actions, the influence of CWA's Committee on the Future and the effects of corporate divestiture were apparent. Gaveling the convention to order for the first time was Morton Bahr, who replaced Glenn Watts as president when the latter retired in 1985.

Bargaining. For the CWA, 1986 will be filled with critical bargaining activity. For the first time, the union will negotiate with an American Telephone and Telegraph Co. (AT&T) divested of its operating arms, which have become the Regional Bell Operating Companies. Also scheduled for negotiations are agreements at the General Telephone Co. subsidiaries across the United States, the ALLTEL system, four units of the Continental System, and public sector workers in a number of States, most importantly, New Jersey.

AT&T negotiations began April 2 after the union and the company agreed to move the scheduled August 9, 1986, contract expiration date to May 31. Expiration of the Regional Bell Operating Companies' contracts will remain August 9. President Bahr noted that the early negotiations at AT&T ". . . allow us to concentrate our resources and energies on these talks so that in turn, we can focus better on the task of bargaining with the Regional Bell companies later on." In support of bargaining, the Executive Board authorized the transfer of $1 million from the general fund to the defense fund, permitting Communication Workers to strike June 1 in the event an agreement is not reached. The negotiations will be conducted on behalf of 155,000 employees. In concurrent bargaining, the International Brotherhood of Electrical Workers will represent an additional 40,000 workers, making this round of negotiations the largest single-employer talks to be held during 1986.

Negotiations with General Telephone began in March at General of California and will continue through December at nine other sites. At ALLTEL, another independent system, talks also run through the end of 1986, while bargaining with the four units of Continental will take place in September and November.

Citing increased profits and continued growth in the telecommunications industry, in particular, at AT&T and the regionals, Bahr told the convention that the union will seek a base wage increase and will oppose a two-tiered wage structure. In the California negotiations with General Telephone, union leaders rejected a two-tiered proposal that would have downgraded jobs held predominantly by women. In the AT&T negotiations, said Bahr, the union's goal is to obtain a fair settlement which would also keep the company financially healthy without the need for a two-tiered wage structure. In justification, Bahr noted that telecommunications worker productivity had increased at an average rate of 6 percent per year for the past 10 years, a period when U.S. industry overall experienced negative productivity growth rates. In addition, he cited financial reports which stated that AT&T had net profits of $1.56 billion in 1985, and quoted forecasts for an additional 8 percent profit increase during 1986. Moreover, all seven regional companies reported higher profits in 1985.

According to CWA officials, the divestiture of AT&T has cost union members 53,000 jobs over the past 12 months. Decrying the increased contracting out of union jobs to nonunion subsidiaries and outside contractors, the union has made establishment of a training and retraining program for CWA employees at AT&T a major goal. The retraining program, Bahr said, could be designed to parallel the Ford–UAW training and development program currently in place. Ford has established a fund for the purpose of training and retraining to be used by all employees, including those facing layoff. It is funded by a 5-cent-per-hour setaside paid for by Ford. A similar program at AT&T would enable CWA members to fill job openings in other parts of the company. The union is also seeking comparable jobs within the company for employees affected by work force adjustments and plant and office closings. Bahr noted that his members will have to become more mobile as jobs and opportunities emerge in various parts of the country.

Steven M. Donahue is a labor economist at the Bureau of Labor-Management Relations and Cooperative Programs, Office of the Secretary, U.S. Department of Labor.

The convention was told that a major change in bargaining being introduced this year employs much of the same technology currently causing layoffs in the telecommunications industry. An electronic hookup using 'Easylink' satellite services will allow local unions to receive up-to-date information pertaining to AT&T district bargaining matters anywhere in the country. In addition to this daily hook-up, a nationwide conference is planned via the PBS TV network which will be beamed into closed door meetings on PBS' private downlinks. CWA's nationwide conference will allow stewards across the country to communicate face-to-face and will expedite the free exchange of necessary information on a more timely basis. The resulting rapid communication should forestall, said the Committee on the Future in its 1983 report, Regional Bell management from using whipsaw strategies and would limit internal dissent over perceived contract inequities among regions. The May 24 meeting was attended by local stewards in more than 40 cities.

Another concern of the CWA centers on health care cost containment. Bahr noted that health care costs have escalated dramatically in the past few years and that the union intends to work with AT&T to control them. The union, however, will not allow AT&T to control its costs by shifting the burden to union members and other employees, Bahr said. Such a strategy was attempted at General Telephone in early 1986 negotiations. Delegates also passed a resolution which called for the union to work for enactment of a national health care cost containment bill and to support multiunion and coalition attempts (including labor-management cooperative programs) to control costs.

In conjunction with the opening of the 1986 bargaining round, the CWA unveiled an extensive public relations compaign aimed at the Nation's decisionmakers and the general public. The program began in April with a full-page ad in a major U.S. newspaper. The cost to the national union for the overall program is expected to be approximately $1 million and does not include local participation in the program. The advertising, which will also be in broadcast form, revolves around the theme of "fair settlements from profitable companies." In addition to this ongoing campaign, there were special advertisements on Mother's Day, one of the largest phone calling days of the year. This Mother's Day campaign provided free phone calls, special local newspaper supplements, and Mother's Day cards for specified AT&T and Regional Bell employees, and revolved around the theme, "Ma Bell's gone but the CWA family lives on." Both campaigns were designed to draw positive public attention to the work of CWA members during national bargaining. The campaign arose from a recommendation of the Committee on the Future.

In public sector developments, the union noted job losses as work, formerly done by members, is contracted out by many local governments. Delegates passed a resolution which resolved to fight privatization of public sector work and to make any nonunion firm which accepts privatized work a target of union organizing drives.

Organizing. Faced with the continuing erosion of membership in an industry which has dropped from 100 percent unionization to 38 percent, organizing has become a major goal of the CWA. Delegates were notified of recent successful organizing campaigns and amalgamation agreements. In the public sector, major representation elections were won in New Jersey at Passaic County's Board of Social Services, at the University of Toledo (OH), and among environmental protection employees in western New York. The 5,800-member Union of Telegraph Employees voted to recommend a merger with the CWA, and 10,000 members of the Telephone Traffic Union in upstate New York have already merged.

In keeping with the recommendations of the Committee on the Future, CWA is targeting public sector workers as a major component of organizing campaigns. The Committee recommended that external growth be centered mainly on the information/service sectors, which is one of the fastest growing segments of the American economy. The establishment of a national vice president for public workers was the first step in this strategy. To date, the CWA is the bargaining agent for more than 80,000 public sector workers. "In addition," said Bahr, "we are establishing new lines of cooperation with the American Federation of State, County and Municipal Employees International Union and others that will lead to a cooperative effort to organize millions of unorganized government and service workers in this country."

Future organizing campaigns are being undertaken, the convention delegates were told, as part of AFL-CIO coordinated campaigns at both Northern Telecom and Blue Cross/Blue Shield. In the Blue Cross coordinated campaign, the CWA has been awarded jurisdiction in New York City and Denver. The union has already negotiated a neutrality agreement with Blue Cross of New York City under which the company agreed not to oppose CWA. The organizing campaign at the 29 plants of Northern Telecom is being coordinated by the AFL-CIO's Industrial Union Department. Northern Telecom is one of AT&T's largest U.S. telecommunications equipment competitors.

In addition, organizers for CWA have laid the groundwork for a campaign at the IBM Corp., long a bastion of nonunion work forces. While no details were given pertaining to the IBM campaign to ensure needed secrecy, delegates were told that IBM employees had been contacted. Said Bahr, "IBM Workers United has been born and has chapters around the United States. We are providing assistance and encouragement to this fledgling organization." CWA is also meeting with labor leaders around the world to extend IBM organizing to other countries.

The CWA has also targeted AT&T competitors in the telecommunications industry for organizing. Bahr stated that organizers already are actively contacting MCI employees.

Finances. Secretary–Treasurer James Booe noted in an addendum to the financial committee's report that the union was experiencing a cash flow shortage which, if not treated, would entail cutbacks or dues increases by the 1987 convention. According to the *Report of the Finance Committee,* it expects a cash shortage of approximately $3.5 million by 1987. Booe blamed the revenue shrinkage on new losses averaging an additional 1,500 dues units each month, most arising from divestiture.

Delegates to the convention rejected a proposal by the union's officers to make the convention biennial as a cost-saving measure. Citing increased expenses at a time of constricting membership, executive board officers estimated substantial annual savings if biennial conventions were to start in 1989. But delegates maintained that the union needed to continue the tradition of democracy which the CWA had built up over the years. A second amendment to hold conventions every 18 months was also rejected by convention delegates.

Elections and other activities. The completion of the CWA restructuring program reduced the number of districts from 13 to 8, resulting in the displacement of 5 incumbent district directors. The new districts were designed to parallel the Regional Bell Operating Companies' geographical structure. Elected as district vice presidents were: Jan D. Pierce, R. Ben Porch, Martin J. Hughes, Walter Maulis, Harry Ibsen, Pete Catucci, T.O. Parsons, and Vincent Maisano. In addition, M.E. Nichols and John C. Carroll were both reelected unanimously as executive vice presidents. In the national bargaining unit elections, James Irving was named AT&T communications vice president, Ronald J. Allen was elected vice president for AT&T technologies, John Browning retained his seat as vice president for communications, and Connie Bryant was elected as the first vice president for public workers. The addition of two national bargaining unit vice presidents and the transformation of two national directors into bargaining unit vice presidents arose from recommendations of the CWA's Committee on the Future, which suggested that strategy centers be created to allow the union to deal creatively and directly with external power centers (that is, AT&T).

Delegates to the convention passed a resolution supporting the AFL–CIO boycott of Royal Dutch Shell and its subsidiaries. The boycott was called because of Shell's mining and exploration activities in South Africa. In a related matter, delegates also called for complete removal of Bierne Foundation funds which are invested in South Africa. It was noted that the Foundation still had investments in two companies which do business in South Africa.

Speakers at the convention included Senator Edward Kennedy of Massachusetts, Representative James Wright of Texas, Washington, DC Mayor Marion Barry, United Farm Workers President Cesar Chavez, and AFL–CIO President Lane Kirkland. □

Postscript: CWA workers strike

A nationwide strike by 155,000 CWA members at AT&T began when the existing contract expired on May 31. However, the parties continued to negotiate on issues involving wages, job security, and changes in job classifications and pay levels.

Further information on the talks will be reported in the "Developments in Industrial Relations" section of future issues of the *Review.*

Research Summaries

Displaced workers: one year later

Richard M. Devens, Jr.

In January 1984, a special supplement to the Current Population Survey (CPS) focused on the extent of worker displacement in the labor force.[1] Using the data collected in that supplement, the Bureau of Labor Statistics defined displaced workers as those adults who, after holding a job for 3 years or more, lost or left that job because of plant shutdown or relocation, slack work, or abolishment of shift or job during January 1979 to January 1984. In several reports, BLS determined that 5.1 million persons were categorized as displaced under that definition in January 1984.[2] At the time of the survey, about three-fifths of those persons identified as displaced were employed again, about a quarter were unemployed, and the remainder were not in the labor force. About one-fourth of those displaced from a private nonagricultural job were reemployed in the same broad industrial classification as the job they had lost, while one-third returned to the same broad occupational group. Among workers who had been displaced from full-time wage and salary jobs and were reemployed in such positions, about half had weekly earnings at least as high as they had on the prior job, while more than one-fourth experienced earnings losses of 20 percent or more. What happened to these workers subsequently? Did the unemployed find jobs? Did the employed upgrade their status?

Using the longitudinal potential of the CPS, this report provides information on changes in the labor market status of displaced workers between January 1984 and January 1985. It must be noted at the outset that the use and analysis of longitudinal CPS data have technical limitations which have received much attention in the statistical community. The results of this research suggest that these types of data be treated with some circumspection and that analyses from such data be made with caution.[3] (See box.) The following sections report on the January 1985 status of workers identified in January 1984 as displaced whose CPS micro-record could be matched with a January 1985 CPS record, and on the changes in that group's labor force status.

In January 1985, workers displaced between January 1979 and January 1984 were more likely to be working and less likely to be unemployed than they had been a year earlier. Seventy-one percent of the displaced men were employed in January 1985, compared with 64 percent a year earlier and 61 percent of the women, compared with 53 percent in 1984. (See table 1.) Overall, about 30 percent of displaced workers had changed status over the year, compared with about half that change for the rest of the working-age population. Displaced workers in all labor force categories were more likely to have moved into employment and less likely to have left the labor force than comparable workers who were not displaced. (See table 2.)

A little more than half the displaced workers who were unemployed in January 1984 had jobs in 1985; among men, the remainder were more likely to still be unemployed, while women were more likely to be out of the labor force. (See table 2.) There were divergent developments in the labor market status of displaced workers of the various racial and ethnic groups. Among both blacks and whites, about 88 percent of those employed in January 1984 also were employed in 1985, while among Hispanics, that proportion was about 81 percent.[4] Hispanic workers who had been employed in 1984 were somewhat more likely to be unemployed in January 1985 than were whites or blacks. (See table 2.)

Among the unemployed of January 1984, 50 percent or more of both white and Hispanic workers were employed in

Table 1. Employment status of displaced workers by sex, race, and Hispanic origin, January 1985

[Percent distribution]

Characteristic	Total	Employed	Unemployed	Not in the labor force
Total	100.0	67.3	12.4	20.4
Men	100.0	71.0	15.2	13.8
Women	100.0	61.0	7.5	31.6
White	100.0	69.2	11.1	19.7
Black	100.0	51.2	22.0	26.7
Hispanic origin[1]	100.0	66.5	11.2	22.3

[1] Hispanics are included in both the white and black population groups.

NOTE: Data refer to persons age 20 and over with tenure of 3 years or more who lost or left a job between January 1979 and January 1984 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

Richard M. Devens, Jr. is an economist in the Division of Employment and Unemployment Analysis, Bureau of Labor Statistics.

Table 2. Labor force transition rates for displaced workers by sex, race, and Hispanic origin, January 1984 to January 1985

[Percent]

Labor force category	Displaced workers, 20 years and over[1]						Others, 20 years and over
	Total	Men	Women	White	Black	Hispanic origin[2]	
From employed to—							
Employed	87.9	88.8	85.9	87.8	89.1	80.8	89.4
Unemployed	7.8	9.2	4.6	7.7	8.4	11.5	3.0
Not in labor force	4.3	1.8	9.5	4.5	3.5	8.5	7.6
From not in labor force to—							
Employed	53.0	53.5	52.1	55.3	42.4	50.0	47.8
Unemployed	27.5	31.8	18.7	24.3	42.4	15.0	26.3
Not in labor force	19.5	14.6	28.8	20.3	15.2	35.0	25.9
From unemployed to—							
Employed	19.8	17.1	21.8	19.5	15.3	32.0	10.8
Unemployed	5.5	8.9	2.7	4.2	12.6	4.0	2.5
Not in labor force	74.6	73.7	75.5	76.3	72.1	64.0	86.7

[1] Data refer to persons age 20 and over with tenure of 3 years or more who lost or left a job between January 1979 and January 1984 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

[2] Hispanics are included in both the white and black population groups.

NOTE: The transition rate represents the proportion of workers in the first labor force category in January 1984 who were in the second labor force category in January 1985.

Table 3. Reemployed wage and salary workers by industry of lost job and industry of job held in January 1985

[Percent distribution]

Industry of job lost	Total displaced workers	Industry of job held in January 1985												Percent not employed[2]
		Mining	Construction	Manufacturing		Transportation and public utilities	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services		Public administration	Farming, forestry, and fisheries	
				Durable	Nondurable					Professional services	Other services			
Mining	100.0	19.8	10.4	0.9	—	10.4	4.7	6.6	2.8	6.6	10.4	—	—	27.4
Construction	100.0	.3	36.4	3.7	0.3	2.4	1.4	7.1	2.4	14.6	7.5	8.2	—	15.7
Manufacturing	100.0	.1	3.4	21.3	10.8	5.0	4.1	7.1	2.0	6.1	5.1	1.4	.2	33.4
Durable goods	100.0	.1	4.0	27.4	4.5	5.7	4.2	7.3	1.3	3.6	5.3	1.5	.3	34.8
Nondurable goods	100.0	—	2.2	8.2	24.6	3.5	3.7	6.7	3.5	11.4	4.8	1.1	—	30.3
Transportation and public utilities	100.0	—	11.1	5.1	3.7	25.5	3.7	6.9	.9	3.7	1.9	1.4	1.9	34.2
Wholesale	100.0	—	1.7	9.9	3.9	11.0	20.4	5.5	9.4	.6	3.9	—	3.3	30.1
Retail trade	100.0	—	0.3	5.5	1.2	0.9	7.6	35.9	2.0	7.0	6.4	—	—	33.2
Finance, insurance, and real estate	100.0	—	5.8	—	—	13.5	—	—	17.3	15.4	36.5	5.8	—	5.7
Services	100.0	—	4.7	5.9	2.8	1.2	4.3	13.7	1.6	20.5	20.5	2.8	—	22.0
Professional services	100.0	—	3.9	6.8	8.7	—	—	16.5	1.0	39.8	6.8	1.0	—	15.5
Other services	100.0	—	5.5	5.5	—	1.8	6.4	12.3	1.8	11.0	26.9	3.7	—	25.1

[1] Data for 1984 include nonagricultural workers in private industry.

[2] Includes displaced persons who are considered out of the labor force as well as those unemployed.

NOTE: Data refer to persons age 20 and over with tenure of 3 years or more who lost or left a job between January 1979 and January 1984 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

Table 4. Reemployed workers by occupation of lost job and occupation of job held in January 1985

[Percent distribution]

Occupation of lost job	Total displaced workers	Occupation of job held in January 1985						Percent not employed[1]
		Managerial and professional specialty	Technical, sales, and administrative support	Service occupations	Precision production, craft, and repair	Operators, fabricators, and laborers	Farming, forestry, and fishing	
Managerial and professional specialty	100.0	29.5	29.1	6.4	7.9	4.9	—	22.2
Technical, sales, and administrative support	100.0	10.6	42.5	5.1	8.0	4.0	—	29.8
Service occupations	100.0	4.8	9.6	33.5	5.9	6.4	—	39.8
Precision production, craft, and repair	100.0	5.6	6.8	6.6	30.9	18.7	.3	31.1
Operators, fabricators, and laborers	100.0	1.3	6.9	7.6	9.1	35.0	1.0	39.1
Farming, forestry, and fishing	100.0	21.2	5.8	—	9.6	26.9	7.7	28.8

[1] Includes displaced persons who are considered out of the labor force as well as those unemployed.

NOTE: Data refer to persons age 20 and over with tenure of 3 years or more who lost or left a job between January 1979 and January 1984 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

1985, compared with 4 percent of black workers. Hispanic workers were far more likely than white or black to have moved from unemployed to not in the labor force.

Displaced workers not in the labor force in January 1984 tended to remain in that category, in large part because they were concentrated in the older age groups. Overall, about three-quarters of those not in the labor force in January 1984 were also out of the labor force a year later. This tendency was most pronounced among whites and least among persons of Hispanic origin. Hispanics were the most likely of the three major racial and ethnic groups to have moved from not in the labor force to employed, and black workers were the most likely to have moved from out of the labor force to unemployed.

A useful indicator of the degree to which displaced workers are reintegrated in the labor force is the proportion who return to the same industry or occupation.[5] In January 1985, the proportion of displaced workers who were reemployed in a private nonagricultural industrial group broadly similar to that of the job they lost was 28 percent. In January 1984, the corresponding proportion was 23 percent. The industries with the highest rate of rehiring were professional services (40 percent) and retail trade (36 percent); the lowest rate was in finance, insurance, and real estate, in which many workers, displaced from the industry, had found jobs in the services field. (See table 3.)

Among occupational groups, workers in technical, sales, and administrative support occupations were most likely to be reemployed in a broadly similar occupation; farming, forestry, and fishing workers were least likely. In all, by January 1985, 34.5 percent of displaced workers were reemployed in the same broad occupational group as they worked in at the job they lost. (See table 4.) This proportion is a slight change from that of a year earlier.

Limitations of the data base

The 59,500 households that are interviewed in the monthly Current Population Survey (CPS) comprise eight national subsamples or rotation groups. One new group is introduced each month, is interviewed for 4 consecutive months, is out of the sample for 8 months, and is returned for 4 more months of interviews. Thus, in any 2 consecutive months, 75 percent of the addresses are common to each month, and, in months a year apart, January to January, for instance, 50 percent of the addresses are common. This sample rotation scheme gives the CPS its longitudinal flavor.

In all phases of administration of the CPS—sampling, interviewing, data preparation and processing—there are factors that affect the survey's usefulness as a longitudinal data base. For example, because the interviewer goes to a sample address, not to a household or specific persons living at an address, those who move into, or out of, a sample address between interviews cannot be matched. Other sources of difficulty include respondent bias (answering identical questions differently when there is no change in status), interviewer error, transcription mistakes, processing problems, and noninterviews.

The CPS is designed to provide accurate estimates of labor market activity in a particular month. Longitudinal aspects of the survey are a byproduct and, as such, are subject to defects and limitations that must be fully considered in any application of the data.

—Adapted from Ronald Dopkowski, "Practical Limitations on Using the CPS as a Longitudinal Survey," *Using the Current Population Survey as a Longitudinal Data Base*, Report 608 (Bureau of Labor Statistics, 1980), pp. 3–4.

Table 5. Current earnings relative to previous earnings of displaced workers reemployed in full-time wage and salary jobs by industry of lost job, January 1985

[Percent distribution]

Industry of lost job	Earnings in January 1985 relative to those of lost job				
	Total	20 percent or more below	Below, but within 20 percent	Equal or above, but within 20 percent	20 percent or more above
Total[1]	100.0	17.9	15.6	24.5	34.9
Construction	100.0	—	11.1	33.3	55.6
Manufacturing	100.0	23.0	17.9	22.6	30.9
Durable goods	100.0	24.9	21.5	18.6	29.3
Nondurable goods	100.0	19.9	11.7	30.0	33.6
Transportation and public utilities	100.0	—	25.7	47.3	20.3
Wholesale and retail trade	100.0	10.5	—	38.9	40.7
Finance and service industries	100.0	—	17.3	15.4	67.3
Public administration	100.0	52.8	—	—	44.4

[1] Includes mining, not shown separately.

NOTE: Data refer to persons age 20 and over with tenure of 3 years or more who lost or left a job between January 1979 and January 1984 because of plant closings or moves, slack work, or the abolishment of their positions or shifts. Includes workers who did not report earnings on lost job.

Another useful comparison to make in assessing the labor market experience of reemployed workers is to examine current earnings relative to previous earnings.[6] To minimize the effect of differences in hours worked on weekly earnings, the earnings data were compared only for persons who lost a full-time wage and salary position and were similarly reemployed. Among such workers, almost 60 percent earned as much or more in the January 1985 job as they had in the lost job. However, about 18 percent earned substantially less—20 percent or more—in their new job than they had earned in their previous employment. (See table 5.) In January 1984, only about half of the reemployed full-time wage earners made as much, or more, than they had in their old jobs and more than a quarter had suffered losses of 20 percent or more.

Overall, persons displaced during the 1979–83 period appeared to be generally better off in January 1985 than they had been in January 1984. Individuals were more likely to be working and, when employed in full-time jobs, were more likely to have matched their former earnings. A sizable group, however, continued to have difficulty in the labor market. For the most part, those with continuing difficulty were blacks, blue-collar workers, and persons formerly employed in manufacturing. More information on displaced workers will be available by the end of the 1986, when information from a second survey of displaced workers becomes available.[7] □

——FOOTNOTES——

[1] The displaced worker supplement was administered to all adult (20 years and older) respondents to the January 1984 Current Population Survey which is conducted by the Bureau of the Census for the Bureau of Labor Statistics. Those who answered in the affirmative to the question, "In the past 5 years, that is, since January 1979, has (name of respondent) lost or left a job because of a plant closing, an employer going out of business, a layoff from which (name of respondent) was not recalled, or other similar reasons?", were asked a series of more detailed questions about that job loss.

[2] "BLS Reports on Displaced Workers," USDL 84–492, Nov. 30, 1984; Paul O. Flaim and Ellen Sehgal, "Displaced workers of 1979–83: how well have they fared?" *Monthly Labor Review*, June 1985, pp. 3–16; and *Displaced Workers: 1979–83*, Bulletin 2240 (Bureau of Labor Statistics 1985).

[3] Robert W. Bednarzik and Richard M. Devens, Jr., eds., *Using the Current Population Survey as a Longitudinal Data Base*, Report 608 (Bureau of Labor Statistics, 1980); and *Proceedings of the Conference on Gross Flows in Labor Force Statistics* (Bureau of the Census and Bureau of Labor Statistics, June 1985).

[4] Hispanic origin includes both the white and black population groups.

[5] Michael Podgursky and Paul Swaim, "Labor Market Adjustment and Job Displacement: Evidence from the January 1984 Displaced Worker Survey" (Washington, Bureau of International Labor Affairs, November 1985), pp. 12 ff.

[6] *Ibid*.

[7] In January 1986, a second displaced workers supplement to the Current Population Survey was administered by the Census Bureau, sponsored jointly by the Employment and Training Administration and the Bureau of Labor Statistics. The data from the survey cover displacements over the January 1981–86 period.

Occupational pay structure in petroleum refineries

Hourly earnings of production workers in the Nation's petroleum refineries averaged $14.20 in June 1985, according to a Bureau of Labor Statistics wage survey.[1] Just over nine-tenths of the 51,203 workers covered by the survey earned between $12 and $16 an hour; about one-half had earnings within a $1 range—$14.50 to $15.50. The number of refineries paying single rates for individual occupations contributed substantially to this narrow spread, as did the relatively large proportion of skilled workers in the industry, the concentrations of employment in relatively few large companies, and the high degree of collective bargaining with a single union (the Oil, Chemical and Atomic Workers International Union, AFL–CIO).

Refinery workers averaged 23 percent more in June 1985 than in May 1981, when the last survey was conducted.[2] This increase compares with a 22-percent rise in the wage and salary component of the Bureau's Employment Cost Index for all manufacturing industries between the second quarters of 1981 and 1985. The petroleum industry's wage change largely reflected increases granted to nearly seven-eighths of the workers under collective bargaining agreements. Provisions for automatic cost-of-living adjustments (COLA), triggered primarily by specified changes in the BLS Consumer Price Index, applied to less than 5 percent of the work force.

Among the eight geographic regions studied in 1985, pay levels for six fell within 4 percent of the industry's nationwide average ($14.20 an hour). Averages were about 10 percent below this mark in the Western Pennsylvania-West Virginia region and in the Texas Inland-North Louisiana-Arkansas region. Regionally, pay levels of production and related workers ranged from $12.65 in Western Pennsylvania-West Virginia to $14.62 in the East Coast region. Workers in the Texas-Louisiana-Gulf Coast region, where two-fifths of the industry's work force was concentrated, averaged $14.50 an hour.

Twenty-six occupations, accounting for nearly four-fifths of the production workers, were selected to represent the wage structure and activities of production and related workers in the industry. (See table 1.) Among these jobs, average hourly earnings ranged from $11.41 for laborers to $15.38 for chief operators of stills. Assistant operators, who help chief operators maintain stills, accounted for one-fifth of the industry's work force and averaged $14.45 an hour. Chief operators' helpers, who maintain required temperatures in furnaces of stills and pumpers, averaged $13.65 and $14.49 an hour, respectively.

Average hourly earnings of the nine journeyman maintenance trades studied were closely grouped—ranging from $14.07 for machinery mechanics to $14.82 for boilermakers. General mechanics, the most numerous of these workers, averaged $14.60 an hour. General mechanic includes skilled workers operating under maintenance craft consolidation plans (which combine two crafts or more into a single job), and mechanics working in small refineries where specialization in maintenance work is impractical. Maintenance trades helpers averaged $12.77—9 percent below the lowest paid journeyman trade studied.

Paid holidays, usually 10 days annually, were provided to all production workers in the industry. All refineries studied also provided paid vacations to their production workers after qualifying periods of service. Typically, workers received 2 weeks of vacation pay after 1 year of service, 3 weeks after 5 years, 4 weeks after 10 years, 5 weeks after 15 years, and 6 weeks after 30 years. Virtually all refinery workers were provided at least part of the cost of life, hospitalization, surgical, basic medical, and major medical insurance, as well as retirement plans. Dental insurance and full or partial paid sick leave were provided to just over nine-tenths of the workers. Accidental death and dismemberment insurance was available to slightly more than four-

Table 1. Average straight-time hourly earnings and number of production and related workers in selected occupations, petroleum refineries, United States, June 1985

Occupation	Number of workers	Average (mean) hourly earnings[1]
Maintenance:		
Boilermakers	756	$14.82
Carpenters	370	14.63
Electricians	1,316	14.69
Helpers, maintenance trades	717	12.77
Instrument repairers	1,490	14.74
Machinists	1,905	14.74
Mechanics, general	4,848	14.60
Mechanics (machinery)	534	14.07
Pipefitters	1,563	14.61
Welders, hand	783	14.58
Processing:		
Assistant operators	10,513	14.45
Chief operators	6,063	15.38
Chief operators' helpers	2,135	13.65
Compounders	157	14.14
Laborers	1,252	11.41
Loaders, tank cars or trucks	539	13.20
Package fillers, machine	198	11.63
Pumpers	1,155	14.49
Pumpers' helpers	374	13.96
Treaters, oils	324	13.09
Inspecting and testing:		
Routine testers, laboratory	1,904	14.13
Recording and control:		
Stock clerks	561	13.92
Material movement:		
Truckdrivers[2]	40	13.00
Truckdrivers, medium truck	12	12.74
Truckdrivers, tractor-trailer	96	12.57
Power-truck operators[2]	127	12.43
Forklift	120	12.43
Custodial:		
Guards[2]	281	12.64
Guards I	71	12.22
Janitors	78	11.98

[1] Wage data are straight-time earnings which exclude premium pay for overtime and for work on weekends, holidays, and late shifts. Cost-of-living pay increases (but not bonuses) were included as part of the workers' regular pay. Excluded were performance bonuses and lump-sum payments of the type negotiated in the auto and aerospace industries as well as profit-sharing payments, attendance bonuses, Christmas or yearend bonuses, and other nonproduction bonuses.

[2] Includes data for subcategories not shown separately.

fifths of the work force; long-term disability insurance, to nearly three-fifths; and sickness and accident insurance, to two-fifths. Health plan coverage was usually financed jointly by the employer and employee.

The petroleum refining industry includes establishments engaged primarily in producing gasoline, kerosene, distillate fuel oil, residual fuel oils, lubricants, and other products from crude petroleum and its fractionation products. Production is accomplished through straight distillation of crude oil, redistillation of unfinished petroleum derivatives, cracking, or other processes as defined in the *Standard Industrial Classification Manual, 1972,* prepared by the U.S. Office of Management and Budget.

The 142 refineries within scope of the survey (those with at least 100 workers) employed 51,203 production and related workers in June 1985, down 22 percent from the 65,566 recorded in May 1981. Employment declines among the eight regions studied ranged from 2 percent in the West Coast to 40 percent in the East Coast, but typically ranged from about 20 to 30 percent among the other six regions. Much of this employment loss resulted from a lesser demand for petroleum products and the increased use of computerized processing equipment and other technological innovations.

Gasoline—including naphtha—was the major product of refineries employing more than nine-tenths of the production workers covered by the survey. Other products included distillated fuel oil, residual fuel oil, jet fuel, lubricating oil, and asphalt. Most workers in the Western Pennsylvania-West Virginia region were employed in refineries that were primarily manufacturing products other than gasoline, usually lubricating oil or distillate fuel oil. Refineries employing nearly three-fifths of the industry's workers were also processing petrochemicals.

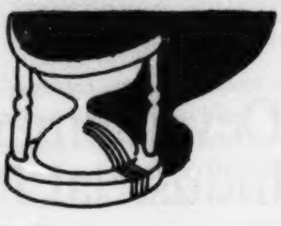
A comprehensive report on the survey findings of *Industry Wage Survey: Petroleum Refining, June 1985* (Bulletin 2255), may be purchased from the Superintendent of Documents, Washington, DC 20402, or from the Bureau of Labor Statistics, Publications Sales Center, P.O. Box 2145, Chicago, IL 60690. ☐

——*FOOTNOTES*——

[1] Wage data are straight-time earnings which exclude premium pay for overtime and for work on weekends, holidays, and late shifts. Cost-of-living pay increases (but not bonuses) were included as part of the worker's regular pay. Excluded were performance bonuses and lump-sum payments of the type negotiated in the auto and aerospace industries, as well as profit-sharing payments, attendance bonuses, Christmas or yearend bonuses, and other nonproduction bonuses.

[2] For summary findings of the May 1981 study, see "Pay in petroleum refineries outpaces manufacturing rise," *Monthly Labor Review*, February 1983, pp. 42–43.

Major Agreements Expiring Next Month



This list of selected collective bargaining agreements expiring in August is based on information collected by the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more. Private industry is arranged in order of Standard Industrial Classification.

Industry or activity	Employer and location	Labor organization[1]	Number of workers
Private			
Construction	National Electrical Contractors Association, Inc., Southeast Texas Chapter, Houston Division (Texas)	Electrical Workers	3,700
	Roofing Contractors Association of Southern California, Inc., and others (California)	Roofers	1,000
Apparel	National Neckwear Conference (New York, NY)	Clothing and Textile Workers	1,600
Chemicals	Avtex Fibers Inc. (Interstate)	Clothing and Textile Workers	1,500
Leather	Massachusetts Leather Manufacturers Association (Massachusetts)	Leather Workers	1,000
Stone, clay, and glass products	Wheaton Industries (Millville, NJ)	Glass, Pottery, Plastics	1,500
Primary metals	Armco Steel Corp. (Interstate)	Steelworkers	14,000
	Jones & Laughlin Steel Corp. (Interstate)	Steelworkers	32,000
	Republic Steel Corp. (Interstate)	Steelworkers	30,000
	Sharon Steel Corp. (Interstate)	Steelworkers	2,850
	Bethlehem Steel Co. (Interstate)	Steelworkers	49,000
	United States Steel Corp. (Interstate)	Steelworkers	102,000
	Babcock & Wilcox Co., Tubular Products Division (Beaver Falls, PA)	Steelworkers	4,500
	National Steel Corp. (Interstate)	Steelworkers	15,000
	Inland Steel Co. (Interstate)	Steelworkers	21,100
	Northwestern Steel and Wire Co. (Sterling, IL)	Steelworkers	1,600
Fabricated metal products	Fisher Controls Co. (Marshalltown, IA)	Auto Workers	1,300
Machinery	Cameron Iron Works, Inc. (Houston, TX)	Machinists	1,700
	Timken Co. (Canton, OH)	Steelworkers	8,000
Communication	Regional telephone companies: Ameritech, Bell Atlantic, Bell South, Nynex, Pacific Telesis, Southwestern Bell, and U.S. West	Communications Workers; Electrical Workers (IBEW); and others	375,000
Utilities	Alabama Power Co. (Alabama)	Electrical Workers (IBEW)	3,950
	Wisconsin Electric Power Co. (Wisconsin)	Electrical Workers (IBEW)	2,050
Restaurants	East Bay Restaurant Association (Alameda, CA)	Hotel Employees and Restaurant Employees	2,300
	Hotel Employers Association of San Francisco (California)	Hotel Employees and Restaurant Employees	5,000
Public			
Education	Florida: Broward County teachers	Teachers	7,700
	Brevard County Board of Education, teachers	Teachers	2,900
	Illinois: University of Illinois (Chicago), clerical	Service Employees	1,300
	Peoria Board of Education, teachers	Teachers	1,050
	Indiana: Fort Wayne Board of Education, teachers	Education Association (Ind.)	1,500
	Kansas: Kansas City teachers	Education Association (Ind.)	1,500
	Michigan: Warren Consolidated School District, teachers	Education Association (Ind.)	1,100
	New Mexico: Albuquerque Board of Education, teachers	Teachers	4,800
	Ohio: Columbus Board of Education, teachers	Education Association (Ind.)	4,500
	Pennsylvania: Philadelphia Board of Education, blue collar	Firemen and Oilers	5,000
General government	Ohio: Cincinnati general unit	Service Employees	2,800

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[1] Affiliated with AFL-CIO except where noted as independent (Ind.).

Developments in Industrial Relations

High court backs laid-off white teachers

The Supreme Court rejected an affirmative action plan that permitted black teachers in Jackson, MI, to retain their jobs while more senior white teachers were laid off. The plan had been instituted by the Jackson school board and the teachers' union after they had determined that the percentage of black teachers in the school system was substantially less than the percentage of black students. Despite the Court's ruling, it appears that the validity of using employment goals and quotas to equalize employment opportunities must await clarification in two cases scheduled to be heard by the Court this term. This is apparent from the fact that the Court was sharply divided in the Jackson case: there were three opinions by the five-member majority and two by the minority.

Not surprisingly, both proponents and opponents of the use of goal and quota systems claimed that the decision strengthened or at least did not nullify their positions. Terry Eastland, spokesman for the Department of Justice, said the decision "leaves for another case the bottom-line gut issue of when race may be taken into account in employment." During the arguments before the Court, Assistant Attorney General William Bradford Reynolds had expressed the Reagan Administration's position that affirmative action plans may not use quotas or goals and that the Government should intervene only on behalf of individuals who can prove that they are victims of specific acts of discrimination, rather than on behalf of groups or classes of people seeking redress of alleged broad patterns of discrimination.

The events leading to the decision began in 1973, when the school board and the Jackson Education Association revised the seniority provisions in their contract by providing that "at no time will there be a greater percentage of minority personnel laid off than the current percentage of minority personnel at the time of layoff." This change was based on a finding that in 1969, 15.2 percent of the students but only 3.9 percent of the teachers were black. When Jackson was forced to lay off teachers in 1981 and 1982, the contract requirement was followed and some black teachers were retained while several white teachers with more service were terminated. Eight of the laid-off white teachers then sued the school board, contending that the action violated their rights to equal protection under the Fourteenth Amendment to the Constitution. A Federal district judge ruled in favor of the school district, and his decision was upheld by the U.S. Court of Appeals for the Sixth Circuit.

In reversing the Court of Appeals' decision, the Supreme Court said that the board of education did, in fact, violate the equal protection clause of the Fourteenth Amendment. Writing for four members of the Court, Justice Lewis Powell rejected the Court of Appeals' position that the school board's efforts to provide "role models" for minority students or its efforts to reduce the effects of broad "societal discrimination" justified race-based layoffs. Justice Powell said, "This Court has never held that societal discrimination alone is enough to justify a racial classification. Rather, the Court has insisted upon some showing of prior discrimination by the governmental unit involved before allowing limited use of racial classifications to remedy such discrimination." In this case, Justice Powell said, there was no evidence that the school board had determined that prior discrimination in hiring teachers had actually occurred. In another aspect of the ruling, Justice Powell said the Court's 1977 ruling in *Hazelwood School District* vs. *United States* established that the proper statistical measure the school board should have used in assessing the makeup of the system's staff of teachers was the percentage of black teachers relative to the pool of available teachers, rather than relative to the racial composition of the student body.

In a concurring opinion, Justice Sandra Day O'Connor said that the petitioner had proved that the"layoff provision is 'not narrowly' tailored to achieve its asserted remedial purpose by demonstrating that the provision is keyed to a hiring goal that itself has no relation to the remedying of employment discrimination."

In another concurring opinion, Justice Byron White said the board's action clearly violated the equal protection clause of the Fourteenth Amendment, adding, "Whatever the legitimacy of hiring goals or quotas may be, the discharge of white teachers to make room for blacks, none of whom has been shown to be a victim of any racial discrimination, is quite a different matter. I cannot believe that in order to integrate a work force, it would be permissible to discharge whites and hire blacks until the latter comprised a suitable percentage of the work force."

In a dissenting opinion, Justice Thurgood Marshall, joined by Justices William Brennan and Harry Blackmun, said the Fourteenth Amendment does not prohibit "a union

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and a local school board from negotiating a collective bargaining agreement that apportions layoffs between two racially determined groups as a means of preserving the effects of an affirmative hiring policy, the constitutionality of which is unchallenged." Justice Marshall accused the Court majority of overlooking the racial tensions and threats of litigation that prevailed when the job retention preference was adopted and concluded, "a public employer, with the full agreement of its employees, should be permitted to preserve the benefits of a legitimate affirmative-action hiring plan even while reducing its work force."

In a separate dissent, Justice John Paul Stevens said the board's efforts to attain "multi-ethnic representation" on the faculty were permissible under the Fourteenth Amendment.

Eastern Airlines update

The travails of Eastern Airlines continue, but there was some hope for improvement in the financial condition of the carrier when the U.S. Department of Justice dropped its objections to Texas Air Corp.'s acquisition of Eastern (approval is still required from the Department of Transportation). In another unsettled matter, Eastern was continuing a court case to force the Machinists union to reopen its contract and negotiate wage and benefit reductions and changes in work rules similar to those negotiated by the Air Line Pilots and Transport Workers unions.

The latest series of crises at Eastern began in late 1985, when company chairman Frank Borman and president Joseph Leonard notified employees that, "the temporary [wage concession] programs that we have participated in since 1983 simply will not permit us to prosper in the new economic environment of our industry. . . . We must design and implement a restructuring of our employment costs that will allow us to resume the success of early 1985." During the first half of 1985, Eastern—which had not showed an annual profit since 1979—earned $46.4 million, but prospects for a full-year profit were dimmed by intensifying fare wars. (In fact, Eastern did show a profit of $6.3 million for the year.)

Following this announcement, Eastern informed the unions that its survival required a permanent pay cut of 22 percent; two-tier pay systems; changes in work rules, including more monthly flying time by plane crews; and some reduction in benefits. The proposed 22-percent pay cut would be only a few percentage points more than the temporary cuts the unions had negotiated in 1983. The temporary cuts—to apply only during 1984—were 20 percent for the 4,000 pilots represented by the Air Line Pilots Association; and 18 percent for the 6,800 flight attendants represented by the Transport Workers and for the 13,000 mechanics and related ground service employees represented by the Machinists union. In 1985, the Air Line Pilots and the Machinists had negotiated agreements with the carrier to restore the temporary cuts in January 1986. The Machinists contract, extending through 1987, also provided for pay increases in 1986 and 1987. The Transport Workers did not settle at the same time as the other unions, contending that Eastern refused to offer the same terms as those accepted by the other unions, and that Eastern's extension of the pay reduction into 1985 violated the 1983 agreement.

At yearend, the pressure on Eastern and the unions increased when the company's lenders set a March 31 deadline for negotiation and ratification of cost-reducing labor contracts. If the parties were unable to agree, the lenders could have seized Eastern's assets because the company would have been in default on it $2.5 billion in debts.

In mid-January, Eastern announced it was cutting 1,010 flight attendants from the payroll and was reducing the pay of the remaining attendants by 20 percent and increasing their flight hours to about 63 per month (from 52). Finally, the company said that it would institute a two-tier pay system. Eastern's action came after the expiration of a 30-day "cooling off" period declared by the National Mediation Board under the Railway Labor Act. The end of the 30-day period freed the union to strike and the company to impose contract changes or to lock out employees.

In late February, Frank Lorenzo, Chairman of Texas Air Corp., offered to buy Eastern. This impelled the unions to intensify efforts to settle on cost reductions and thus end the carrier's need for assistance from Lorenzo, who is viewed with disfavor by the unions because of his 1983 acquisition of Continental Airlines and subsequent dismissal of the union-represented employees, followed by resumption of operation at reduced pay levels. The Air Line Pilots settled as Eastern's board of directors was meeting to consider Lorenzo's offer. The Transport Workers claimed that it also settled at that time, but Eastern said that the document was never properly completed. Eastern rejected the Machinists' offer of a 15-percent pay cut because the union made it contingent on the resignation of company chairman Frank Borman. (Later, the airline initiated a lawsuit against the Machinists in an effort to force the union to negotiate on cost reduction measures, contending that the offer to cut pay in exchange for the resignation of Borman was a valid reopening of the contract.)

The 28-month Air Line Pilots accord calls for a 20-percent permanent pay cut that could be offset by a possible 1988 distribution to employees from an allocation equal to 5 percent of any 1987 profits. Other terms included increased flying hours; a two-tier pay system under which new employees receive 20 percent lower pay during their first 5 years on the job; a cut in vacation time; and a requirement that workers begin paying part of their medical insurance premiums.

The Transport Workers also negotiated a 33-month contract containing similar terms. It also provides for binding arbitration of several issues which arose during the workers balloting and threatened the entire accord.

In conjunction with the Transport Workers settlement, Eastern also agreed to recall the laid-off flight attendants and to pay employees part of the money they lost because the company extended the pay cut through 1985. The payment was calculated at 6 percent of earnings from February 1, 1985, through January 20, 1986.

Flight attendants at TWA end strike

At TWA, the Independent Federation of Flight Attendants ended its 2½-month strike but rejected the carrier's last offer. Return-to-work prospects were uncertain for the 6,000 employees. Apparently, the union decided to end the stoppage because TWA was hiring replacements—and some strikers had returned to work—permitting the airline to attain nearly full operation. Just before the employees voted to accept the offer, TWA announced that all but 600 of their jobs had been filled.

In May 1985, financier Carl Icahn began a drive to gain control of the financially stricken TWA. In August, the Air Line Pilots and the Machinists agreed to cuts in compensation and changes in work rules to aid Icahn in gaining control. To some extent, the unions were impelled to cooperate because they feared that Frank Lorenzo of Texas Air Corp. might outbid Icahn for control of the airlines.

At yearend, Icahn was encountering difficulties in gaining the financial backing necessary to complete the acquisition, leading the unions to agree to modifications of the original accords. Reportedly, the combined cut in compensation resulting from the settlements amounted to 23 percent for employees represented by the Air Line Pilots and 17 percent for those represented by the Machinists.

The Flight Attendants did not settle with TWA in 1985. Instead, it continued bargaining into 1986. Talks became increasingly difficult, with the union contending that TWA was seeking larger cuts in compensation than those accepted by the other unions. Finally, the union struck in March, but as time passed, the stoppage became less and less effective, leading to the union members' decision to end the strike.

Illinois State workers; firefighters accords

About 40,000 employees of the State of Illinois were covered by a 3-year contract negotiated by the State, County and Municipal Employees. The agreement, effective July 1, provides for general wage increases of 4 percent on October 1, 1986, 4.5 percent on July 1, 1987, and 5 percent on July 1, 1988. Employees at the top of their rate range—about half of those in the unit—received an additional 2-percent increase on July 1, 1986. The State also agreed to provide $4 million for special pay increases to employees the parties agree are underpaid.

The accord, which covered workers in a variety of State agencies, also provides for negotiations on the impact on employees of the closing of any facilities; a new State-financed dental plan; and reduced deductibles and copayments for workers who use preferred provider medical care organizations.

Also in Illinois, 4,500 Chicago firefighters were covered by a 3-year arbitration award. Martin O. Holland, President of Local 2 of the International Association of Fire Fighters, said the award "was worth the wait," while Carl S. Tomnberg, the city's counsel for the negotiations, said the award gives back "operational control of the fire department to the city." The parties' contract expired on December 31, 1983, and the arbitration period was concluded in March 1986, when arbitrator Irwin M. Lieberman issued his findings.

The union won its demand for five person staffing of fire companies, but the city won the right to 15 staffing variances per day, meaning that 15 companies can be comprised of four firefighters.

Other terms included, a reduction in the workweek to an average of 44.8 hours, from 46.7; 12 paid furlough days (formerly 10); 13 paid holidays (formerly 12); $15,000 city-financed life insurance (formerly $5,000); and elimination of the annual clothing allowance, with the city now required to open a commissary to provide uniforms and work clothes and to give each employee $50 a year for maintenance.

The settlement was financed by a $45.4 million a year increase in property taxes voted by the city council, which also appropriated $500,000 to aid employees who retired or became disabled during the arbitration period or to aid the survivors of firefighters who died.

Oscar Mayer plant shutdown averted

A shutdown of Oscar Mayer Food Corp.'s hog slaughtering plant in Perry, IA, was averted when employees approved a new 3-year contract. Included was a company guarantee that it will not shut down the facility for 18 months and will give a 90-day notice of any intention to shut down. The workers had turned down an earlier offer because it did not include these provisions.

The accord also raised the base pay rate to $9 an hour, from $8.69, effective immediately, and to $9.10 in April 1987. According to a company official, the new rates will be among the highest in the slaughtering industry.

UAW ends strike at Champion Spark Plugs

In the automobile parts industry, Champion Spark Plug Co. and the Auto Workers settled, ending a 10-week strike. The settlement covered 2,400 active and 600 laid-off workers at two plants in Ohio and one each in Michigan, Iowa, and Ontario, Canada.

The workers will receive $500 lump-sum payments in the first and second years and a 2.25-percent wage increase in the final year. The cost-of-living clause was continued, but 3 cents an hour will be diverted from each resulting quarterly pay adjustment.

The contract, running to February 1, 1989, also provided for benefit changes: adoption of health care cost containment requirements such as precertification for hospital admissions and second opinions on surgery; increased life insurance for retirees; a pension rate of $22.50 a month (was $18.95) for each year of credited service, a $1,205 a month pension (was $935) for employees retiring under the 30-year-and-out provision, and two payments of up to $200 each for current retirees.

UAW settle at former Bendix plants

The Auto Workers and Allied Corp. settled for 4,800 workers at former Bendix Corp. plants that were acquired by Allied in 1983. The plants, located in Michigan, Indiana, New Jersey, New York, and California, produce parts for the automobile, truck, aerospace, and shipbuilding industries.

The 3-year contract, scheduled to expire on May 3, 1989, does not provide for specified wage increases but the employees will receive $700 lump-sum payments in May of each year. The cost-of-living provision was continued, subject to a 2-cent-an-hour diversion from each of the first eight possible quarterly adjustments. There will be no diversion from the last three possible adjustments, which will be accrued and paid in lump sums at the end of the 3-month periods, rather than being paid immediately in regular weekly pay checks.

In other changes, the pension rate was increased to $20.50 a month for each year of credited service (from $18.45), and the 30-and-out pension was increased to $1,100 a month (from $935). □

'Solidarity' ends at the border

It seems very clear that employee interest in multinational union action is probably close to being nonexistent. The idea that workers of one country will enthusiastically, or even reluctantly, support the cause of their brothers and sisters in another country simply lacks credible evidence. Typical is the case of rubber workers. Members of the same union in the United States and Canada supplied each other's markets in the Canadian strike of 1974 and the U.S. strike 2 years later. In the latter stoppage, the companies sent molds to European plants for manufacture there and imported tires from these plants to the United States without any interference, despite calls for boycotts by American and multinational union organizations. This is typical of most such situations. Claims of international solidarity actions during such strikes rarely amount to more than leaflets promising support, statements of "solidarity" by union officials, or letters from foreign unions to company headquarters' officials "demanding" that they agree to the striking union's terms.

—Gordan F. Bloom and Herbert R. Northrup
Economics of Labor Relations
9th ed. (Homewood, Ill., Richard D. Irwin, Inc., 1981), pp. 170–71.

Book Reviews

A familiar cure

The Economics of Unemployment: A Comparative Analysis of Britain and the United States. By James J. Hughes and Richard Perlman. New York, Cambridge University Press, 1984. 258 pp.

The main theme of this book is that unemployment is mainly a consequence of inadequate demand, the only cure therefore being stimulation of aggregate demand. Through this work, James J. Hughes and Richard Perlman attempt to spark renewed interest in the subject, which they feel has been given short shrift in the two countries studied.

The reader is asked to accept at face value the premise that demand is indeed inadequate. Many, however, will find that a difficult idea to accept. In the United States, for example, we have the following phenomena: consumer debt per capita continues to break records; ditto government spending; the dollar is too strong for its own good, as spending on foreign goods skyrockets. In addition, the economy has performed remarkably well in employing the legions of baby-boomers, and their spouses. Indeed, the proportion of the population which is in the labor force has continually been increasing. If demand needs to be expanded, just where will it come from? Unfortunately, this question is not addressed by the authors.

It should by now surprise no one that the authors are of the Keynesian persuasion, a gutsy proposition these days. They feel that ". . . there needs to be a renewed attempt to develop a spirit of international Keynesianism . . ." And they come to bat for the beleaguered Phillips curve.

The authors of *The Economics of Unemployment* provide an excellent consolidation of recent research, presented in their theoretical frameworks. Opposing viewpoints are aired. There are separate chapters on unemployment statistics, unemployment categories, macroeconomic issues, relationship with inflation, effect of minimum wage legislation, unemployment insurance, experience since World War II, high-incidence population groups, costs, and the authors' prescription. The book suffers from a paucity of punctuation, which makes the going rough in some places. Also evident is the authors' penchant for the use of both tautology and understatement.

The reader will find *The Economics of Unemployment* heavier with polemic and politics than the title would indicate. The current U.S. and UK administrations are accused of ". . . creating unemployment to dampen down wage inflation . . . ," for example. To a large extent, the book is a call for the revival of Keynesianism, which leads one to question the objectivity of the analysis.

The book concludes by advocating an expanded scope for the Federal Government. The authors' program features expansionary demand policies, together with a flexible incomes policy and an active manpower policy. No evidence or argument is presented to support central government's increased role in economic decisionmaking. Apparently, the authors assume that the reader shares their distrust of free markets.

—Michael Weinert
Bureau of Labor Statistics
Chicago Regional Office

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Series	Release date	Period covered	Release date	Period covered	Release date	Period covered	BLS table number
Employment situation	July 3	June	August 1	July	September 5	August	1; 4–21
Producer Price Index	July 11	June	August 15	July	September 12	August	2; 33–35
Consumer Price Index	July 23	June	August 21	July	September 23	August	2; 30–32
Real earnings	July 23	June	August 21	July	September 23	August	14–17
Major collective bargaining settlements	July 28	1st half					3; 25–28
Employment Cost Index	July 29	2nd quarter					1–3; 22–24
Productivity and costs: Nonfarm business and manufacturing	July 30	2nd quarter					2; 42–44
Nonfinancial corporations			August 27	2nd quarter			2; 42–44
U.S. Import and Export Price Indexes	July 31	2nd quarter					2; 36–41

NOTES ON CURRENT LABOR STATISTICS

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics: series on labor force, employment, unemployment, collective bargaining settlements, consumer, producer, and international prices, productivity, international comparisons, and injury and illness statistics. In the notes that follow, the data in each group of tables is briefly described, key definitions are given, notes on the data are set forth, and sources of additional information are cited.

General notes

The following notes apply to several tables in this section:

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect on the data of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might prevent short-term evaluation of the statistical series. Tables containing data that have been adjusted are identified as "seasonally adjusted." (All other data are not seasonally adjusted.) Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. (Seasonally adjusted data appear in tables 1–3, 4–10, 13, 14, 17 and 18.) Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are seasonally adjusted with a procedure called X–11 ARIMA, which was developed at Statistics Canada as an extension of the standard X-11 method previously used by BLS. A detailed description of the procedure appears in *The X–11 ARIMA Seasonal Adjustment Method* by Estela Bee Dagum (Statistics Canada, Catalogue No. 12–564E, February 1980). The second change is that seasonal factors are calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year for the July-December period. However, revisions of historical data continue to be made only at the end of each calendar year.

Seasonally adjusted labor force data in tables 1 and 4–10 were revised in the February 1986 issue of the *Review*, to reflect experience through 1985.

Annual revisions of the seasonally adjusted payroll data shown in tables 13, 14, and 18 were made in the July 1986 *Review* using the X-11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in table 42 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the Hourly Earnings Index in table 17—are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of \$3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is \$2 (\$3/150 × 100 = \$2). The \$2 (or any other resulting values) are described as "real," "constant," or "1967" dollars.

Additional information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. News releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule preceding these general notes. More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in *Employment and Earnings*, a monthly publication of the Bureau. More data from the household survey is published in the two-volume data book—*Labor Force Statistics Derived From the Current Population Survey*, Bulletin 2096. More data from the establishment survey appears in two data books—*Employment, Hours, and Earnings, United States*, and *Employment, Hours, and Earnings, States and Areas*, and the annual supplements to these data books. More detailed information on employee compensation and collective bargaining settlements is published in the monthly periodical, *Current Wage Developments*. More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report*, and *Producer Prices and Price Indexes*. Detailed data on all of the series in this section are provided in the *Handbook of Labor Statistics*, which is published biennally by the Bureau. BLS bulletins are issued covering productivity, injury and illness, and other data in this section. Finally, the *Monthly Labor Review* carries analytical articles on annual and longer term developments in labor force, employment and unemployment; employee compensation and collective bargaining; prices; productivity; international comparisons; and injury and illness data.

Symbols

p = preliminary. To increase the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.

r = revised. Generally, this revision reflects the availability of later data but may also reflect other adjustments.

n.e.c. = not elsewhere classified.

n.e.s. = not elsewhere specified.

COMPARATIVE INDICATORS
(Tables 1–3)

Comparative indicators tables provide an overview and comparison of major BLS statistical series. Consequently, although many of the included series are available monthly, all measures in these comparative tables are presented quarterly and annually.

Labor market indicators include employment measures from two major surveys and information on rates of change in compensation provided by the Employment Cost Index (ECI) program. The labor force participation rate, the employment-to-population ratio, and unemployment rates for major demographic groups based on the Current Population ("household") Survey are presented, while measures of employment and average weekly hours by major industry sector are given using nonagricultural payroll data. The Employment Cost Index (compensation), by major sector and by bargaining status, is chosen from a variety of BLS compensation and wage measures because it provides a comprehensive measure of employer costs for hiring labor, not just outlays for wages, and it is not affected by employment shifts among occupations and industries.

Data on **changes in compensation, prices, and productivity** are presented in table 2. Measures of rates of change of compensation and wages from the Employment Cost Index program are provided for all civilian

nonfarm workers (excluding Federal and household workers) and for all private nonfarm workers. Measures of changes in: consumer prices for all urban consumers; producer prices by stage of processing; and the overall export and import price indexes are given. Measures of productivity (output per hour of all persons) are provided for major sectors.

Alternative measures of wage and compensation rates of change, which reflect the overall trend in labor costs, are summarized in table 3. Differences in concepts and scope, related to the specific purposes of the series, contribute to the variation in changes among the individual measures.

Notes on the data

Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data. For detailed descriptions of each data series, see BLS *Handbook of Methods,* Volumes I and II, Bulletins 2134–1 and 2134–2 (Bureau of Labor Statistics, 1982 and 1984, respectively), as well as the additional bulletins, articles, and other publications noted in the separate sections of the *Review*'s "Current Labor Statistics Notes." Historical data for many series are provided in the *Handbook of Labor Statistics, Bulletin 2217* (Bureau of Labor Statistics, 1985). Users may also wish to consult *Major Programs, Bureau of Labor Statistics,* Report 718 (Bureau of Labor Statistics, 1985).

EMPLOYMENT DATA
(Tables 1; 4–21)

Household survey data

Description of the series

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 59,500 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons include (1) all civilians who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. Members of the Armed Forces stationed in the United States are also included in the employed total. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **overall unemployment rate** represents the number unemployed as a percent of the labor force, including the resident Armed Forces. The **civilian unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **labor force** consists of all employed or unemployed civilians plus members of the Armed Forces stationed in the United States. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons who are retired, those engaged in their own housework, those not working while attending school, those unable to work because of long-term illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy, and members of the Armed Forces stationed in the United States. The **labor force participation rate** is the proportion of the noninstitutional populaton that is in the labor force. The **employment-population ratio** is total employment (including the resident Armed Forces) as a percent of the noninstitutional population.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings.*

Data in tables 4–10 are seasonally adjusted, based on the seasonal experience through December 1985.

Additional sources of information

For detailed explanations of the data, see BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 1, and for additional data, *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). A detailed description of the Current Population Survey as well as additional data are available in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*. Historical data from 1948 to 1981 are available in *Labor Force Statistics Derived from the Current Population Survey: A Databook*, Vols. I and II, Bulletin 2096 (Bureau of Labor Statistics, 1982).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review,* December 1969, pp. 9–20.

Establishment survey data

Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by more than 250,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

An **establishment** is an economic unit which produces goods or services (such as a factory or store) at a single location and is engaged in one type of economic activity.

Employed persons are all persons who received pay (including holiday

and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include working supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 12–17 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in the following industries: transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for about four-fifths of the total employment on private nonagricutural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earner and Clerical Workers (CPI-W). The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

The Diffusion Index, introduced in the May 1983 *Review*, represents the percent of 185 nonagricultural industries in which employment was rising over the indicated period. One-half of the industries with unchanged employment are counted as rising. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. The diffusion index is useful for measuring the dispersion of economic gains or losses and is also an economic indicator.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of May 1986 data, published in the July 1986 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Unadjusted data have been revised back to April 1984; seasonally adjusted data have been revised back to January 1981. These revisions were published in the *Supplement to Employment and Earnings* (Bureau of Labor Statistics, 1986). Unadjusted data from April 1985 forward, and seasonally adjusted data from January 1982 forward are subject to revision in future benchmarks.

Additional sources of information

Detailed data from the establishment survey are published monthly in the BLS periodical, *Employment and Earnings*. Earlier comparable unadjusted and seasonally adjusted data are published in *Employment, Hours, and Earnings, United States, 1909–84*, Bulletin 1312–12 (Bureau of Labor Statistics, 1985) and its annual supplement. For a detailed discussion of the methodology of the survey, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 2. For additional data, see *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

Unemployment data by State

Description of the series

Data presented in this section are obtained from two major sources—the Current Population Survey (CPS) and the Local Area Unemployment Statistics (LAUS) program, which is conducted in cooperation with State employment security agencies.

Monthly estimates of the labor force, employment, and unemployment for States and sub-State areas are a key indicator of local economic conditions and form the basis for determining the eligibility of an area for benefits under Federal economic assistance programs such as the Job Training Partnership Act and the Public Works and Economic Development Act. Insofar as possible, the concepts and definitions underlying these data are those used in the national estimates obtained from the CPS.

Notes on the data

Data refer to State of residence. Monthly data for 11 States—California, Florida, Illinois, Massachusetts, Michigan, New York, New Jersey, North Carolina, Ohio, Pennsylvania, and Texas—are obtained directly from the CPS, because the size of the sample is large enough to meet BLS standards of reliability. Data for the remaining 39 States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates for the 11 States are revised to new population controls. For the remaining States and the District of Columbia, data are benchmarked to annual average CPS levels.

Additional sources of information

Information on the concepts, definitions, and technical procedures used to develop labor force data for States and sub-State areas as well as additional data on sub-States are provided in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*, and the annual report, *Geographic Profile of Employment and Unemployment* (Bureau of Labor Statistics). See also *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 4.

COMPENSATION AND WAGE DATA

(Tables 1–3; 22–29)

COMPENSATION AND WAGE DATA are gathered by the Bureau from business establishments, State and local governments, labor unions, collective bargaining agreements on file with the Bureau, and secondary sources.

Employment Cost Index

Description of the series

The **Employment Cost Index** (ECI) is a quarterly measure of the rate of change in compensation per hour worked and includes wages, salaries, and employer costs of employee benefits. It uses a fixed market basket of labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over time in employer costs of employing labor. The index is not seasonally adjusted.

Statistical series on total compensation costs and on wages and salaries are available for private nonfarm workers excluding proprietors, the self-employed, and household workers. Both series are also available for State and local government workers and for the civilian nonfarm economy, which consists of private industry and State and local government workers combined. Federal workers are excluded.

The Employment Cost Index probability sample consists of about 2,200 private nonfarm establishments providing about 12,000 occupational observations and 700 State and local government establishments providing

3,500 occupational observations selected to represent total employment in each sector. On average, each reporting unit provides wage and compensation information on five well-specified occupations. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Fixed employment weights from the 1970 Census of Population are used each quarter to calculate the indexes for civilian, private, and State and local governments. These fixed weights, also used to derive all of the industry and occupation series indexes, ensure that changes in these indexes reflect only changes in compensation, not employment shifts among industries or occupations with different levels of wages and compensation. For the bargaining status, region, and metropolitan/nonmetropolitan area series, however, employment data by industry and occupation are not available from the census. Instead, the 1970 employment weights are reallocated within these series each quarter based on the current sample. Therefore, these indexes are not strictly comparable to those for the aggregate, industry, and occupation series.

Definitions

Total compensation costs include wages, salaries, and the employer costs for employee benefits.

Wages and salaries consist of earnings before payroll deductions, including production bonuses, incentive earnings, commissions, and cost-of-living adjustments.

Benefits include the cost to employers for paid leave, supplemental pay (including nonproduction bonuses), insurance, retirement and savings plans, and legally required benefits (such as social security, workers' compensation, and unemployment insurance).

Excluded from wages and salaries and employee benefits are such items as payment-in-kind, free room and board, and tips.

Notes on the data

The Employment Cost Index data series began in the fourth quarter of 1975, with the quarterly percent change in wages and salaries in the private nonfarm sector. Data on employer costs for employee benefits were included in 1980 to produce, when combined with the wages and salaries series, a measure of the percent change in employer costs for employee total compensation. State and local government units were added to the ECI coverage in 1981, providing a measure of total compensation change in the *civilian* nonfarm economy (excluding Federal employees). Historical indexes (June 1981=100) of the quarterly rates of change are presented in the May issue of the BLS monthly periodical, *Current Wage Developments*.

Additional sources of information

For a more detailed discussion of the Employment Cost Index, see Chapter 11, "The Employment Cost Index," in the *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 11, and the following *Monthly Labor Review* articles: "Employment Cost Index: a measure of change in the 'price of labor'," July 1975; "How benefits will be incorporated into the Employment Cost Index," January 1978; "Estimation procedures for the Employment Cost Index," May 1982; and "Introducing new weights for the Employment Cost Index," June 1985.

Data on the ECI are also available in BLS quarterly press releases issued in the month following the reference months of March, June, September, and December; and from the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

Collective bargaining settlements

Description of the series

Collective bargaining settlements data provide statistical measures of negotiated adjustments (increases, decreases, and freezes) in compensation (wages and benefits costs) and wages alone, quarterly for private industry and semiannually for State and local government. Compensation measures cover all collective bargaining situations involving 5,000 workers or more and wage measures cover all situations involving 1,000 workers or more. These data, covering private nonagricultural industries and State and local governments, are calculated using information obtained from bargaining agreements on file with the Bureau, parties to the agreements, and secondary sources, such as newspaper accounts. The data are not seasonally adjusted.

Settlement data are measured in terms of future specified adjustments: those that will occur within 12 months after contract ratification—first year—and all adjustments that will occur over the life of the contract expressed as an average annual rate. Adjustments are worker weighted. Both first-year and over-the-life measures exclude wage changes that may occur under cost-of-living clauses that are triggered by future movements in the Consumer Price Index.

Effective wage adjustments measure all adjustments occurring in the reference period, regardless of the settlement date. Included are changes from settlements reached during the period, changes deferred from contracts negotiated in earlier periods, and changes under cost-of-living adjustment clauses. Each wage change is worker weighted. The changes are prorated over all workers under agreements during the reference period yielding the average adjustment.

Definitions

Wage rate changes are calculated by dividing newly negotiated wages by the average hourly earnings, excluding overtime, at the time the agreement is reached. Compensation changes are calculated by dividing the change in the value of the newly negotiated wage and benefit package by existing average hourly compensation, which includes the cost of previously negotiated benefits, legally required social insurance programs, and average hourly earnings.

Compensation changes are calculated by placing a value on the benefit portion of the settlements at the time they are reached. The cost estimates are based on the assumption that conditions existing at the time of settlement (for example, methods of financing pensions or composition of labor force) will remain constant. The data, therefore, are measures of negotiated changes and not of total changes in employer cost.

Contract duration runs from the effective date of the agreement to the expiration date or first wage reopening date, if applicable. Average annual percent changes over the contract term take account of the compounding of successive changes.

Notes on the data

Care should be exercised in comparing the size and nature of the settlements in State and local government with those in the private sector because of differences in bargaining practices and settlement characteristics. A principal difference is the incidence of cost-of-living adjustment (COLA) clauses which cover only about 2 percent of workers under a few local government settlements, but cover 50 percent of workers under private sector settlements. Agreements without COLA's tend to provide larger specified wage increases than those with COLA's. Another difference is that State and local government bargaining frequently excludes pension benefits which are often prescribed by law. In the private sector, in contrast, pensions are typically a bargaining issue.

Additional sources of information

For a more detailed discussion on the series, see of the BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 10. Comprehensive data are published in press releases issued quarterly (in January, April, July, and October) for private industry, and semi-

annually (in February and August) for State and local government. Historical data and additional detailed tabulations for the prior calendar year appear in the April issue of the BLS monthly periodical, *Current Wage Developments*.

Work stoppages

Description of the series

Data on **work stoppages** measure the number and duration of major strikes or lockouts (involving 1,000 workers or more) occurring during the month (or year), the number of workers involved, and the amount of time lost because of stoppage.

Data are largely from newspaper accounts and cover only establishments directly involved in a stoppage. They do not measure the indirect or secondary effect of stoppages on other establishments whose employees are idle owing to material shortages or lack of service.

Definitions

Number of stoppages: The number of strikes and lockouts involving 1,000 workers or more and lasting a full shift or longer.

Workers involved: The number of workers directly involved in the stoppage.

Number of days idle: The aggregate number of work days lost by workers involved in the stoppages.

Days of idleness as a percent of estimated working time: Aggregate work days lost as a percent of the aggregate number of standard work days in the period multiplied by total employment in the period.

Notes on the data

This series is not comparable with the one terminated in 1981 that covered strikes involving six workers or more.

Additional sources of information

Data for each calendar year are reported in a BLS press release issued in the first quarter of the following year. Monthly data appear in the BLS monthly periodical, *Current Wage Developments*. Historical data appear in the BLS *Handbook of Labor Statistics*.

Other compensation data

Other BLS data on pay and benefits, not included in the Current Labor Statistics section of the *Monthly Labor Review*, appear in and consist of the following:

Industry Wage Surveys provide data for specific occupations selected to represent an industry's wage structure and the types of activities performed by its workers. The Bureau collects information on weekly work schedules, shift operations and pay differentials, paid holiday and vacation practices, and information on incidence of health, insurance, and retirement plans. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Monthly Labor Review*.

Area Wage Surveys annually provide data for selected office, clerical, professional, technical, maintenance, toolroom, powerplant, material movement, and custodial occupations common to a wide variety of industries in the areas (labor markets) surveyed. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Review*.

The National Survey of Professional, Administrative, Technical, and Clerical Pay provides detailed information annually on salary levels and distributions for the types of jobs mentioned in the survey's title in private employment. Although the definitions of the jobs surveyed reflect the duties and responsibilities in private industry, they are designed to match specific pay grades of Federal white-collar employees under the General Schedule pay system. Accordingly, this survey provides the legally required information for comparing the pay of salaried employees in the Federal civil service with pay in private industry. (See Federal Pay Comparability Act of 1970, 5 U.S.C. 5305.) Data are published in a BLS news release issued in the summer and in a bulletin each fall; summaries and analytical articles also appear in the *Review*.

Employee Benefits Survey provides nationwide information on the incidence and characteristics of employee benefit plans in medium and large establishments in the United States, excluding Alaska and Hawaii. Data are published in an annual BLS news release and bulletin, as well as in special articles appearing in the *Review*.

PRICE DATA

(Tables 2; 30–41)

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Consumer Price Indexes

Description of the series

The **Consumer Price Index** (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI-W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all urban consumer index (CPI-U) introduced in 1978 is representative of the 1972–73 buying habits of about 80 percent of the noninstitutional population of the United States at that time, compared with 40 percent represented in the CPI-W. In addition to wage earners and clerical workers, the CPI-U covers professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items are kept essentially unchanged between major revisions so that only price changes will be measured. All taxes directly associated with the purchase and use of items are included in the index.

Data collected from more than 24,000 retail establishments and 24,000 tenants in 85 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 28 major urban centers are presented in table 31. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

Notes on the data

In January 1983, the Bureau changed the way in which homeownership costs are measured for the CPI-U. A rental equivalence method replaced the

asset-price approach to homeownership costs for that series. In January 1985, the same change was made in the CPI-W. The central purpose of the change was to separate shelter costs from the investment component of homeownership so that the index would reflect only the cost of shelter services provided by owner-occupied homes.

Additional sources of information

For a discussion of the general method for computing the CPI, see *BLS Handbook of Methods, Volume II, The Consumer Price Index*, Bulletin 2134–2 (Bureau of Labor Statistics, 1984). The recent change in the measurement of homeownership costs is discussed in Robert Gillingham and Walter Lane, "Changing the treatment of shelter costs for homeowners in the CPI," *Monthly Labor Review*, June 1982, pp. 9–14.

Additional detailed CPI data and regular analyses of consumer price changes are provided in the *CPI Detailed Report*, a monthly publication of the Bureau. Historical data for the overall CPI and for selected groupings may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

Producer price indexes

Description of the series

Producer Price Indexes (PPI) measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 60,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The stage of processing structure of Producer Price Indexes organizes products by class of buyer and degree of fabrication (that is, finished goods, intermediate goods, and crude materials). The traditional commodity structure of PPI organizes products by similarity of end-use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

Since January 1976, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

Notes on the data

Beginning with the January 1986 issue, the *Review* is no longer presenting tables of Producer Price Indexes for commodity groupings, special composite groups, or SIC industries. However, these data will continue to be presented in the Bureau's monthly publication *Producer Price Indexes*. Series on the net output of major mining and manufacturing industry groups will appear in the *Review* starting with data for July 1986.

The Bureau has completed the first major stage of its comprehensive overhaul of the theory, methods, and procedures used to construct the Producer Price Indexes. Changes include the replacement of judgment sampling with probability sampling techniques; expansion to systematic coverage of the net output of virtually all industries in the mining and manufacturing sectors; a shift from a commodity to an industry orientation; the exclusion of imports from, and the inclusion of exports in, the survey universe; and the respecification of commodities priced to conform to Bureau of the Census definitions. These and other changes have been phased in gradually since 1978. The result is a system of indexes that is easier to use in conjunction with data on wages, productivity, and employment and other series that are organized in terms of the Standard Industrial Classification and the Census product class designations.

Additional sources of information

For a discussion of the methodology for computing Producer Price Indexes, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 7.

Additional detailed data and analyses of price changes are provided monthly in *Producer Price Indexes*. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

International price indexes

Description of the series

The BLS **International Price Program** produces quarterly export and import price indexes for nonmilitary goods traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national income accounts: it includes corporations, businesses, and individuals but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents. With publication of an all-import index in February 1983 and an all-export index in February 1984, all U.S. merchandise imports and exports now are represented in these indexes. The reference period for the indexes is 1977 = 100, unless otherwise indicated.

The product universe for both the import and export indexes includes raw materials, agricultural products, semifinished manufactures, and finished manufactures, including both capital and consumer goods. Price data for these items are collected quarterly by mail questionnaire. In nearly all cases, the data are collected directly from the exporter or importer, although in a few cases, prices are obtained from other sources.

To the extent possible, the data gathered refer to prices at the U.S. border for exports and at either the foreign border or the U.S. border for imports. For nearly all products, the prices refer to transactions completed during the first 2 weeks of the third month of each calendar quarter—March, June, September, and December. Survey respondents are asked to indicate all discounts, allowances, and rebates applicable to the reported prices, so that the price used in the calculation of the indexes is the acual price for which the product was bought or sold.

In addition to general indexes of prices for U.S. exports and imports, indexes are also published for detailed product categories of exports and imports. These categories are defined by the 4- and 5-digit level of detail of the Standard Industrial Trade Classification System (SITC). The calculation of indexes by SITC category facilitates the comparison of U.S. price trends and sector production with similar data for other countries. Detailed indexes are also computed and published on a Standard Industrial Classification (SIC-based) basis, as well as by end-use class.

Notes on the data

The export and import price indexes are weighted indexes of the Laspeyeres type. Price relatives are assigned equal importance within each weight category and are then aggregated to the SITC level. The values assigned to each weight category are based on trade value figures compiled

by the Bureau of the Census. The trade weights currently used to compute both indexes relate to 1980.

Because a price index depends on the same items being priced from period to period, it is necessary to recognize when a product's specifications or terms of transaction have been modified. For this reason, the Bureau's quarterly questionnaire requests detailed descriptions of the physical and functional characteristics of the products being priced, as well as information on the number of units bought or sold, discounts, credit terms, packaging, class of buyer or seller, and so forth. When there are changes in either the specifications or terms of transaction of a product, the dollar value of each change is deleted from the total price change to obtain the "pure" change. Once this value is determined, a linking procedure is employed which allows for the continued repricing of the item.

For the export price indexes, the preferred pricing basis is f.a.s. (free alongside ship) U.S. port of exportation. When firms report export prices f.o.b. (free on board), production point information is collected which enables the Bureau to calculate a shipment cost to the port of exportation. An attempt is made to collect two prices for imports. The first is the import price f.o.b. at the foreign port of exportation, which is consistent with the basis for valuation of imports in the national accounts. The second is the import price c.i.f. (cost, insurance, and freight) at the U.S. port of importation, which also includes the other costs associated with bringing the product to the U.S. border. It does not, however, include duty charges.

Additional sources of information

For a discussion of the general method of computing International Price Indexes, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 8.

Additional detailed data and analyses of international price developments are presented in the Bureau's quarterly publication *U.S. Import and Export Price Indexes* and in occasional *Monthly Labor Review* articles prepared by BLS analysts. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

PRODUCTIVITY DATA
(Tables 2; 42–47)

U. S. productivity and related data

Description of the series

The productivity measures relate real physical output to real input. As such, they encompass a family of measures which include single factor input measures, such as output per unit of labor input (output per hour) or output per unit of capital input, as well as measures of multifactor productivity (output per unit of labor and capital inputs combined). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

Corresponding indexes of hourly compensation, unit labor costs, unit nonlabor payments, and prices are also provided.

Definitions

Output per hour of all persons (labor productivity) is the value of goods and services in constant prices produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the value of goods and services in constant dollars produced per unit of capital services input.

Multifactor productivity is the ratio output per unit of labor and capital inputs combined. Changes in this measure reflect changes in a number of factors which affect the production process such as changes in technology, shifts in the composition of the labor force, changes in capacity utilization, research and development, skill and efforts of the work force, management, and so forth. Changes in the output per hour measures reflect the impact of these factors as well as the substitution of capital for labor.

Compensation per hour is the wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, and the wages, salaries, and supplementary payments for the self-employed (except for nonfinancial corporations in which there are no self-employed)—the sum divided by hours paid for. **Real compensation per hour** is compensation per hour deflated by the change in the Consumer Price Index for All Urban Consumers.

Unit labor costs is the labor compensation costs expended in the production of a unit of output and is derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from current dollar value of output and dividing by output. **Unit nonlabor costs** contain all the components of unit nonlabor payments *except* unit profits.

Unit profits include corporate profits and the value of inventory adjustments per unit of output.

Hours of all persons are the total hours paid of payroll workers, self-employed persons, and unpaid family workers.

Capital services is the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories—weighted by rental prices for each type of asset.

Labor and capital inputs combined are derived by combining changes in labor and capital inputs with weights which represent each component's share of total output. The indexes for capital services and combined units of labor and capital are based on changing weights which are averages of the shares in the current and preceding year (the Tornquist index-number formula).

Notes on the data

Output measures for the business sector and the nonfarm businesss sector exclude the constant dollar value of owner-occupied housing, rest of world, households and institutions, and general government output from the constant dollar value of gross national product. The measures are derived from data supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are developed from data of the Bureau of Labor Statistics and the Bureau of Economic Analysis.

The productivity and associated cost measures in tables 42–44 describe the relationship between output in real terms and the labor time and capital services involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input. Although these measures relate output to hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; capital investment; level of output; utilization of capacity, energy, and materials; the organization of production; managerial skill; and the characteristics and efforts of the work force.

Additional sources of information

Descriptions of methodology underlying the measurement of output per hour and multifactor productivity are found in the *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 13. Historical data for selected industries are provided in the Bureau's *Handbook of Labor Statistics*, 1985, Bulletin 2217.

International comparisons

Description of the series

Comparative measures of labor force, employment, and unemployment (tables 45 and 46) are prepared regularly for the United States, Canada, Australia, Japan, France, Germany, Great Britain, Italy, the Netherlands, and Sweden. Unemployment rates, approximating U.S. concepts, are prepared monthly for most of the countries; the other measures, annually.

The Bureau of Labor Statistics also prepares international comparisons of manufacturing labor productivity and labor costs (table 47) that cover the United States and 11 foreign countries—those listed above plus Belgium and Norway. These measures are limited to trend comparisons; that is, intercountry series of changes over time, rather than level comparisons because reliable international comparisons of the levels of manufacturing are unavailable. The U.S. measures are described in the notes on U.S. productivity measurement; the measures for foreign countries are compiled from various national and international data sources.

Definitions

Output measures are constant value output (value added) from the national accounts of each country, except for those for Japan prior to 1970 and for the Netherlands for 1969 forward, which are indexes of industrial production. The national accounting methods for measuring real output differ considerably among the 12 countries, but the use of different procedures does not, in itself, connote lack of comparability—rather, it reflects differences among countries in the availability and reliability of underlying data series.

Hours and compensation measures refer to all employed persons including the self-employed in the United States and Canada, and to all wage and salary employees in the other countries. *Hours* refer to hours *paid* in the United States, hours *worked* in the other countries. *Compensation (labor costs)* includes not only all payments made directly to employees and employer expenditures for social insurance and private benefit plans, but changes in significant employment or payroll taxes that are not compensation to employees but are labor costs to employers (France, Sweden, and the United Kingdom). Self-employed workers are included in the U.S. and Canadian figures by assuming that their hourly compensation is equal to the average for wage and salary employees.

Notes on the data

The data for the foreign countries in tables 45 and 46 have been adjusted, where necessary, for greater comparability with U.S. definitions of employment and unemployment. The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country. Therefore, the adjusted statistics relate to the civilian population age 16 and over in the United States, France, and Sweden, and from 1973 forward, Great Britain; 15 and over in Canada, Australia, Japan, Germany, and the Netherlands; and 14 and over in Italy. Prior to 1973, the data for Great Britain related to persons age 15 and over. The institutional population is included in the denominator of the labor force participation rates and employment-population ratios for Japan and Germany.

For most of the countries in table 47, the measures refer to total manufacturing as defined by the International Standard Industrial Classification. However, the measures for France (beginning 1959), Italy (beginning 1970), and the United Kingdom (beginning 1976) refer to manufacturing and mining less energy-related products. For all countries, manufacturing includes the activities of government enterprises.

In addition, for all countries, preliminary estimates for recent years are generally based on current indicators of manufacturing output, employment and hours, and hourly compensation until national accounts and other statistics used for the long-term measures become available.

Additional sources of information

For further information, see *International Comparisons of Unemployment*, Bulletin 1979 (Bureau of Labor Statistics, 1978), Appendix B and Supplements to Appendix B. Additional detail is also found in the BLS *Handbook of Methods*, Bulletin 2134–1, (Bureau of Labor Statistics, 1982), chapter 16. Additional international comparison statistics are available in the *Handbook of Labor Statistics* Bulletin 2217 (Bureau of Labor Statistics, 1985). The most recent statistics are presented and analyzed annually in the *Monthly Labor Review*, typically in the December issue (for the previous year) and in February.

OCCUPATIONAL INJURY AND ILLNESS DATA

(Table 48)

Description of the series

The Annual Survey of Occupational Injuries and Illnesses is designed to collect data on injuries and illnesses based on records which employers in the following industries maintain under the Occupational Safety and Health Act of 1970: agriculture, forestry, and fishing; oil and gas extraction; construction; manufacturing; transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. Excluded from the survey are self-employed individuals, farmers with fewer than 11 employees, employers regulated by other Federal safety and health laws, and Federal, State, and local government agencies.

Because the survey is a Federal–State cooperative program and the data must meet the needs of participating State agencies, an independent sample is selected for each State. The sample is selected to represent all private industries in the States and territories. The sample size for the survey is dependent upon (1) the characteristics for which estimates are needed; (2) the industries for which estimates are desired; (3) the characteristics of the population being sampled; (4) the target reliability of the estimates; and (5) the survey design employed.

While there are many characteristics upon which the sample design could be based, the total recorded case incidence rate is used because it is one of the most important characteristics and the least variable; therefore, it requires the smallest sample size.

The survey is based on stratified random sampling with a Neyman allocation and a ratio estimator. The characteristics used to stratify the establishments are the Standard Industrial Classification (SIC) code and size of employment.

Definitions

Recordable occupational injuries and illnesses are: (1) occupational deaths, regardless of the time between injury and death, or the length of the illness; or (2) nonfatal occupational illnesses; or (3) nonfatal occupational injuries which involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment (other than first aid).

Occupational injury is any injury such as a cut, fracture, sprain, amputation, and so forth, which results from a work accident or from exposure involving a single incident in the work environment.

Occupational illness is an abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. It includes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion, or direct contact.

Lost workday cases are cases which involve days away from work, or days of restricted work activity, or both.

Lost workday cases involving restricted work activity are those cases which result in restricted work activity only.

Lost workdays away from work are the number of workdays (consecutive or not) on which the employee would have worked but could not because of occupational injury or illness.

Lost workdays—restricted work activity are the number of workdays (consecutive or not) on which, because of injury or illness: (1) the employee was assigned to another job on a temporary basis; or (2) the employee worked at a permanent job less than full time; or (3) the employee worked at a permanently assigned job but could not perform all duties normally connected with it.

The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked even though able to work.

Incidence rates represent the number of injuries and/or illnesses or lost workdays per 100 full-time workers.

Notes on the data

Estimates are made for industries and employment-size classes and for severity classification: fatalities, lost workday cases, and nonfatal cases without lost workdays. Lost workday cases are separated into those where the employee would have worked but could not and those in which work activity was restricted. Estimates of the number of cases and the number of days lost are made for both categories.

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses, or lost workdays, per 100 full-time employees. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Only a few of the available measures are included in the *Handbook of Labor Statistics*. Full detail is presented in the annual bulletin, *Occupational Injuries and Illnesses in the United States, by Industry*.

Comparable data for individual States are available from the BLS Office of Occupational Safety and Health Statistics.

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration, respectively. Data from these organizations are included in BLS and State publications. Federal employee experience is compiled and published by the Occupational Safety and Health Administration. Data on State and local government employees are collected by about half of the States and territories; these data are not compiled nationally.

Additional sources of information

The Supplementary Data System provides detailed information describing various factors associated with work-related injuries and illnesses. These data are obtained from information reported by *employers* to State workers' compensation agencies. The Work Injury Report program examines selected types of accidents through an employee survey which focuses on the circumstances surrounding the injury. These data are not included in the *Handbook of Labor Statistics* but are available from the BLS Office of Occupational Safety and Health Statistics.

The definitions of occupational injuries and illnesses and lost workdays are from *Recordkeeping Requirements under the Occupational Safety and Health Act of 1970*. For additional data, see *Occupational Injuries and Illnesses in the United States, by Industry*, annual Bureau of Labor Statistics bulletin; BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 17; *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985), pp. 411–14; annual reports in the *Monthly Labor Review*; and annual U.S. Department of Labor press releases.

1. Labor market indicators

Selected indicators	1984	1985	1984			1985				1986
			II	III	IV	I	II	III	IV	I
Employment data										
Employment status of the civilian noninstitutionalized population (household survey)[1]										
Labor force participation rate	64.4	64.8	64.5	64.4	64.5	64.8	64.7	64.7	64.9	65.1
Employment-population ratio	59.5	60.1	59.6	59.7	59.8	60.1	60.0	60.1	60.4	60.5
Unemployment rate	7.5	7.2	7.5	7.4	7.2	7.3	7.3	7.2	7.0	7.1
Men	7.4	7.0	7.4	7.3	7.1	7.1	7.1	7.0	6.9	6.8
16 to 24 years	14.4	14.1	14.3	14.5	13.8	14.1	14.2	14.0	14.0	13.3
25 years and over	5.7	5.3	5.7	5.5	5.4	5.4	5.4	5.3	5.2	5.3
Women	7.6	7.4	7.6	7.6	7.5	7.6	7.5	7.4	7.2	7.3
16 to 24 years	13.3	13.0	13.5	13.1	12.9	13.1	13.0	12.7	13.1	13.2
25 years and over	6.0	5.9	5.9	6.0	5.9	6.0	6.0	5.9	5.5	5.7
Unemployment rate, 15 weeks and over	2.4	2.0	2.5	2.3	2.1	2.0	2.0	2.0	1.9	1.9
Employment, nonagricultural (payroll data):[1], [2]										
Total	94,496	97,614	94,064	94,977	95,907	96,581	97,295	97,897	98,668	99,403
Private sector	78,472	81,199	78,096	78,914	79,736	80,341	80,958	81,414	82,069	82,731
Goods-producing	24,727	24,930	24,690	24,891	24,943	24,970	24,947	24,866	24,937	25,028
Manufacturing	19,378	19,314	19,381	19,489	19,486	19,430	19,323	19,241	19,261	19,284
Service-producing	69,769	72,684	69,374	70,086	70,964	71,611	72,347	73,031	73,731	74,375
Average hours:										
Private sector	35.2	34.9	35.2	35.1	35.1	35.0	34.9	34.9	34.9	34.8
Manufacturing	40.7	40.5	40.8	40.6	40.5	40.4	40.4	40.6	40.8	40.7
Overtime	3.4	3.3	3.5	3.3	3.4	3.3	3.2	3.3	3.5	3.4
Employment Cost Index										
Percent change in the ECI, compensation:[3]										
All workers (excluding farm, household, and Federal workers)	-	-	.8	1.3	1.2	1.3	.7	1.6	.6	1.1
Private industry workers	-	-	.9	.8	1.3	1.2	.8	1.3	.6	1.1
Goods-producing[4]	-	-	.9	.9	1.1	1.5	.7	.6	.6	1.1
Servicing-producing[4]	-	-	1.0	.7	1.4	1.0	1.0	1.8	.5	1.1
State and local government workers	-	-	.4	3.5	1.0	1.2	.2	3.4	.7	1.0
Workers by bargaining status (private industry)										
Union	-	-	.9	.7	1.1	.7	.6	.8	.5	1.0
Nonunion	-	-	1.0	.9	1.3	1.6	1.0	1.4	.6	1.2

[1] Quarterly data seasonally adjusted.

[2] Data for final quarter are preliminary.

[3] Quarterly changes calculated using the last month of each quarter.

[4] Goods-producing industries include mining, construction, and manufacturing. Service-producing industries include all other private sector industries.

- Data not available.

2. Annual and quarterly percent changes in compensation, prices, and productivity

Selected measures	1984	1985	1984			1985				1986
			II	III	IV	I	II	III	IV	I
Compensation data: [1], [2]										
Employment Cost Index--Compensation (wages, salaries, benefits)										
Civilian nonfarm	-	-	0.8	1.3	1.2	1.3	0.7	1.6	0.6	1.1
Private nonfarm	-	-	.9	.8	1.3	1.2	.8	1.3	.6	1.1
Employment Cost Index--Wages and Salaries										
Civilian nonfarm	-	-	.8	1.3	1.2	1.2	.9	1.7	.6	1.0
Private nonfarm	-	-	.9	.8	1.2	1.2	1.1	1.3	.6	1.0
Price data[1]										
Consumer Price Index (All urban consumers): All items	4.0	3.8	1.1	1.2	.3	1.0	1.1	.7	.9	-.4
Producer Price Index										
Finished goods	1.7	1.8	-.2	-.5	.9	.0	.7	-1.4	2.5	-3.1
Finished consumer goods	1.6	1.5	-.3	-.5	.8	-.3	.7	-1.4	2.5	-4.0
Capital equipment	1.8	2.7	.5	-.5	1.1	1.3	.4	-1.4	2.5	.2
Intermediate materials, supplies, components	1.3	-.3	.6	-.4	-.1	-.4	.2	-.5	.4	-3.0
Crude materials	-1.8	-5.8	-1.7	-2.0	-1.2	-3.1	-2.1	-4.5	4.3	-7.7
U.S. Export Price Index	-	-	-	-	-	-	-	-	-	-
U.S. Import Price Index	-	-	-	-	-	-	-	-	-	-
Productivity data[1]										
Output per hour of all persons:										
Business sector	4.0	.2	4.5	1.0	.0	1.3	.7	2.1	-4.0	2.7
Nonfarm business sector	3.0	-.6	3.9	-.5	-.5	1.1	-.2	.5	-4.7	3.6
Nonfinancial corporations [3]	4.2	-.4	5.0	-.8	-.3	-.2	-1.1	3.2	-2.3	-.2

[1] Annual changes are December-to-December change. Quarterly changes are calculated using the last month of each quarter. Compensation and Price data are not seasonally adjusted and the price data are not compounded. Productivity data are seasonally adjusted.

[2] Excludes Federal and private household workers.

[3] Output per hour of all employees.

- Data not available.

3. Alternative measures of wage and compensation changes

Components	Quarterly average						Four quarters ended in--					
	1984	1985				1986	1984	1985				1986
	IV	I	II	III	IV	I	IV	I	II	III	IV	I
Average hourly compensation:[1]												
All persons, business sector	-	-	-	-	-	-	-	-	-	-	-	-
All employees, nonfarm business sector	-	-	-	-	-	-	-	-	-	-	-	-
Hourly earnings index:[2]												
All private nonfarm	-	-	-	-	-	-	-	-	-	-	-	-
Employment Cost Index--compensation:												
Civilian nonfarm [3]	1.2	1.3	0.7	1.6	0.6	1.1	5.2	4.8	4.6	4.9	4.3	4.1
Private nonfarm	1.3	1.2	.8	1.3	.6	1.1	4.9	4.4	4.2	4.7	3.9	3.8
Union	1.1	.7	.6	.8	.5	1.0	4.3	3.5	3.1	3.2	2.6	2.9
Nonunion	1.3	1.6	1.0	1.4	.6	1.2	5.2	4.9	4.9	5.4	4.6	4.2
State and local governments	1.0	1.2	.2	3.4	.7	1.0	6.6	6.3	6.1	6.0	5.7	5.5
Employment Cost Index--wages and salaries:												
Civilian nonfarm[3]	1.2	1.2	.9	1.7	.6	1.0	4.5	4.4	4.5	5.0	4.4	4.2
Private nonfarm	1.2	1.2	1.1	1.3	.6	1.0	4.1	4.1	4.3	4.8	4.1	3.9
Union	.9	.7	1.1	.9	.5	.7	3.4	3.0	3.4	3.6	3.1	3.2
Nonunion	1.3	1.4	1.1	1.5	.6	1.1	4.5	4.6	4.8	5.4	4.6	4.3
State and local governments	.8	1.0	.2	3.5	.8	1.0	5.9	5.6	5.5	5.6	5.6	5.5
Total effective wage adjustments[4]	.7	.7	.8	1.2	.5	.6	3.7	3.6	3.5	3.5	3.3	3.1
From current settlements	.3	.1	.2	.2	.1	.0	.8	.7	.9	.9	.7	.6
From prior settlements	.2	.6	.5	.5	.2	.4	2.0	2.2	1.9	1.8	1.8	1.7
From cost-of-living provision	.2	.1	.1	.4	.1	.2	.9	.7	.7	.8	.7	.8
Negotiated wage adjustments from settlements[4]												
First-year adjustments	2.3	3.3	2.5	2.0	2.1	.8	2.4	2.4	2.4	2.4	2.3	2.0
Annual rate over life of contract	1.5	3.2	2.8	3.1	1.9	1.6	2.4	2.3	2.4	2.5	2.7	2.5
Negotiated wage and benefit adjustments from settlements:[5]												
First-year adjustment	3.7	3.6	3.5	2.0	2.0	.3	3.6	3.4	3.4	3.1	2.6	2.3
Annual rate over life of contract	2.0	2.7	3.4	3.0	1.4	1.2	2.8	2.6	2.7	2.7	2.7	2.6

[1] Seasonally adjusted.

[2] Production or nonsupervisory workers.

[3] Excludes Federal and household workers.

[4] Limited to major collective bargaining units of 1,000 workers or more. The most recent data are preliminary.

[5] Limited to major collective bargaining units of 5,000 workers or more. The most recent data are preliminary.

- Data not available.

4. Employment status of the total population, by sex, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1985								1986				
	1984	1985	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
TOTAL															
Noninstitutional population [1], [2]	178,080	179,912	179,649	179,798	179,987	180,131	180,304	180,470	180,642	180,810	181,361	181,512	181,678	181,843	181,998
Labor force[2]	115,241	117,167	117,044	116,726	116,976	117,069	117,522	117,814	117,832	117,927	118,477	118,779	118,900	118,929	119,351
Participation rate [3]	64.7	65.1	65.2	64.9	65.0	65.0	65.2	65.3	65.2	65.2	65.3	65.4	65.4	65.4	65.6
Total employed [2]	106,702	108,856	108,644	108,303	108,575	108,936	109,251	109,513	109,671	109,904	110,646	110,252	110,481	110,587	110,797
Employment-population ratio [4]	59.9	60.5	60.5	60.2	60.3	60.5	60.6	60.7	60.7	60.8	61.0	60.7	60.8	60.8	60.9
Resident Armed Forces [1]	1,697	1,706	1,705	1,702	1,704	1,726	1,732	1,700	1,702	1,698	1,691	1,691	1,693	1,695	1,687
Civilian employed	105,005	107,150	106,939	106,601	106,871	107,210	107,519	107,813	107,969	108,206	108,955	108,561	108,788	108,892	109,110
Agriculture	3,321	3,179	3,284	3,140	3,120	3,095	3,017	3,058	3,070	3,151	3,299	3,096	3,285	3,222	3,160
Nonagricultural industries	101,685	103,971	103,655	103,461	103,751	104,115	104,502	104,755	104,899	105,055	105,655	105,465	105,503	105,670	105,950
Unemployed	8,539	8,312	8,400	8,423	8,401	8,133	8,271	8,301	8,161	8,023	7,831	8,527	8,419	8,342	8,554
Unemployment rate [5]	7.4	7.1	7.2	7.2	7.2	6.9	7.0	7.0	6.9	6.8	6.6	7.2	7.1	7.0	7.2
Not in labor force	62,839	62,744	62,605	63,072	62,991	63,062	62,782	62,656	62,810	62,883	62,885	62,733	62,778	62,914	62,647
Men, 16 years and over															
Noninstitutional population [1], [2]	85,156	86,025	85,898	85,970	86,052	86,132	86,217	86,293	86,374	86,459	86,882	86,954	87,035	87,120	87,195
Labor force[2]	65,386	65,967	66,012	65,808	65,884	65,945	66,074	66,227	66,176	66,139	66,679	66,838	66,864	66,757	66,943
Participation rate [3]	76.8	76.7	76.8	76.5	76.6	76.6	76.6	76.7	76.6	76.5	76.7	76.9	76.8	76.6	76.8
Total employed [2]	60,642	61,447	61,498	61,175	61,273	61,510	61,629	61,656	61,731	61,793	62,458	62,243	62,288	62,254	62,190
Employment-population ratio [4]	71.2	71.4	71.6	71.2	71.2	71.4	71.5	71.4	71.5	71.5	71.9	71.6	71.6	71.5	71.3
Resident Armed Forces [1]	1,551	1,556	1,556	1,552	1,554	1,574	1,580	1,551	1,552	1,549	1,539	1,539	1,540	1,541	1,533
Civilian employed	59,091	59,891	59,942	59,623	59,719	59,936	60,049	60,105	60,179	60,244	60,919	60,704	60,748	60,713	60,657
Unemployed	4,744	4,521	4,514	4,633	4,611	4,435	4,445	4,571	4,445	4,346	4,221	4,595	4,577	4,503	4,754
Unemployment rate [5]	7.3	6.9	6.8	7.0	7.0	6.7	6.7	6.9	6.7	6.6	6.3	6.9	6.8	6.7	7.1
Women, 16 years and over															
Noninstitutional population [1], [2]	92,924	93,886	93,751	93,828	93,915	93,999	94,087	94,177	94,266	94,351	94,479	94,558	94,643	94,723	94,803
Labor force[2]	49,855	51,200	51,032	50,918	51,092	51,124	51,448	51,587	51,655	51,788	51,797	51,941	52,036	52,172	52,408
Participation rate [3]	53.7	54.5	54.4	54.3	54.4	54.4	54.7	54.8	54.8	54.9	54.8	54.9	55.0	55.1	55.3
Total employed[2]	46,061	47,409	47,146	47,128	47,302	47,426	47,622	47,857	47,939	48,111	48,187	48,009	48,194	48,333	48,608
Employment-population ratio [4]	49.6	50.5	50.3	50.2	50.4	50.5	50.6	50.8	50.9	51.0	51.0	50.8	50.9	51.0	51.3
Resident Armed Forces [1]	146	150	149	150	150	152	152	149	149	149	152	152	153	154	154
Civilian employed	45,915	47,259	46,997	46,978	47,152	47,274	47,470	47,708	47,790	47,962	48,035	47,857	48,041	48,179	48,454
Unemployed	3,794	3,791	3,886	3,790	3,790	3,698	3,826	3,730	3,716	3,677	3,610	3,932	3,842	3,839	3,800
Unemployment rate [5]	7.6	7.4	7.6	7.4	7.4	7.2	7.4	7.2	7.2	7.1	7.0	7.6	7.4	7.4	7.3

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[1] The population and Armed Forces figures are not adjusted for seasonal variation.

[2] Includes members of the Armed Forces stationed in the United States.

[3] Labor force as a percent of the noninstitutional population.

[4] Total employed as a percent of the noninstitutional population.

[5] Unemployment as a percent of the labor force (including the resident Armed Forces).

5. Employment status of the civilian population, by sex, age, race and Hispanic origin, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1985								1986				
	1984	1985	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
TOTAL															
Civilian noninstitutional population[1]	176,383	178,206	177,944	178,096	178,263	178,405	178,572	178,770	178,940	179,112	179,670	179,821	179,985	180,148	180,311
Civilian labor force	113,544	115,461	115,339	115,024	115,272	115,343	115,790	116,114	116,130	116,229	116,786	117,088	117,207	117,234	117,664
Participation rate	64.4	64.8	64.8	64.6	64.7	64.7	64.8	65.0	64.9	64.9	65.0	65.1	65.1	65.1	65.3
Employed	105,005	107,150	106,939	106,601	106,871	107,210	107,519	107,813	107,969	108,206	108,955	108,561	108,788	108,892	109,110
Employment-population ratio[2]	59.5	60.1	60.1	59.9	60.0	60.1	60.2	60.3	60.3	60.4	60.6	60.4	60.4	60.4	60.5
Unemployed	8,539	8,312	8,400	8,423	8,401	8,133	8,271	8,301	8,161	8,023	7,831	8,527	8,419	8,342	8,554
Unemployment rate	7.5	7.2	7.3	7.3	7.3	7.1	7.1	7.1	7.0	6.9	6.7	7.3	7.2	7.1	7.3
Not in labor force	62,839	62,744	62,605	63,072	62,991	63,062	62,782	62,656	62,810	62,883	62,885	62,733	62,778	62,914	62,647
Men, 20 years and over															
Civilian noninstitutional population[1]	76,219	77,195	77,088	77,135	77,243	77,306	77,389	77,498	77,566	77,651	78,101	78,171	78,236	78,309	78,387
Civilian labor force	59,701	60,277	60,240	60,246	60,158	60,269	60,407	60,526	60,553	60,548	61,212	61,183	61,268	61,053	61,208
Participation rate	78.3	78.1	78.2	78.1	77.9	78.0	78.1	78.1	78.1	78.0	78.4	78.3	78.3	78.0	78.1
Employed	55,769	56,562	56,544	56,384	56,403	56,636	56,751	56,849	56,897	56,982	57,706	57,384	57,459	57,391	57,312
Employment-population ratio[2]	73.2	73.3	73.4	73.1	73.0	73.3	73.3	73.4	73.4	73.4	73.9	73.4	73.4	73.3	73.1
Agriculture	2,418	2,278	2,352	2,260	2,230	2,231	2,171	2,188	2,210	2,278	2,349	2,258	2,411	2,347	2,278
Nonagricultural industries	53,351	54,284	54,192	54,124	54,173	54,405	54,580	54,661	54,687	54,704	55,356	55,127	55,048	55,043	55,034
Unemployed	3,932	3,715	3,696	3,862	3,755	3,633	3,656	3,677	3,656	3,566	3,507	3,799	3,809	3,663	3,897
Unemployment rate	6.6	6.2	6.1	6.4	6.2	6.0	6.1	6.1	6.0	5.9	5.7	6.2	6.2	6.0	6.4
Women, 20 years and over															
Civilian noninstitutional population[1]	85,429	86,506	86,380	86,477	86,575	86,652	86,727	86,810	86,901	86,988	87,112	87,185	87,263	87,355	87,444
Civilian labor force	45,900	47,283	47,082	47,185	47,190	47,340	47,558	47,663	47,713	47,870	47,895	47,921	47,952	48,107	48,409
Participation rate	53.7	54.7	54.5	54.6	54.5	54.6	54.8	54.9	54.9	55.0	55.0	55.0	55.0	55.1	55.4
Employed	42,793	44,154	43,883	44,033	44,070	44,197	44,363	44,609	44,656	44,882	44,980	44,710	44,797	45,009	45,284
Employment-population ratio[2]	50.1	51.0	50.8	50.9	50.9	51.0	51.2	51.4	51.4	51.6	51.6	51.3	51.3	51.5	51.8
Agriculture	595	596	600	572	596	581	557	609	591	597	696	593	598	576	609
Nonagricultural industries	42,198	43,558	43,283	43,461	43,474	43,616	43,806	44,000	44,065	44,285	44,284	44,117	44,199	44,433	44,675
Unemployed	3,107	3,129	3,199	3,152	3,120	3,143	3,195	3,054	3,057	2,988	2,915	3,211	3,155	3,097	3,125
Unemployment rate	6.8	6.6	6.8	6.7	6.6	6.6	6.7	6.4	6.4	6.2	6.1	6.7	6.6	6.4	6.5
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	14,735	14,506	14,496	14,483	14,445	14,448	14,456	14,463	14,472	14,474	14,458	14,465	14,486	14,484	14,480
Civilian labor force	7,943	7,901	8,017	7,593	7,924	7,734	7,825	7,925	7,864	7,811	7,678	7,984	7,987	8,074	8,047
Participation rate	53.9	54.5	55.3	52.4	54.9	53.5	54.1	54.8	54.3	54.0	53.1	55.2	55.1	55.7	55.6
Employed	6,444	6,434	6,512	6,184	6,398	6,377	6,405	6,355	6,416	6,342	6,269	6,467	6,532	6,492	6,515
Employment-population ratio[2]	43.7	44.4	44.9	42.7	44.3	44.1	44.3	43.9	44.3	43.8	43.4	44.7	45.1	44.8	45.0
Agriculture	309	305	332	308	294	283	289	261	269	276	254	246	276	298	274
Nonagricultural industries	6,135	6,129	6,180	5,876	6,104	6,094	6,116	6,094	6,147	6,066	6,015	6,221	6,256	6,194	6,241
Unemployed	1,499	1,468	1,505	1,409	1,526	1,357	1,420	1,570	1,448	1,469	1,409	1,517	1,455	1,582	1,532
Unemployment rate	18.9	18.6	18.8	18.6	19.3	17.5	18.1	19.8	18.4	18.8	18.4	19.0	18.2	19.6	19.0
White															
Civilian noninstitutional population[1]	152,347	153,679	153,489	153,597	153,717	153,819	153,938	154,062	154,203	154,327	154,784	154,889	155,005	155,122	155,236
Civilian labor force	98,492	99,926	99,771	99,527	99,705	99,817	100,179	100,533	100,478	100,533	100,961	101,232	101,248	101,249	101,515
Participation rate	64.6	65.0	65.0	64.8	64.9	64.9	65.1	65.2	65.2	65.1	65.2	65.4	65.3	65.3	65.4
Employed	92,120	93,736	93,574	93,132	93,378	93,684	94,055	94,369	94,507	94,585	95,165	94,803	94,958	95,081	95,180
Employment-population ratio[2]	60.5	61.0	61.0	60.6	60.7	60.9	61.1	61.2	61.3	61.3	61.5	61.2	61.3	61.3	61.3
Unemployed	6,372	6,191	6,197	6,395	6,327	6,133	6,124	6,164	5,971	5,948	5,796	6,429	6,290	6,168	6,335
Unemployment rate	6.5	6.2	6.2	6.4	6.3	6.1	6.1	6.1	5.9	5.9	5.7	6.4	6.2	6.1	6.2
Black															
Civilian noninstitutional population[1]	19,348	19,664	19,620	19,648	19,675	19,700	19,728	19,761	19,790	19,819	19,837	19,863	19,889	19,916	19,943
Civilian labor force	12,033	12,364	12,372	12,317	12,354	12,289	12,378	12,412	12,457	12,522	12,548	12,545	12,656	12,740	12,781
Participation rate	62.2	62.9	63.1	62.7	62.8	62.4	62.7	62.8	62.9	63.2	63.3	63.2	63.6	64.0	64.1
Employed	10,119	10,501	10,466	10,538	10,499	10,560	10,500	10,566	10,518	10,657	10,737	10,690	10,791	10,856	10,889
Employment-population ratio[2]	52.3	53.4	53.3	53.6	53.4	53.6	53.2	53.5	53.1	53.8	54.1	53.8	54.3	54.5	54.6
Unemployed	1,914	1,864	1,906	1,779	1,855	1,729	1,878	1,846	1,939	1,865	1,810	1,855	1,865	1,884	1,892
Unemployment rate	15.9	15.1	15.4	14.4	15.0	14.1	15.2	14.9	15.6	14.9	14.4	14.8	14.7	14.8	14.8

See footnotes at end of table.

5. Continued— Employment status of the civilian population, by sex, age, race and Hispanic origin, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1985								1986			
	1984	1985	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Hispanic origin														
Civilian noninstitutional population[1]	11,478	11,915	11,862	11,897	11,933	11,969	12,004	12,040	12,075	12,111	12,148	12,184	12,219	12,255
Civilian labor force	7,451	7,698	7,616	7,669	7,713	7,781	7,844	7,854	7,782	7,772	7,787	7,943	7,920	7,976
Participation rate	64.9	64.6	64.2	64.5	64.6	65.0	65.3	65.2	64.4	64.2	64.1	65.2	64.8	65.1
Employed	6,651	6,888	6,806	6,856	6,870	6,973	7,026	6,982	6,953	6,962	6,998	6,969	7,105	7,144
Employment-population ratio[2]	57.9	57.8	57.4	57.6	57.6	58.3	58.5	58.0	57.6	57.5	57.6	57.2	58.2	58.3
Unemployed	800	811	810	813	843	808	818	872	829	810	789	974	815	832
Unemployment rate	10.7	10.5	10.6	10.6	10.9	10.4	10.4	11.1	10.7	10.4	10.1	12.3	10.3	10.4

[1] The population figures are not seasonally adjusted.

[2] Civilian employment as a percent of the civilian noninstitutional population.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" groups are not presented and Hispanics are includ in both the white and black population groups.

6. Selected employment indicators, monthly data seasonally adjusted

(In thousands)

Selected categories	Annual average		1985								1986			
	1984	1985	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
CHARACTERISTIC														
Civilian employed, 16 years and over	105,005	107,150	106,939	106,801	106,871	107,210	107,519	107,813	107,969	108,206	108,955	108,561	108,789	108,892
Men	59,091	59,891	59,942	59,823	59,719	59,936	60,049	60,105	60,179	60,244	60,919	60,704	60,748	60,713
Women	45,915	47,259	46,997	46,978	47,152	47,274	47,470	47,708	47,790	47,962	48,036	47,857	48,041	48,179
Married men, spouse present	39,056	39,248	39,280	38,986	39,096	39,142	39,109	39,272	39,314	39,278	39,615	39,382	39,365	39,555
Married women, spouse present	25,636	26,336	26,036	26,174	26,316	26,392	26,531	26,702	26,721	26,804	26,950	26,593	26,656	26,802
Women who maintain families	5,465	5,597	5,626	5,643	5,607	5,627	5,596	5,514	5,605	5,690	5,702	5,733	5,771	5,812
MAJOR INDUSTRY AND CLASS OF WORKER														
Agriculture:														
Wage and salary workers	1,555	1,535	1,582	1,530	1,479	1,456	1,438	1,465	1,537	1,572	1,673	1,519	1,589	1,567
Self-employed workers	1,553	1,458	1,498	1,451	1,474	1,444	1,414	1,436	1,361	1,409	1,492	1,444	1,453	1,475
Unpaid family workers	213	185	196	159	170	176	170	172	158	164	163	156	172	180
Nonagricultural industries:														
Wage and salary workers	93,565	95,871	95,660	95,391	95,523	95,791	96,546	96,530	96,676	96,921	97,911	97,516	97,689	97,831
Government	15,770	16,031	15,936	16,000	15,949	16,075	16,145	16,213	16,157	16,194	16,418	16,104	16,095	16,187
Private industries	77,794	79,841	79,724	79,391	79,574	79,716	80,401	80,317	80,519	80,727	81,494	81,412	81,594	81,643
Private households	1,238	1,249	1,255	1,228	1,251	1,295	1,266	1,271	1,197	1,131	1,256	1,197	1,213	1,321
Other	76,556	78,592	78,469	78,163	78,323	78,421	79,135	79,046	79,322	79,596	80,238	80,216	80,380	80,322
Self-employed workers	7,785	7,811	7,711	7,728	7,724	7,874	7,846	7,981	8,013	7,903	7,655	7,869	7,844	7,571
Unpaid family workers	335	289	290	292	277	303	298	248	249	250	273	270	240	253
PERSONS AT WORK PART TIME[1]														
All industries:														
Part time for economic reasons	5,744	5,500	5,876	5,544	5,596	5,660	5,554	5,475	5,496	5,484	5,543	5,377	5,538	5,923
Slack work	2,430	2,430	2,607	2,524	2,414	2,480	2,433	2,251	2,306	2,303	2,364	2,389	2,330	2,603
Could only find part-time work	2,948	2,819	2,871	2,751	2,766	2,835	2,815	2,887	2,883	2,864	2,883	2,703	2,953	2,974
Voluntary part time	13,169	13,489	13,079	13,439	13,634	13,622	13,498	13,713	13,645	13,556	13,958	13,817	13,754	13,933
Nonagricultural industries:														
Part time for economic reasons	5,512	5,334	5,550	5,278	5,328	5,413	5,299	5,241	5,286	5,294	5,275	5,158	5,301	5,621
Slack work	2,291	2,273	2,418	2,334	2,251	2,319	2,282	2,115	2,196	2,195	2,209	2,224	2,159	2,430
Could only find part-time work	2,886	2,730	2,785	2,675	2,686	2,740	2,730	2,801	2,784	2,780	2,776	2,636	2,861	2,849
Voluntary part time	12,704	13,038	12,612	12,995	13,235	13,179	13,053	13,277	13,194	13,122	13,441	13,369	13,285	13,599

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

7. Selected unemployment indicators, monthly data seasonally adjusted

(Unemployment rates)

Selected categories	Annual average		1985								1986				
	1984	1985	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
CHARACTERISTIC															
Total, all civilian workers	7.5	7.2	7.3	7.3	7.3	7.1	7.1	7.1	7.0	6.9	6.7	7.3	7.2	7.1	7.3
Both sexes, 16 to 19 years	18.9	18.6	18.6	18.6	19.3	17.5	18.1	19.8	18.4	18.8	18.4	19.0	18.2	19.6	19.0
Men, 20 years and over	6.6	6.2	6.1	6.4	6.2	6.0	6.1	6.1	6.0	5.9	5.7	6.2	6.2	6.0	6.4
Women, 20 years and over	6.8	6.6	6.6	6.7	6.6	6.6	6.7	6.4	6.4	6.2	6.1	6.7	6.6	6.4	6.5
White, total	6.5	6.2	6.2	6.4	6.3	6.1	6.1	6.1	5.9	5.9	5.7	6.4	6.2	6.1	6.2
Both sexes, 16 to 19 years	16.0	15.7	16.0	16.0	16.1	15.2	15.3	17.0	15.5	15.9	14.9	16.2	14.5	16.4	16.0
Men, 16 to 19 years	16.8	16.5	16.7	16.7	17.1	17.2	16.2	18.5	15.8	16.2	14.7	16.5	15.3	17.2	17.3
Women, 16 to 19 years	15.2	14.8	15.1	15.2	15.0	13.0	14.4	15.3	15.1	15.5	15.1	15.8	13.7	15.6	14.7
Men, 20 years and over	5.7	5.4	5.2	5.7	5.6	5.3	5.2	5.2	5.2	5.1	5.0	5.4	5.5	5.2	5.5
Women, 20 years and over	5.8	5.7	5.8	5.8	5.7	5.7	5.7	5.5	5.4	5.4	5.3	5.9	5.8	5.5	5.5
Black, total	15.9	15.1	15.4	14.4	15.0	14.1	15.2	14.9	15.6	14.9	14.4	14.6	14.7	14.8	14.6
Both sexes, 16 to 19 years	42.7	40.2	40.4	38.5	41.2	35.3	38.8	39.7	40.8	41.6	41.9	39.1	43.7	42.6	40.8
Men, 16 to 19 years	42.7	41.0	39.3	41.0	43.1	34.9	41.1	41.0	45.2	41.0	41.3	38.7	44.1	41.4	40.8
Women, 16 to 19 years	42.6	39.2	41.5	37.8	39.0	35.6	36.1	38.2	36.0	42.3	42.4	39.5	43.4	43.7	40.8
Men, 20 years and over	14.3	13.2	13.4	12.5	12.8	11.9	13.3	13.7	13.7	13.1	12.7	13.3	12.6	12.6	12.7
Women, 20 years and over	13.5	13.1	13.5	12.7	13.1	13.1	13.5	12.1	13.6	12.6	12.0	12.5	12.2	12.5	12.8
Hispanic origin, total	10.7	10.5	10.6	10.6	10.9	10.4	10.4	11.1	10.7	10.4	10.1	12.3	10.3	10.4	11.0
Married men, spouse present	4.6	4.3	4.5	4.6	4.4	4.1	4.3	4.2	4.3	4.3	4.3	4.5	4.5	4.2	4.5
Married women, spouse present	5.7	5.6	5.7	5.8	5.7	5.4	5.6	5.3	5.5	5.3	5.1	5.5	5.6	5.3	5.4
Women who maintain families	10.3	10.4	10.8	9.8	10.3	10.8	11.3	10.4	10.0	9.4	9.9	9.9	10.1	9.4	10.2
Full-time workers	7.2	6.8	6.9	6.8	7.0	6.8	6.8	6.8	6.7	6.6	6.4	6.9	6.9	6.7	7.0
Part-time workers	9.3	9.3	10.0	9.5	9.4	9.0	9.3	9.6	8.8	9.0	8.4	9.4	9.1	9.6	9.2
Unemployed 15 weeks and over	2.4	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.8	2.0	1.9	1.8	1.9
Labor force time lost[1]	8.6	8.1	8.3	8.2	8.2	8.1	8.1	7.9	7.9	7.8	7.6	8.1	8.1	8.1	8.3
INDUSTRY															
Nonagricultural private wage and salary workers	7.4	7.2	7.2	7.3	7.3	7.1	7.2	7.1	7.0	6.9	6.7	7.2	7.2	7.2	7.3
Mining	10.0	9.5	7.5	10.9	9.9	8.6	9.8	7.7	7.3	10.3	10.9	9.2	10.4	12.8	13.7
Construction	14.3	13.1	11.0	13.5	13.4	13.1	13.6	13.5	13.4	12.6	12.9	13.2	13.0	12.0	13.3
Manufacturing	7.5	7.7	7.8	7.7	7.9	7.8	7.7	7.5	7.7	7.3	7.0	7.2	7.2	6.8	7.5
Durable goods	7.2	7.6	7.8	7.9	7.9	7.9	7.7	7.3	7.6	7.3	7.0	7.4	6.8	6.8	7.3
Nondurable goods	7.8	7.8	7.8	7.5	7.9	7.6	7.8	7.8	7.8	7.3	7.1	7.0	7.7	6.8	7.7
Transportation and public utilities	5.5	5.1	5.2	5.3	5.7	4.5	5.3	5.1	5.1	5.0	4.3	5.3	6.1	5.6	5.3
Wholesale and retail trade	8.0	7.6	7.8	7.7	7.6	7.7	7.6	7.7	7.5	7.6	7.2	7.8	7.6	8.1	8.1
Finance and service industries	5.9	5.6	6.1	5.7	5.6	5.5	5.5	5.4	5.4	5.3	5.2	5.9	5.7	5.9	5.5
Government workers	4.5	3.9	3.9	3.9	4.0	3.9	3.8	3.9	3.6	3.8	3.4	3.6	4.0	3.5	3.7
Agricultural wage and salary workers	13.5	13.2	11.9	12.5	14.0	14.0	13.3	12.9	12.5	10.6	10.9	14.3	11.9	13.4	15.8

[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

8. Unemployment rates by sex and age, monthly data seasonally adjusted

(Civilian workers)

Sex and age	Annual average		1985								1986			
	1984	1985	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Total, 16 years and over	7.5	7.2	7.3	7.3	7.3	7.1	7.1	7.1	7.0	6.9	6.7	7.3	7.2	7.1
16 to 24 years	13.9	13.6	14.0	13.6	13.9	13.0	13.3	13.9	13.5	13.3	13.0	13.6	13.2	13.9
16 to 19 years	18.9	18.6	18.8	18.6	19.3	17.5	18.1	19.8	18.4	18.8	18.4	19.0	18.2	19.6
16 to 17 years	21.2	21.0	21.2	21.6	21.7	19.1	20.3	22.7	21.4	21.1	20.9	21.8	19.4	20.9
18 to 19 years	17.4	17.0	17.1	16.4	17.3	16.8	16.7	17.8	16.9	17.5	16.4	17.2	17.1	18.9
20 to 24 years	11.5	11.1	11.6	11.2	11.2	10.8	10.9	10.9	11.0	10.6	10.4	10.8	10.6	10.9
25 years and over	5.8	5.6	5.5	5.8	5.6	5.5	5.6	5.4	5.4	5.3	5.1	5.7	5.7	5.4
25 to 54 years	6.1	5.8	5.8	6.0	5.9	5.8	5.8	5.7	5.6	5.5	5.4	5.9	5.9	5.8
55 years and over	4.5	4.1	4.3	4.3	4.4	4.1	4.1	3.9	3.8	3.9	3.9	4.4	4.3	3.9
Men, 16 years and over	7.4	7.0	7.0	7.2	7.2	6.9	6.9	7.1	6.9	6.7	6.5	7.0	7.0	6.9
16 to 24 years	14.4	14.1	14.7	14.2	14.6	13.8	13.8	14.6	13.9	13.5	12.8	13.6	13.6	14.5
16 to 19 years	19.6	19.5	19.4	19.2	20.5	19.6	19.3	21.5	19.4	19.3	18.2	19.3	18.9	20.2
16 to 17 years	21.9	21.9	22.2	23.2	22.1	21.9	20.7	24.0	20.9	21.6	20.9	23.2	20.0	21.2
18 to 19 years	18.3	17.9	17.6	16.4	18.7	18.1	18.3	19.9	18.7	18.0	16.2	16.6	17.8	19.7
20 to 24 years	11.9	11.4	12.3	11.7	11.6	10.9	11.0	11.1	11.2	10.6	10.3	10.7	11.0	11.6
25 years and over	5.7	5.3	5.1	5.6	5.4	5.3	5.3	5.3	5.2	5.1	5.0	5.5	5.5	5.2
25 to 54 years	5.9	5.6	5.3	5.8	5.6	5.6	5.5	5.5	5.4	5.4	5.3	5.7	5.7	5.5
55 years and over	4.8	4.1	4.1	4.4	4.6	3.8	4.0	4.1	4.0	3.9	3.9	4.4	4.3	3.9
Women, 16 years and over	7.6	7.4	7.6	7.5	7.4	7.3	7.5	7.3	7.2	7.1	7.0	7.6	7.4	7.4
16 to 24 years	13.3	13.0	13.3	12.9	13.1	12.2	12.9	13.1	13.1	13.2	13.2	13.6	12.7	13.2
16 to 19 years	18.0	17.6	18.1	17.6	17.9	15.3	16.9	17.9	17.4	18.3	18.5	18.6	17.5	19.0
16 to 17 years	20.4	20.0	20.1	19.9	21.2	15.8	19.8	21.2	22.0	20.6	20.8	20.2	18.7	20.5
18 to 19 years	16.6	16.0	16.5	16.4	15.7	15.3	14.9	15.5	15.1	16.9	16.5	17.7	16.3	18.1
20 to 24 years	10.9	10.7	10.8	10.6	10.7	10.7	10.9	10.7	10.8	10.6	10.5	11.0	10.1	10.0
25 years and over	6.0	5.9	6.1	6.0	5.9	5.8	6.0	5.6	5.6	5.4	5.3	5.9	5.9	5.8
25 to 54 years	6.3	6.2	6.4	6.3	6.2	6.1	6.2	5.9	5.9	5.7	5.6	6.2	6.3	6.2
55 years and over	4.2	4.1	4.4	4.1	4.2	4.5	4.2	3.7	3.6	3.9	3.8	4.4	4.4	3.8

9. Unemployed persons by reason for unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Reason for unemployment	Annual average		1985								1986			
	1984	1985	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Job losers	4,421	4,139	3,994	4,167	4,206	4,144	4,142	4,040	4,081	3,933	3,776	4,162	4,246	4,034
On layoff	1,171	1,157	1,068	1,135	1,134	1,112	1,167	1,161	1,175	1,132	1,163	1,152	1,164	1,028
Other job losers	3,250	2,982	2,926	3,032	3,072	3,032	2,975	2,879	2,906	2,801	2,613	3,010	3,082	3,006
Job leavers	823	877	870	983	894	875	852	911	808	876	996	1,001	1,002	1,110
Reentrants	2,184	2,256	2,378	2,233	2,184	2,191	2,335	2,237	2,226	2,225	2,066	2,292	2,197	2,191
New entrants	1,110	1,039	1,142	1,018	1,096	941	918	1,045	1,055	1,033	1,025	1,097	1,000	1,059
PERCENT OF UNEMPLOYED														
Job losers	51.8	49.8	47.6	49.6	50.2	50.8	50.2	49.1	50.0	48.8	48.0	48.7	50.3	48.1
On layoff	13.7	13.9	12.7	13.5	13.5	13.6	14.2	14.1	14.4	14.0	14.8	13.5	13.8	12.2
Other job losers	38.1	35.9	34.9	36.1	36.6	37.2	36.1	35.0	35.6	34.7	33.2	35.2	36.5	35.8
Job leavers	9.6	10.6	10.4	11.7	10.7	10.7	10.3	11.1	9.9	10.9	12.7	11.7	11.9	13.2
Reentrants	25.6	27.1	28.4	26.6	26.1	26.9	28.3	27.2	27.2	27.6	26.3	26.8	26.0	26.1
New entrants	13.0	12.5	13.6	12.1	13.1	11.5	11.1	12.7	12.9	12.8	13.0	12.8	11.8	12.6
PERCENT OF CIVILIAN LABOR FORCE														
Job losers	3.9	3.6	3.5	3.6	3.6	3.6	3.6	3.5	3.5	3.4	3.2	3.6	3.6	3.4
Job leavers	.7	.8	.8	.9	.8	.8	.7	.8	.7	.8	.9	.9	.9	.9
Reentrants	1.9	2.0	2.1	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.8	2.0	1.9	1.9
New entrants	1.0	.9	1.0	.9	1.0	.8	.8	.9	.9	.9	.9	.9	.9	.9

10. Duration of unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Weeks of unemployment	Annual average		1985								1986				
	1984	1985	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Less than 5 weeks	3,350	3,498	3,607	3,466	3,525	3,422	3,484	3,430	3,465	3,374	3,311	3,562	3,589	3,626	3,705
5 to 14 weeks	2,451	2,509	2,594	2,536	2,514	2,506	2,505	2,536	2,448	2,460	2,441	2,622	2,640	2,685	2,737
15 weeks and over	2,737	2,305	2,274	2,328	2,329	2,274	2,307	2,277	2,205	2,188	2,056	2,340	2,258	2,135	2,209
15 to 26 weeks	1,104	1,025	1,063	1,033	1,078	1,047	1,035	1,057	894	973	989	1,149	1,099	1,001	1,072
27 weeks and over	1,634	1,280	1,211	1,295	1,251	1,227	1,272	1,220	1,311	1,215	1,067	1,191	1,159	1,134	1,137
Mean duration in weeks	18.2	15.6	15.0	15.5	15.5	15.5	15.5	15.4	15.7	15.4	14.9	15.3	14.4	14.3	14.4
Median duration in weeks	7.9	6.8	6.7	6.8	7.1	7.2	6.9	7.0	6.9	6.9	6.8	6.9	6.8	6.5	6.6

11. Unemployment rates of civilian workers by State, data not seasonally adjusted

State	Apr. 1985	Apr. 1986ᵖ
Alabama	8.5	9.0
Alaska	10.7	11.4
Arizona	6.4	6.4
Arkansas	8.9	8.2
California	7.3	6.7
Colorado	5.9	-
Connecticut	4.9	3.6
Delaware	5.6	5.1
District of Columbia	8.4	6.5
Florida	6.1	5.4
Georgia	6.4	5.5
Hawaii	5.6	5.9
Idaho	8.6	9.0
Illinois	9.3	8.2
Indiana	8.1	6.7
Iowa	8.4	7.4
Kansas	4.9	5.2
Kentucky	9.4	10.0
Louisiana	11.5	13.2
Maine	6.2	6.3
Maryland	4.5	4.0
Massachusetts	3.7	3.8
Michigan	10.3	9.1
Minnesota	6.2	6.2
Mississippi	10.1	10.9
Missouri	6.3	5.3
Montana	8.6	8.3
Nebraska	5.3	5.2
Nevada	8.1	6.6
New Hampshire	4.4	3.4
New Jersey	5.9	4.7
New Mexico	8.9	9.1
New York	6.6	6.7
North Carolina	5.2	5.1
North Dakota	6.9	7.3
Ohio	8.9	7.9
Oklahoma	7.1	8.1
Oregon	9.6	9.6
Pennsylvania	8.2	7.0
Rhode Island	5.4	3.9
South Carolina	6.9	6.8
South Dakota	4.9	4.1
Tennessee	8.0	7.8
Texas	6.3	8.2
Utah	6.1	5.3
Vermont	5.4	5.0
Virginia	5.5	5.2
Washington	8.3	7.8
West Virginia	13.4	10.8
Wisconsin	7.7	7.3
Wyoming	7.7	10.8

- Data not available.

NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the database.

12. Employment of workers on nonagricultural payrolls by State, data not seasonally adjusted

(In thousands)

State	Apr. 1985	Mar. 1986	Apr. 1986ᵖ
Alabama	1,423.1	1,428.3	1,443.6
Alaska	225.3	220.6	225.0
Arizona	1,278.7	1,335.0	1,343.3
Arkansas	795.4	814.3	820.9
California	10,879.5	11,120.7	11,155.5
Colorado	1,416.1	1,441.1	1,445.8
Connecticut	1,557.3	1,581.1	1,597.6
Delaware	289.1	292.1	294.2
District of Columbia	619.2	639.8	641.3
Florida	4,420.3	4,569.4	4,565.1
Georgia	2,549.1	2,607.0	2,612.9
Hawaii	422.5	430.0	428.9
Idaho	333.0	330.6	331.5
Illinois	4,757.7	4,727.6	4,756.0
Indiana	2,159.9	2,203.2	2,230.6
Iowa	1,076.5	1,069.6	1,080.0
Kansas	974.4	979.6	989.9
Kentucky	1,249.2	1,262.2	1,270.8
Louisiana	1,597.6	1,569.2	1,553.1
Maine	448.2	456.3	462.2
Maryland	1,868.4	1,892.1	1,913.4
Massachusetts	2,909.0	2,937.0	2,968.5
Michigan	3,461.1	3,530.0	3,564.2
Minnesota	1,849.3	1,849.9	1,876.1
Mississippi	834.3	846.0	849.9
Missouri	2,081.5	2,109.2	2,138.3
Montana	276.4	273.2	275.3
Nebraska	648.8	647.7	652.9
Nevada	440.4	453.5	458.3
New Hampshire	453.9	473.6	480.2
New Jersey	3,384.8	3,443.5	3,484.7
New Mexico	516.1	520.9	521.1
New York	7,669.9	7,793.5	7,836.6
North Carolina	2,639.7	2,698.1	2,700.9
North Dakota	249.2	244.7	247.4
Ohio	4,347.0	4,418.5	4,481.6
Oklahoma	1,185.6	1,180.7	1,181.4
Oregon	1,014.3	1,030.5	1,037.6
Pennsylvania	4,713.7	4,739.1	4,786.2
Rhode Island	422.8	422.2	424.9
South Carolina	1,295.4	1,327.6	1,339.6
South Dakota	246.1	244.5	247.0
Tennessee	1,848.8	1,898.5	1,917.6
Texas	6,664.4	6,718.5	6,702.4
Utah	618.7	631.9	634.2
Vermont	220.2	229.8	224.3
Virginia	2,418.2	2,496.4	2,515.7
Washington	1,693.5	1,731.0	1,745.6
West Virginia	593.5	589.4	594.7
Wisconsin	1,950.4	1,967.2	1,993.1
Wyoming	198.8	196.5	196.3
Puerto Rico	687.5	700.8	702.6
Virgin Islands	37.3	37.0	36.8

ᵖ = preliminary

NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the database.

13. Employment of workers on nonagricultural payrolls by industry, monthly data seasonally adjusted

(In thousands)

Industry	Annual average		1985								1986			
	1984	1985	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.^{p}
TOTAL	94,496	97,614	97,336	97,442	97,672	97,880	98,128	98,426	98,686	98,910	99,296	99,429	99,464	99,787
PRIVATE SECTOR	78,472	81,199	80,991	81,082	81,222	81,428	81,592	81,853	82,073	82,281	82,659	82,748	82,785	83,077
GOODS PRODUCING	24,727	24,930	24,949	24,897	24,875	24,880	24,843	24,903	24,901	24,977	25,101	25,038	24,945	25,008
Mining	966	930	944	936	928	922	917	913	907	901	887	880	852	821
Oil and gas extraction	607	585	597	590	585	581	577	571	565	560	556	541	518	489
Construction	4,383	4,687	4,682	4,671	4,679	4,702	4,728	4,754	4,765	4,787	4,901	4,864	4,838	4,970
General building contractors	1,161	1,251	1,244	1,241	1,246	1,257	1,267	1,276	1,283	1,287	1,330	1,320	1,298	1,315
Manufacturing	19,378	19,314	19,323	19,290	19,268	19,256	19,198	19,236	19,259	19,289	19,303	19,294	19,256	19,247
Production workers	13,285	13,130	13,135	13,106	13,079	13,078	13,029	13,059	13,074	13,100	13,111	13,097	13,061	13,067
Durable goods	11,506	11,516	11,542	11,517	11,483	11,473	11,421	11,447	11,453	11,461	11,466	11,455	11,418	11,416
Production workers	7,739	7,660	7,683	7,654	7,621	7,619	7,572	7,584	7,584	7,585	7,585	7,579	7,545	7,564
Lumber and wood products	704	700	697	696	698	700	702	705	708	710	716	716	715	720
Furniture and fixtures	487	493	490	491	492	495	491	493	493	494	494	494	493	494
Stone, clay, and glass products	593	591	590	589	589	591	590	591	591	593	596	597	594	600
Primary metal industries	857	813	816	814	807	798	795	797	801	803	798	795	787	785
Blast furnaces and basic steel products	334	305	308	307	305	302	304	304	302	303	300	299	293	292
Fabricated metal products	1,463	1,468	1,472	1,468	1,465	1,463	1,460	1,460	1,459	1,456	1,455	1,452	1,450	1,460
Machinery, except electrical	2,198	2,162	2,202	2,190	2,176	2,164	2,147	2,146	2,139	2,133	2,137	2,127	2,118	2,109
Electrical and electronic equipment	2,208	2,207	2,216	2,207	2,196	2,195	2,179	2,181	2,179	2,182	2,182	2,181	2,177	2,178
Transportation equipment	1,901	1,971	1,965	1,973	1,970	1,977	1,970	1,987	1,993	1,998	1,996	1,998	1,989	1,986
Motor vehicles and equipment	862	876	879	879	874	876	871	873	870	872	867	864	858	856
Instruments and related products	714	723	723	724	724	724	723	722	723	725	724	725	726	724
Miscellaneous manufacturing industries	382	369	369	368	366	366	365	365	367	367	368	370	369	369
Nondurable goods	7,873	7,798	7,781	7,773	7,785	7,783	7,777	7,789	7,806	7,828	7,837	7,839	7,837	7,831
Production workers	5,546	5,470	5,452	5,451	5,458	5,459	5,457	5,465	5,480	5,505	5,516	5,518	5,516	5,513
Food and kindred products	1,612	1,608	1,604	1,611	1,604	1,606	1,607	1,610	1,612	1,623	1,623	1,631	1,632	1,632
Tobacco manufactures	64	65	65	65	64	64	65	64	65	64	64	63	63	63
Textile mill products	746	704	703	700	698	698	697	699	701	702	702	705	707	709
Apparel and other textile products	1,185	1,125	1,119	1,109	1,122	1,117	1,121	1,121	1,122	1,130	1,133	1,122	1,117	1,120
Paper and allied products	681	683	681	682	683	682	682	683	687	686	687	687	688	689
Printing and publishing	1,376	1,435	1,429	1,433	1,440	1,442	1,442	1,447	1,454	1,457	1,461	1,467	1,469	1,472
Chemicals and allied products	1,049	1,046	1,048	1,046	1,045	1,043	1,042	1,040	1,037	1,035	1,034	1,032	1,031	1,029
Petroleum and coal products	189	178	181	179	178	177	171	171	170	169	168	167	166	166
Rubber and misc. plastics products	780	790	786	784	784	787	785	790	794	798	802	803	804	801
Leather and leather products	189	186	165	164	167	165	165	164	164	164	160	162	160	157
SERVICE-PRODUCING	69,709	72,684	72,389	72,545	72,797	73,010	73,285	73,525	73,735	73,933	74,195	74,391	74,539	74,759
Transportation and public utilities	5,159	5,242	5,241	5,238	5,241	5,219	5,257	5,260	5,272	5,277	5,288	5,277	5,280	5,244
Transportation	2,917	3,006	3,003	3,001	3,006	2,983	3,023	3,026	3,040	3,046	3,058	3,048	3,053	3,019
Communication and public utilities	2,242	2,236	2,238	2,237	2,235	2,236	2,234	2,234	2,232	2,231	2,230	2,229	2,227	2,225
Wholesale trade	5,555	5,740	5,721	5,736	5,740	5,762	5,777	5,796	5,796	5,809	5,830	5,843	5,841	5,857
Durable goods	3,276	3,409	3,395	3,408	3,416	3,424	3,432	3,442	3,451	3,460	3,470	3,482	3,480	3,488
Nondurable goods	2,279	2,331	2,326	2,328	2,324	2,338	2,345	2,354	2,345	2,349	2,360	2,361	2,361	2,369
Retail trade	16,545	17,360	17,329	17,379	17,404	17,464	17,489	17,543	17,589	17,622	17,734	17,795	17,829	17,853
General merchandise stores	2,267	2,320	2,335	2,329	2,325	2,328	2,326	2,329	2,326	2,317	2,328	2,333	2,333	2,344
Food stores	2,637	2,779	2,762	2,781	2,795	2,805	2,813	2,828	2,845	2,870	2,880	2,891	2,901	2,908
Automotive dealers and service stations	1,790	1,892	1,891	1,894	1,897	1,904	1,910	1,916	1,916	1,922	1,929	1,936	1,939	1,941
Eating and drinking places	5,366	5,715	5,700	5,728	5,734	5,749	5,761	5,772	5,783	5,801	5,831	5,854	5,869	5,869
Finance, insurance, and real estate	5,689	5,953	5,913	5,939	5,964	5,988	6,014	6,038	6,070	6,095	6,123	6,157	6,184	6,231
Finance	2,854	2,979	2,957	2,970	2,985	2,998	3,011	3,024	3,039	3,053	3,066	3,082	3,095	3,121
Insurance	1,757	1,830	1,820	1,827	1,832	1,839	1,846	1,852	1,862	1,868	1,878	1,889	1,900	1,911
Real estate	1,078	1,144	1,136	1,142	1,147	1,151	1,157	1,162	1,169	1,174	1,179	1,186	1,189	1,199
Services	20,797	21,974	21,838	21,883	21,998	22,115	22,212	22,313	22,415	22,501	22,585	22,638	22,707	22,854
Business services	4,057	4,452	4,407	4,433	4,482	4,504	4,542	4,567	4,604	4,631	4,660	4,687	4,698	4,756
Health services	6,122	6,310	6,284	6,291	6,301	6,333	6,350	6,375	6,401	6,424	6,447	6,471	6,487	6,510
Government	16,024	16,415	16,347	13,360	16,450	16,462	16,536	16,575	16,583	16,629	16,637	16,681	16,699	16,720
Federal	2,807	2,875	2,869	2,872	2,879	2,886	2,889	2,895	2,904	2,913	2,918	2,918	2,923	2,921
State	3,734	3,848	3,831	3,836	3,851	3,855	3,878	3,895	3,901	3,904	3,916	3,924	3,927	3,938
Local	9,482	9,692	9,647	9,653	9,720	9,721	9,759	9,785	9,788	9,812	9,803	9,839	9,849	9,861

^{p} = preliminary

NOTE: See notes on the data for a description of the most recent benchmark revision.

14. Average weekly hours of production or nonsupervisory workers on private nonagricultural payrolls by industry, monthly data seasonally adjusted

Industry	Annual average		1985								1986				
	1984	1985	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.ᵖ	Mayᵖ
PRIVATE SECTOR	35.2	34.9	35.0	34.9	34.8	34.9	34.9	34.9	34.8	34.9	35.0	34.9	34.9	34.8	34.7
CONSTRUCTION	37.8	37.7	-	-	-	-	-	-	-	-	-	-	-	-	-
MANUFACTURING	40.7	40.5	40.4	40.5	40.4	40.6	40.7	40.7	40.7	40.9	40.8	40.7	40.7	40.7	40.6
Overtime hours	3.4	3.3	3.2	3.2	3.2	3.3	3.3	3.4	3.4	3.6	3.5	3.4	3.4	3.4	3.4
Durable goods	41.4	41.2	41.1	41.2	41.1	41.3	41.3	41.3	41.3	41.6	41.5	41.4	41.4	41.3	41.2
Overtime hours	3.6	3.5	3.3	3.4	3.4	3.4	3.5	3.5	3.6	3.7	3.6	3.5	3.6	3.5	3.4
Lumber and wood products	39.9	39.9	39.8	40.1	39.8	40.1	40.1	40.2	39.9	40.2	40.4	40.0	40.2	40.3	40.1
Furniture and fixtures	39.7	39.4	39.0	39.1	39.0	39.3	39.4	39.5	39.4	39.9	40.0	39.7	39.4	39.1	39.3
Stone, clay, and glass products	42.0	41.9	42.0	41.9	41.9	42.0	42.0	42.1	41.8	41.8	42.7	41.9	41.9	42.5	42.4
Primary metal industries	41.7	41.5	41.3	41.5	41.4	41.7	41.5	41.8	41.9	42.1	41.9	42.1	41.9	41.2	41.9
Blast furnaces and basic steel products	40.7	41.1	40.8	41.1	41.2	41.5	41.1	41.6	41.9	41.9	41.7	41.8	41.7	40.5	41.7
Fabricated metal products	41.4	41.3	41.2	41.4	41.4	41.4	41.5	41.5	41.5	41.6	41.5	41.5	41.4	41.2	41.0
Machinery except electrical	41.9	41.5	41.4	41.6	41.4	41.6	41.6	41.5	41.6	41.7	41.6	41.6	41.6	41.8	41.8
Electrical and electronic equipment	41.0	40.6	40.4	40.6	40.4	40.7	40.5	40.6	40.9	41.1	41.0	40.9	41.0	41.1	40.8
Transportation equipment	42.7	42.6	42.6	42.4	42.6	42.9	42.9	42.8	42.7	43.0	42.8	42.7	42.7	42.1	41.8
Motor vehicles and equipment	43.8	43.5	43.5	42.9	43.4	43.7	43.6	43.7	43.6	44.0	43.6	43.4	43.3	41.8	41.6
Instruments and related products	41.3	41.0	40.9	41.1	40.8	40.9	40.9	40.9	41.0	41.6	41.1	41.2	41.3	41.3	41.0
Miscellaneous manufacturing	39.4	39.4	-	-	-	-	-	-	-	-	-	-	-	-	-
Nondurable goods	39.7	39.6	39.5	39.5	39.4	39.6	39.8	39.8	39.8	40.0	39.9	39.7	39.8	39.9	39.9
Overtime hours	3.1	3.1	3.0	3.0	3.0	3.1	3.1	3.2	3.2	3.4	3.3	3.2	3.2	3.3	3.4
Food and kindred products	39.8	40.0	40.1	39.8	40.0	40.0	40.1	40.2	40.0	40.1	40.1	39.8	39.9	40.2	40.3
Tobacco manufactures	38.9	37.2	-	-	-	-	-	-	-	-	-	-	-	-	-
Textile mill products	39.9	39.7	39.2	39.5	39.2	40.0	40.5	40.7	40.8	41.0	40.8	40.6	40.7	41.2	41.0
Apparel and other textile products	36.4	36.4	36.2	36.3	36.4	36.4	36.6	36.6	36.8	36.8	36.7	36.3	36.5	36.9	36.5
Paper and allied products	43.1	43.1	43.0	42.9	42.9	43.1	43.1	43.2	43.3	43.5	43.6	43.5	43.5	43.0	43.0
Printing and publishing	37.9	37.8	37.5	37.6	37.5	37.9	37.9	37.9	37.9	38.1	38.0	38.0	38.0	38.0	38.0
Chemicals and allied products	41.9	41.9	41.9	41.9	41.8	41.9	41.7	41.8	41.9	42.0	41.9	41.8	41.9	41.9	42.2
Petroleum and coal products	43.7	43.0	41.9	42.7	43.0	43.3	43.3	44.2	43.2	43.6	43.5	43.7	43.8	43.5	43.0
Leather and leather products	36.8	37.2	-	-	-	-	-	-	-	-	-	-	-	-	-
TRANSPORTATION AND PUBLIC UTILITIES	39.4	39.5	39.5	39.5	39.3	39.5	39.5	39.5	39.4	39.5	39.4	39.5	39.6	39.3	39.3
WHOLESALE TRADE	38.5	38.4	38.5	38.5	38.4	38.4	38.4	38.4	38.4	38.4	38.5	38.4	38.5	38.5	38.4
RETAIL TRADE	29.8	29.4	29.6	29.5	29.4	29.4	29.4	29.3	29.3	29.2	29.3	29.3	29.3	29.2	29.1
SERVICES	32.6	32.5	32.5	32.5	32.4	32.5	32.4	32.5	32.4	32.5	32.6	32.6	32.5	32.5	32.5

- Data not available.
ᵖ = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark adjustment.

15. Average hourly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1985								1986				
	1984	1985	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.^p	May^p
PRIVATE SECTOR	$8.32	$8.57	$8.51	$8.54	$8.52	$8.52	$8.67	$8.64	$8.66	$8.71	$8.72	$8.74	$8.73	$8.72	$8.72
Seasonally adjusted	–	–	8.53	8.57	8.55	8.59	8.62	8.63	8.65	8.70	8.68	8.71	8.73	8.71	8.74
MINING	11.63	11.98	11.86	12.02	11.92	11.99	12.05	12.00	12.07	12.27	12.24	12.32	12.35	12.43	12.41
CONSTRUCTION	12.13	12.31	12.24	12.17	12.21	12.28	12.46	12.42	12.28	12.47	12.34	12.35	12.22	12.28	12.36
MANUFACTURING	9.19	9.53	9.49	9.52	9.55	9.49	9.57	9.56	9.63	9.74	9.70	9.70	9.72	9.70	9.71
Durable goods	9.74	10.10	10.05	10.08	10.10	10.06	10.15	10.15	10.22	10.34	10.27	10.29	10.30	10.29	10.28
Lumber and wood products	8.03	8.22	8.14	8.26	8.22	8.27	8.33	8.30	8.29	8.35	8.30	8.36	8.33	8.33	8.36
Furniture and fixtures	6.84	7.17	7.09	7.17	7.20	7.20	7.27	7.29	7.32	7.38	7.36	7.31	7.35	7.35	7.30
Stone, clay, and glass products	9.57	9.84	9.81	9.85	9.90	9.87	9.91	9.87	9.91	9.95	9.96	9.94	9.93	10.00	10.04
Primary metal industries	11.47	11.68	11.64	11.65	11.78	11.63	11.69	11.61	11.77	11.84	11.81	11.96	11.99	12.00	12.03
Blast furnaces and basic steel products	12.98	13.34	13.29	13.26	13.49	13.36	13.43	13.32	13.43	13.44	13.48	13.81	13.80	13.81	13.81
Fabricated metal products	9.40	9.70	9.66	9.68	9.70	9.64	9.74	9.71	9.76	9.91	9.85	9.85	9.88	9.84	9.82
Machinery, except electrical	9.96	10.29	10.22	10.28	10.31	10.26	10.36	10.41	10.48	10.55	10.50	10.53	10.58	10.55	10.55
Electrical and electronic equipment	9.04	9.47	9.39	9.46	9.47	9.50	9.54	9.55	9.61	9.68	9.60	9.60	9.62	9.61	9.63
Transportation equipment	12.20	12.72	12.63	12.66	12.65	12.65	12.78	12.70	12.85	13.06	12.91	12.87	12.90	12.87	12.85
Motor vehicles and equipment	12.73	13.42	13.35	13.36	13.35	13.31	13.48	13.44	13.52	13.81	13.66	13.59	13.66	13.59	13.58
Instruments and related products	8.84	9.16	9.10	9.12	9.17	9.19	9.25	9.24	9.27	9.39	9.32	9.39	9.41	9.40	9.38
Miscellaneous manufacturing	7.05	7.30	7.30	7.30	7.32	7.28	7.33	7.32	7.37	7.48	7.48	7.50	7.51	7.48	7.48
Nondurable goods	8.38	8.71	8.67	8.69	8.75	8.70	8.73	8.72	8.79	8.87	8.86	8.86	8.88	8.88	8.90
Food and kindred products	8.39	8.57	8.61	8.56	8.57	8.50	8.53	8.51	8.61	8.71	8.72	8.71	8.74	8.75	8.79
Tobacco manufactures	11.22	11.94	12.56	12.76	12.83	12.34	11.34	11.31	11.97	11.78	11.89	12.38	12.76	12.84	13.38
Textile mill products	6.46	6.71	6.68	6.66	6.69	6.72	6.75	6.76	6.79	6.83	6.85	6.83	6.88	6.86	6.90
Apparel and other textile products	5.55	5.73	5.70	5.71	5.70	5.69	5.75	5.74	5.75	5.80	5.82	5.79	5.80	5.80	5.77
Paper and allied products	10.41	10.82	10.75	10.79	10.91	10.86	10.91	10.91	10.97	11.07	11.02	10.99	11.03	11.05	11.10
Printing and publishing	9.41	9.71	9.62	9.63	9.69	9.76	9.81	9.78	9.83	9.92	9.85	9.86	9.90	9.87	9.90
Chemicals and allied products	11.07	11.56	11.44	11.51	11.59	11.60	11.65	11.70	11.80	11.85	11.86	11.81	11.78	11.83	11.85
Petroleum and coal products	13.44	14.06	14.02	13.99	14.05	14.02	14.09	13.99	14.07	14.24	14.26	14.21	14.22	14.15	13.89
Rubber and miscellaneous plastics products	8.29	8.54	8.47	8.51	8.55	8.52	8.56	8.54	8.63	8.73	8.69	8.69	8.72	8.68	8.77
Leather and leather products	5.71	5.82	5.83	5.83	5.84	5.81	5.83	5.77	5.83	5.83	5.86	5.83	5.86	5.89	5.86
TRANSPORTATION AND PUBLIC UTILITIES	11.12	11.40	11.25	11.34	11.37	11.42	11.54	11.48	11.59	11.61	11.59	11.64	11.62	11.58	11.57
WHOLESALE TRADE	8.89	9.16	9.13	9.16	9.14	9.12	9.22	9.16	9.23	9.33	9.28	9.36	9.33	9.29	9.30
RETAIL TRADE	5.85	5.94	5.93	5.91	5.90	5.88	5.98	5.95	5.97	5.99	6.03	6.04	6.03	6.01	6.01
FINANCE, INSURANCE, AND REAL ESTATE	7.63	7.94	7.85	7.96	7.88	7.91	8.04	8.01	8.06	8.15	8.14	8.26	8.30	8.28	8.29
SERVICES	7.59	7.89	7.82	7.85	7.80	7.82	7.99	7.99	8.05	8.12	8.12	8.17	8.18	8.12	8.10

– Data not available.
p = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

16. Average weekly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1985								1986				
	1984	1985	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.[p]	May[p]
PRIVATE SECTOR															
Current dollars	$292.86	$299.09	$297.00	$300.61	$299.05	$299.90	$303.45	$301.54	$301.37	$306.59	$302.58	$300.66	$302.93	$302.58	$302.58
Seasonally adjusted	-	-	298.55	299.09	297.54	299.79	300.84	301.19	301.02	303.63	303.80	303.98	304.66	303.11	303.28
Constant (1977) dollars	172.78	170.42	169.62	171.19	170.11	170.30	171.83	170.36	169.59	172.05	169.32	168.82	171.05	171.43	-
MINING	503.58	519.93	516.78	525.27	510.18	519.17	526.59	518.40	521.42	537.43	543.46	522.37	522.41	520.82	512.53
CONSTRUCTION	458.51	464.09	466.34	462.46	471.31	471.55	479.71	475.60	450.68	460.14	459.05	434.72	444.81	460.50	468.44
MANUFACTURING															
Current dollars	374.03	385.97	382.45	387.46	382.96	384.35	390.46	390.05	393.67	406.16	394.79	390.91	395.60	392.85	394.23
Constant (1977) dollars	220.67	219.93	218.42	220.65	217.84	218.26	221.10	220.37	221.65	227.92	220.92	219.40	223.38	222.58	-
Durable goods	403.24	416.12	413.06	417.31	410.06	412.46	420.21	419.20	424.13	438.45	425.18	421.89	426.42	423.54	422.51
Lumber and wood products	320.40	327.98	326.41	337.01	326.33	334.94	338.20	335.32	327.46	335.67	329.51	328.55	333.20	334.87	336.91
Furniture and fixtures	271.55	282.50	274.38	281.06	275.76	283.68	289.35	291.60	291.34	303.32	289.98	284.36	288.12	285.92	287.47
Stone, clay, and glass products	401.94	412.30	415.94	418.83	418.77	418.49	421.18	419.48	414.24	414.92	414.34	403.56	412.10	426.00	429.71
Primary metal industries	478.30	484.72	480.73	486.97	485.34	480.32	486.30	480.65	491.90	504.38	483.66	503.52	504.78	498.00	504.06
Blast furnaces and basic steel products	528.29	548.27	543.56	552.45	558.49	550.43	553.32	544.79	557.35	564.48	556.72	578.64	576.84	568.97	577.26
Fabricated metal products	389.16	400.61	397.99	402.69	395.76	397.17	405.18	403.94	406.02	422.17	407.79	403.85	409.03	403.44	402.62
Machinery, except electrical	417.32	427.04	421.06	427.65	420.65	422.71	431.81	430.97	436.06	452.60	437.85	437.00	442.24	437.83	437.83
Electrical and electronic equipment	370.64	384.48	377.48	385.02	376.91	383.80	387.32	387.73	396.69	408.50	394.56	389.76	395.38	392.09	390.98
Transportation equipment	520.94	541.87	539.30	539.32	531.30	530.04	544.43	545.71	551.27	577.25	555.13	545.69	552.12	544.40	538.42
Motor vehicles and equipment	557.57	583.77	586.07	578.49	571.36	566.68	585.03	585.98	588.12	625.59	585.56	583.01	592.84	574.88	569.00
Instruments and related products	365.09	375.56	370.37	374.83	369.55	373.11	380.18	376.07	382.85	400.01	383.05	384.99	389.57	385.40	382.70
Miscellaneous manufacturing	277.77	287.62	286.16	287.62	282.55	284.65	293.20	295.00	296.27	304.44	297.70	294.75	299.65	296.96	294.71
Nondurable goods	332.69	344.92	340.79	344.12	343.88	345.39	349.20	347.93	351.60	359.24	352.63	347.31	352.54	351.65	354.22
Food and kindred products	333.92	342.80	344.40	342.34	342.80	342.55	348.02	343.80	346.12	354.50	347.93	339.69	344.36	346.50	353.36
Tobacco manufactures	436.46	444.17	465.98	481.05	434.94	457.81	434.32	444.48	436.71	448.82	448.25	453.11	478.50	469.94	509.78
Textile mill products	257.75	266.39	261.19	266.53	258.23	270.14	275.40	276.48	279.75	283.45	278.80	274.57	278.52	278.64	282.21
Apparel and other textile products	202.02	206.57	206.34	209.56	206.34	208.25	210.45	211.23	212.75	215.18	213.01	207.28	211.70	211.12	210.81
Paper and allied products	448.67	466.34	460.10	463.97	465.86	465.89	473.49	472.40	477.20	490.40	479.37	472.57	477.60	474.05	476.19
Printing and publishing	356.64	367.04	358.63	359.20	361.44	370.68	374.74	371.64	375.51	384.90	371.35	370.74	377.19	374.07	374.22
Chemicals and allied products	463.83	484.36	479.34	484.57	482.14	482.56	486.97	486.72	495.60	503.63	495.75	492.48	494.76	495.68	500.07
Petroleum and coal products	587.33	604.58	584.63	597.37	606.96	607.07	621.37	619.76	610.64	622.29	616.03	612.45	621.41	614.11	594.49
Rubber and miscellaneous plastics products	345.69	350.99	346.42	350.61	347.13	346.76	351.82	350.99	356.42	366.66	359.77	358.29	360.14	355.88	362.20
Leather and leather products	210.13	216.50	218.04	220.96	219.00	216.71	219.21	216.95	219.21	220.96	217.41	209.88	212.72	214.40	216.38
TRANSPORTATION AND PUBLIC UTILITIES	438.13	450.30	442.13	451.33	449.12	454.52	458.14	453.46	457.81	480.92	452.01	456.29	457.83	452.78	452.39
WHOLESALE TRADE	342.27	351.74	351.51	353.58	352.80	351.12	354.97	351.74	355.36	360.14	355.42	355.66	357.34	355.81	357.12
RETAIL TRADE	174.33	174.64	174.94	176.71	177.59	176.99	175.81	173.74	173.73	178.50	173.06	172.74	174.27	173.69	174.29
FINANCE, INSURANCE, AND REAL ESTATE	278.50	289.02	285.74	292.13	286.04	287.13	293.46	290.76	291.77	299.11	296.30	304.70	304.61	301.39	300.93
SERVICES	247.43	256.43	253.37	256.70	255.84	256.50	258.66	259.68	260.02	263.90	263.09	264.71	265.03	263.09	262.44

- Data not available.

[p] = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

17. The Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Not seasonally adjusted				Seasonally adjusted					
	May 1985	Mar. 1986	Apr. 1986[p]	May 1986[p]	May 1985	Jan. 1986	Feb. 1986	Mar. 1986	Apr. 1986	May 1986[p]
PRIVATE SECTOR (in current dollars)	164.4	168.5	168.4	168.7	164.4	167.3	168.2	168.5	168.4	168.6
Mining[1]	177.9	180.1	181.0	180.6	-	-	-	-	-	-
Construction	149.8	148.3	149.8	151.0	150.2	149.7	149.7	149.2	150.6	151.3
Manufacturing	168.2	171.9	172.2	172.5	168.2	170.7	171.3	171.8	172.0	172.4
Transportation and public utilities	164.3	169.8	169.4	169.3	165.3	168.6	168.6	170.2	169.8	170.3
Wholesale trade[1]	168.5	171.9	171.3	171.8	-	-	-	-	-	-
Retail trade	155.8	157.7	157.7	158.1	155.2	157.0	157.3	157.4	157.2	157.4
Finance, insurance, and real estate[1]	170.0	179.2	178.6	178.9	-	-	-	-	-	-
Services	166.8	174.0	173.1	173.1	167.0	171.7	173.1	174.0	173.1	173.2
PRIVATE SECTOR (in constant dollars)	93.9	95.2	95.4	-	94.1	93.5	94.4	95.1	95.4	-

[1] This series is not seasonally adjusted because the seasonal component is small relative to the trend-cycle, irregular components, or both, and consequently cannot be separated with sufficient precision.

- Data not available.

[p] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

18. Indexes of diffusion: industries in which employment increased, data seasonally adjusted

(In percent)

Time span and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Over 1-month span												
1984	67.8	72.7	67.6	67.6	62.4	65.4	62.2	55.9	50.5	63.0	53.5	57.0
1985	52.4	47.8	53.8	49.2	51.6	47.0	56.2	56.8	50.8	61.9	57.6	59.5
1986	59.7	53.5	45.1	54.6	48.9	-	-	-	-	-	-	-
Over 3-month span												
1984	76.5	75.1	75.9	71.4	71.6	68.1	63.2	58.1	56.8	53.5	58.1	53.0
1985	51.1	49.7	46.2	46.2	45.1	51.4	49.7	51.1	55.1	55.9	61.4	60.5
1986	58.1	54.3	52.2	48.1	-	-	-	-	-	-	-	-
Over 6-month span												
1984	78.1	76.5	77.0	75.1	69.2	65.1	63.2	59.2	56.6	53.2	49.7	54.9
1985	49.2	47.8	43.0	45.9	44.3	44.3	48.9	50.8	54.1	57.0	57.0	55.9
1986	55.4	53.0	-	-	-	-	-	-	-	-	-	-
Over 12-month span												
1984	81.1	78.1	72.2	72.2	68.9	67.8	65.7	62.7	59.7	54.6	51.4	48.6
1985	46.2	45.7	46.6	43.8	44.9	47.3	47.6	48.9	47.3	48.6	48.9	-
1986	-	-	-	-	-	-	-	-	-	-	-	-

- Data not available.

NOTE: Figures are the percent of industries with employment rising. (Half of the unchanged components are counted as rising.) Data are centered within the spans. See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

19. Annual data: Employment status of the noninstitutional population

(Numbers in thousands)

Employment status	1977	1978	1979	1980	1981	1982	1983	1984	1985
Noninstitutional population	160,689	163,541	166,460	169,349	171,775	173,939	175,891	178,080	179,912
Labor force									
Total (number)	100,665	103,882	106,559	108,544	110,315	111,872	113,226	115,241	117,167
Percent of population	62.6	63.5	64.0	64.1	64.2	64.3	64.4	64.7	65.1
Employed									
Total (number)	93,673	97,679	100,421	100,907	102,042	101,194	102,510	106,702	108,856
Percent of population	58.3	59.7	60.3	59.6	59.4	58.2	58.3	59.9	60.5
Resident Armed Forces	1,656	1,631	1,597	1,604	1,645	1,668	1,676	1,697	1,706
Civilian									
Total	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005	107,150
Agriculture	3,283	3,387	3,347	3,364	3,368	3,401	3,383	3,321	3,179
Nonagricultural industries	88,734	92,661	95,477	95,938	97,030	96,125	97,450	101,685	103,971
Unemployed									
Total (number)	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539	8,312
Percent of labor force	6.9	6.0	5.8	7.0	7.5	9.5	9.5	7.4	7.1
Not in labor force (number)	60,025	59,659	59,900	60,806	61,460	62,067	62,665	62,839	62,744

20. Annual data: Employment levels by industry

(Numbers in thousands)

Industry	1977	1978	1979	1980	1981	1982	1983	1984	1985
Total employment	82,471	86,697	89,823	90,406	91,156	89,566	90,200	94,496	97,614
Private sector	67,344	71,026	73,876	74,166	75,126	73,729	74,330	78,472	81,199
Goods-producing	24,346	25,585	26,461	25,658	25,497	23,813	23,334	24,727	24,930
Mining	813	851	958	1,027	1,139	1,128	952	966	930
Construction	3,851	4,229	4,463	4,346	4,188	3,905	3,948	4,383	4,687
Manufacturing	19,682	20,505	21,040	20,285	20,170	18,781	18,434	19,378	19,314
Service-producing	58,125	61,113	63,363	64,748	65,659	65,753	66,866	69,769	72,684
Transportation and public utilities	4,713	4,923	5,136	5,146	5,165	5,082	4,954	5,159	5,242
Wholesale trade	4,708	4,969	5,204	5,275	5,358	5,278	5,268	5,555	5,740
Retail trade	13,808	14,573	14,989	15,035	15,189	15,179	15,613	16,545	17,360
Finance, insurance, and real estate	4,467	4,724	4,975	5,160	5,298	5,341	5,468	5,689	5,953
Services	15,303	16,252	17,112	17,890	18,619	19,036	19,694	20,797	21,974
Government	15,127	15,672	15,947	16,241	16,031	15,837	15,869	16,024	16,415
Federal	2,727	2,753	2,773	2,866	2,772	2,739	2,774	2,807	2,875
State	3,377	3,474	3,541	3,610	3,640	3,640	3,662	3,734	3,848
Local	9,023	9,446	9,633	9,765	9,619	9,458	9,434	9,482	9,692

NOTE: Data include Alaska and Hawaii beginning in 1959. See "Notes on the data" for a description of the most recent benchmark revision.

21. Annual data: Average hours and earnings of production or nonsupervisory workers on nonagricultural payrolls, by industry

Industry	1977	1978	1979	1980	1981	1982	1983	1984	1985
Private sector									
Average weekly hours	36.0	35.8	35.7	35.3	35.2	34.8	35.0	35.2	34.9
Average hourly earnings	5.25	5.69	6.16	6.66	7.25	7.68	8.02	8.32	8.57
Average weekly earnings	189.00	203.70	219.91	235.10	255.20	267.26	280.70	292.86	299.09
Mining									
Average weekly hours	43.4	43.4	43.0	43.3	43.7	42.7	42.5	43.3	43.4
Average hourly earnings	6.94	7.67	8.49	9.17	10.04	10.77	11.28	11.63	11.98
Average weekly earnings	301.20	332.88	365.07	397.06	438.75	459.88	479.40	503.58	519.93
Construction									
Average weekly hours	36.5	36.8	37.0	37.0	36.9	36.7	37.1	37.8	37.7
Average hourly earnings	8.10	8.66	9.27	9.94	10.82	11.63	11.94	12.13	12.31
Average weekly earnings	295.65	318.69	342.99	367.78	399.26	426.82	442.97	458.51	464.09
Manufacturing									
Average weekly hours	40.3	40.4	40.2	39.7	39.8	38.9	40.1	40.7	40.5
Average hourly earnings	5.68	6.17	6.70	7.27	7.99	8.49	8.83	9.19	9.53
Average weekly earnings	228.90	249.27	269.34	288.62	318.00	330.26	354.08	374.03	385.97
Transportation and public utilities									
Average weekly hours	39.9	40.0	39.9	39.6	39.4	39.0	39.0	39.4	39.5
Average hourly earnings	6.99	7.57	8.16	8.87	9.70	10.32	10.79	11.12	11.40
Average weekly earnings	278.90	302.80	325.58	351.25	382.18	402.48	420.81	438.13	450.30
Wholesale trade									
Average weekly hours	38.8	38.8	38.8	38.5	38.5	38.3	38.5	38.5	38.4
Average hourly earnings	5.39	5.88	6.39	6.96	7.56	8.09	8.55	8.89	9.16
Average weekly earnings	209.13	228.14	247.93	267.96	291.06	309.85	329.18	342.27	351.74
Retail trade									
Average weekly hours	31.6	31.0	30.6	30.2	30.1	29.9	29.8	29.8	29.4
Average hourly earnings	3.85	4.20	4.53	4.88	5.25	5.48	5.74	5.85	5.94
Average weekly earnings	121.66	130.20	138.62	147.38	158.03	163.85	171.05	174.33	174.64
Finance, insurance, and real estate									
Average weekly hours	36.4	36.4	36.2	36.2	36.3	36.2	36.2	36.5	36.4
Average hourly earnings	4.54	4.89	5.27	5.79	6.31	6.78	7.29	7.63	7.94
Average weekly earnings	165.26	178.00	190.77	209.60	229.05	245.44	263.90	278.50	289.02
Services									
Average weekly hours	33.0	32.8	32.7	32.6	32.6	32.6	32.7	32.6	32.5
Average hourly earnings	4.65	4.99	5.36	5.85	6.41	6.92	7.31	7.59	7.89
Average weekly earnings	153.45	163.67	175.27	190.71	208.97	225.59	239.04	247.43	256.43

22. Employment Cost Index, compensation,[1] by occupation and industry group

(June 1981 = 100)

Series	1984				1985				1986	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1986	
Civilian workers [2]	119.8	120.8	122.4	123.9	125.5	126.4	128.4	129.2	130.6	1.1	4.1
Workers, by occupational group:											
White-collar workers	120.9	122.1	124.0	125.5	127.3	128.3	130.7	131.6	133.1	1.1	4.6
Blue-collar workers	117.7	118.6	119.6	120.9	122.2	123.1	124.4	124.9	126.2	1.0	3.3
Service workers	122.0	122.1	124.6	126.8	127.8	128.0	130.9	131.8	133.1	1.0	4.1
Workers, by industry division:											
Manufacturing	117.9	119.1	120.4	122.0	123.9	124.6	125.5	126.0	127.7	1.3	3.1
Nonmanufacturing	120.7	121.6	123.3	124.8	126.2	127.2	129.7	130.6	131.9	1.0	4.5
Services	125.0	125.5	128.8	130.9	131.9	132.6	136.4	137.1	138.8	1.2	5.2
Public administration [3]	122.9	123.7	126.9	128.6	130.1	130.3	134.2	134.8	136.8	1.5	5.1
Private industry workers	119.0	120.1	121.1	122.7	124.2	125.2	126.8	127.5	128.9	1.1	3.8
Workers, by occupational group:											
White-collar workers	119.9	121.4	122.4	123.9	125.8	127.1	128.8	129.8	131.3	1.2	4.4
Blue-collar workers	117.5	118.4	119.3	120.6	121.9	122.8	124.0	124.4	125.7	1.0	3.1
Service workers	121.5	121.2	123.2	125.7	126.3	126.5	128.8	129.5	130.9	1.1	3.6
Workers, by industry division:											
Manufacturing	117.9	119.1	120.4	122.0	123.9	124.6	125.5	126.0	127.7	1.3	3.1
Nonmanufacturing	119.6	120.7	121.6	123.1	124.4	125.6	127.6	128.4	129.7	1.0	4.3
State and local government workers	123.9	124.4	128.6	130.1	131.7	132.0	136.5	137.5	138.9	1.0	5.5
Workers, by occupational group:											
White-collar workers	124.5	125.0	129.7	131.1	132.5	132.9	137.6	138.6	140.0	1.0	5.7
Blue-collar workers	121.9	122.3	125.0	125.9	128.1	128.5	131.9	132.7	134.7	1.5	5.2
Workers, by industry division:											
Services	124.5	125.0	129.9	131.3	132.8	133.2	137.9	139.1	140.4	.9	5.7
Schools	124.5	124.7	130.6	132.0	133.4	133.7	139.1	140.3	141.5	.9	6.1
Elementary and secondary	125.4	125.7	132.1	133.5	134.4	134.6	140.9	142.0	143.0	.7	6.4
Hospitals and other services[4]	124.4	125.7	127.9	129.2	131.1	131.5	134.1	135.2	136.8	1.2	4.3
Public administration[3]	122.9	123.7	126.9	128.6	130.1	130.3	134.2	134.8	136.8	1.5	5.1

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[1] Cost (cents-per-hour worked) measured in the Employment Cost Index consists of wages, salaries, and employer cost of employee benefits.

[2] Consist of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[3] Consists of legislative, judicial, administrative, and regulatory activities.

[4] Includes, for example, library, social, and health services.

23. Employment Cost Index, wages and salaries, by occupation and industry group

(June 1981 = 100)

Series	1984				1985				1986	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1986	
Civilian workers [1]	117.9	118.8	120.3	121.7	123.1	124.2	126.3	127.0	128.3	1.0	4.2
Workers, by occupational group:											
White-collar workers	119.3	120.4	122.2	123.5	125.2	126.4	128.8	129.8	131.2	1.1	4.8
Blue-collar workers	115.3	116.1	117.0	118.2	119.3	120.5	122.0	122.3	123.4	.9	3.4
Service workers	120.0	119.8	122.3	124.3	124.8	125.3	128.0	128.6	129.8	.9	4.0
Workers, by industry division											
Manufacturing	115.7	116.8	118.0	119.5	121.0	122.3	123.2	123.8	125.3	1.2	3.6
Nonmanufacturing	118.9	119.7	121.3	122.6	123.9	125.0	127.6	128.4	129.6	.9	4.6
Services	123.3	123.8	127.2	128.9	129.7	130.5	134.2	134.8	136.4	1.2	5.2
Public administration [2]	120.4	121.3	124.4	125.7	127.0	127.2	131.4	132.0	133.8	1.4	5.4
Private industry workers	117.2	118.2	119.2	120.6	122.0	123.3	124.9	125.6	126.8	1.0	3.9
Workers, by occupational group:											
White-collar workers	118.5	119.9	120.9	122.3	124.0	125.5	127.3	128.3	129.6	1.0	4.5
Professional and technical	122.2	123.8	125.2	127.3	127.7	128.7	131.2	131.5	132.7	.9	3.9
Managers and administrators	118.0	119.2	121.0	122.2	123.8	126.5	127.7	128.4	130.5	1.6	5.4
Salesworkers	110.2	111.9	110.5	111.6	116.3	117.4	119.3	122.5	122.4	-.1	5.2
Clerical workers	119.8	120.7	122.0	122.9	124.7	125.6	127.1	127.9	129.6	1.3	3.9
Blue-collar workers	115.1	115.9	116.7	118.0	119.1	120.3	121.7	122.0	123.1	.9	3.4
Craft and kindred workers	116.5	117.3	118.0	119.4	120.8	122.0	123.7	123.8	125.3	1.2	3.7
Operatives, except transport	114.9	115.8	116.6	117.9	118.9	120.1	121.1	121.6	122.6	.8	3.1
Transport equipment operatives	111.7	112.7	113.4	114.0	114.5	115.7	117.7	117.8	118.0	.2	3.1
Nonfarm laborers	112.9	114.1	114.7	115.9	116.7	118.5	118.6	119.8	120.0	.2	2.8
Service workers	119.8	119.3	121.2	123.7	123.8	124.4	126.3	126.6	128.0	1.1	3.4
Workers, by industry division:											
Manufacturing	115.7	116.8	118.0	119.5	121.0	122.3	123.2	123.8	125.3	1.2	3.6
Durables	115.7	116.6	117.7	119.1	120.6	122.0	122.7	123.4	124.8	1.1	3.5
Nondurables	115.8	117.1	118.6	120.2	121.6	122.6	124.0	124.6	126.1	1.2	3.7
Nonmanufacturing	118.0	119.0	119.9	121.2	122.6	123.9	125.9	126.6	127.7	.9	4.2
Construction	113.3	114.0	114.3	114.4	115.5	116.6	117.3	117.9	118.3	.3	2.4
Transportation and public utilities	118.5	119.3	119.9	120.7	121.7	122.8	124.8	125.2	126.3	.9	3.8
Wholesale and retail trade	114.3	116.0	116.5	118.1	118.8	121.1	122.7	123.7	124.5	.6	4.8
Wholesale trade	118.2	120.0	120.7	122.9	123.7	126.8	127.7	128.3	129.7	1.1	4.9
Retail trade	112.8	114.4	114.9	116.2	116.9	118.9	120.8	121.9	122.5	.5	4.8
Finance, insurance, and real estate	116.1	116.9	115.3	115.8	122.0	121.7	124.1	126.5	126.6	.1	3.8
Services	124.2	124.7	127.1	129.5	129.9	131.0	133.9	134.1	136.2	1.6	4.8
State and local government workers	121.6	122.0	126.1	127.1	128.4	128.7	133.2	134.2	135.5	1.0	5.5
Workers, by occupational group											
White-collar workers	122.2	122.5	127.1	128.0	129.3	129.6	134.3	135.3	136.6	1.0	5.6
Blue-collar workers	119.1	119.6	121.9	122.5	124.2	124.5	127.9	128.4	130.4	1.6	5.0
Workers, by industry division											
Services	122.2	122.5	127.2	128.1	129.4	129.7	134.5	135.8	136.8	.9	5.7
Schools	122.2	122.3	127.8	128.7	129.9	130.2	135.8	137.0	138.0	.7	6.2
Elementary and secondary	122.9	123.0	129.3	130.2	130.8	131.1	137.5	138.5	139.4	.6	6.6
Hospitals and other services [3]	121.9	123.1	125.1	125.9	127.7	128.0	130.2	130.9	132.4	1.1	3.7
Public administration [2]	120.4	121.3	124.4	125.7	127.0	127.2	131.4	132.0	133.8	1.4	5.4

[1] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[2] Consists of legislative, judicial, administrative, and regulatory activities.

[3] Includes, for example, library, social and health services.

24. Employment Cost Index, private nonfarm workers, by bargaining status, region, and area size

(June 1981=100)

Series	1984				1985				1986	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1986	
COMPENSATION											
Workers, by bargaining status[1]											
Union	120.6	121.7	122.6	123.9	124.8	125.5	126.5	127.1	128.4	1.0	2.9
Manufacturing	119.3	120.5	121.6	123.2	124.2	124.2	125.0	125.5	127.0	1.2	2.3
Nonmanufacturing	121.9	122.8	123.6	124.5	125.3	126.6	127.8	128.6	129.7	.9	3.5
Nonunion	118.0	119.2	120.3	121.9	123.8	125.0	126.8	127.5	129.0	1.2	4.2
Manufacturing	116.6	117.9	119.3	120.8	123.6	124.8	125.7	126.3	128.1	1.4	3.6
Nonmanufacturing	118.6	119.8	120.7	122.4	123.9	125.1	127.3	128.1	129.5	1.1	4.5
Workers, by region[1]											
Northeast	118.9	120.7	122.4	123.8	125.1	126.4	128.8	129.9	131.6	1.3	5.2
South	119.7	120.7	120.7	122.2	124.2	125.2	126.5	127.2	128.7	1.2	3.6
Midwest (formerly North Central)	117.2	117.9	119.7	120.8	122.0	122.7	124.2	124.6	125.9	1.0	3.2
West	121.0	122.2	122.5	124.9	126.8	127.9	129.1	129.8	130.8	.8	3.2
Workers, by area size[1]											
Metropolitan areas	119.4	120.6	121.5	123.2	124.7	125.7	127.3	128.1	129.5	1.1	3.8
Other areas	116.7	117.4	119.0	119.8	121.4	122.5	123.9	123.9	125.5	1.3	3.4
WAGES AND SALARIES											
Workers, by bargaining status[1]											
Union	118.1	119.0	119.8	120.9	121.7	123.0	124.1	124.7	125.6	.7	3.2
Manufacturing	116.1	117.1	118.1	119.5	120.4	121.7	122.8	123.3	124.2	.7	3.2
Nonmanufacturing	120.1	120.7	121.3	122.1	122.8	124.1	125.3	125.9	126.9	.8	3.3
Nonunion	116.7	117.8	118.8	120.4	122.1	123.4	125.2	125.9	127.3	1.1	4.3
Manufacturing	115.4	116.5	117.9	119.5	121.5	122.8	123.7	124.4	126.1	1.4	3.8
Nonmanufacturing	117.2	118.3	119.2	120.7	122.3	123.6	125.9	126.6	127.8	.9	4.5
Workers, by region[1]											
Northeast	117.4	118.9	120.5	121.9	123.0	124.6	126.8	128.1	129.2	.9	5.0
South	117.9	119.0	119.0	120.2	122.3	123.4	124.8	125.4	126.8	1.1	3.7
Midwest (formerly North Central)	115.5	116.0	117.8	118.7	119.6	121.1	122.5	122.9	124.2	1.1	3.8
West	118.8	119.6	120.0	122.5	124.0	125.1	126.6	127.1	128.1	.8	3.3
Workers, by area size[1]											
Metropolitan areas	117.6	118.6	119.5	121.0	122.4	123.8	125.5	126.3	127.4	.9	4.1
Other areas	115.1	116.0	117.5	118.3	119.6	120.6	121.9	122.0	123.6	1.3	3.3

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[1] The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the *Monthly Labor Review* Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

25. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		Quarterly average							
			1984			1985				1986
	1984	1985	II	III	IV	I	II	III	IV	Ip
Specified adjustments:										
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:										
First year of contract	3.6	2.6	3.5	2.7	3.7	3.6	3.5	2.0	2.0	0.3
Annual rate over life of contract	2.8	2.7	3.2	3.1	2.0	2.7	3.4	3.0	1.4	1.2
Wage adjustments, settlements covering 1,000 workers or more:										
First year of contract	2.4	2.3	2.6	2.1	2.3	3.3	2.5	2.0	2.1	.8
Annual rate over life of contract	2.4	2.7	2.7	2.6	1.5	3.2	2.8	3.1	1.9	1.6
Effective adjustments:										
Total effective wage adjustment [3]	3.7	3.3	.9	1.2	.7	.7	.8	1.2	.5	.6
From settlements reached in period	.8	.7	.1	.2	.3	.1	.2	.2	.1	.0
Deferred from settlements reached in earlier periods	2.0	1.8	.7	.7	.2	.6	.5	.5	.2	.4
From cost-of-living-adjustments clauses	.9	.7	.2	.3	.2	.1	.1	.4	.1	.2

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[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases, and no changes in compensation or wages.

[3] Because of rounding total may not equal sum of parts.

p = preliminary.

26. Average specified compensation and wage adjustments, major collective bargaining settlements in private industry situations covering 1,000 workers or more during 4-quarter periods (in percent)

Measure	Average for four quarters ending–							
	1984			1985				1986
	II	III	IV	I	II	III	IV	Ip
Specified total compensation adjustments, settlements covering 5,000 workers or more, all industries:								
First year of contract	4.7	4.2	3.6	3.4	3.4	3.1	2.6	2.3
Annual rate over life of contract	3.5	3.2	2.8	2.6	2.7	2.7	2.7	2.6
Specified wage adjustments, settlements covering 1,000 workers or more:								
All industries								
First year of contract	3.5	3.2	2.4	2.4	2.4	2.4	2.3	2.0
Contracts with COLA clauses	4.6	4.5	2.9	2.5	2.3	1.9	1.6	1.6
Contracts without COLA clauses	2.7	2.3	2.1	2.4	2.4	2.7	2.7	2.2
Annual rate over life of contract	3.1	2.8	2.4	2.3	2.4	2.5	2.7	2.5
Contracts with COLA clauses	2.9	2.8	1.8	1.3	1.5	1.8	2.5	2.6
Contracts without COLA clauses	3.2	2.8	2.7	2.8	2.8	3.0	2.8	2.5
Manufacturing								
First year of contract	3.0	2.6	2.3	2.1	2.0	1.5	.8	.8
Contracts with COLA clauses	3.2	1.5	2.1	2.0	1.9	1.5	.8	.8
Contracts without COLA clauses	2.6	3.7	2.9	2.5	2.2	1.5	.9	.9
Annual rate over life of contract	3.1	2.8	1.5	1.4	1.5	1.6	1.8	1.8
Contracts with COLA clauses	2.8	1.9	1.0	.9	1.0	1.4	2.1	2.1
Contracts without COLA clauses	3.6	3.8	3.3	3.2	3.0	2.4	1.6	1.5
Nonmanufacturing								
First year of contract	3.7	3.3	2.5	2.6	2.7	3.2	3.3	2.8
Contracts with COLA clauses	5.2	5.4	5.5	5.1	4.3	4.0	3.6	3.5
Contracts without COLA clauses	2.6	2.1	2.0	2.4	2.5	3.0	3.3	2.7
Annual rate over life of contract	3.0	2.8	2.9	2.8	2.9	3.3	3.3	3.0
Contracts with COLA clauses	3.0	3.1	4.8	4.0	3.8	3.9	3.6	3.6
Contracts without COLA clauses	3.0	2.6	2.6	2.7	2.8	3.2	3.3	2.9
Construction								
First year of contract	.8	.9	.5	.9	1.1	1.0	1.5	1.7
Contracts with COLA clauses	-.4	4.0	4.0	4.6	9.2	(1)	(1)	(1)
Contracts without COLA clauses	.9	.9	.4	.8	1.0	(1)	(1)	(1)
Annual rate over life of contract	1.7	1.4	1.0	1.4	1.7	1.7	2.1	2.2
Contracts with COLA clauses	.0	1.4	1.4	1.7	4.6	(1)	(1)	(1)
Contracts without COLA clauses	1.8	1.4	1.0	1.4	1.7	(1)	(1)	(1)

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[1] Data do not meet publication standards.

p = preliminary.

27. Average effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more during 4-quarter periods (in percent)

Effective wage adjustment	Average for four quarters ending–						
	1984		1985				1986
	III	IV	I	II	III	IV	I^p
For all workers:[1]							
Total	4.2	3.7	3.6	3.5	3.5	3.3	3.1
From settlements reached in period	1.0	.8	.7	.9	.9	.7	.6
Deferred from settlements reached in earlier period	2.1	2.0	2.2	1.9	1.8	1.8	1.7
From cost-of-living-adjustments clauses	1.2	.9	.7	.7	.8	.7	.8
For workers receiving changes:							
Total	5.0	4.4	4.5	4.2	4.3	4.1	4.0
From settlements reached in period	3.7	3.0	2.9	2.9	2.8	3.4	2.9
Deferred from settlements reached in earlier period	4.2	4.0	4.2	3.9	3.7	3.7	3.5
From cost-of-living-adjustments clauses	3.2	2.7	2.3	2.3	2.8	2.2	2.5

[1] Because of rounding total may not equal sum of parts.

^{p} = preliminary.

28. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, State and local government collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		Second 6 months 1985^p
	1984	1985	
Specified adjustments:			
Total compensation[1] adjustments,[2] settlements covering 5,000 workers or more:			
First year of contract	5.2	4.2	3.8
Annual rate over life of contract	5.4	5.1	5.3
Wage adjustments, settlements covering 1,000 workers or more:			
First year of contract	4.8	4.6	4.4
Annual rate over life of contract	5.1	5.4	5.6
Effective adjustments:			
Total effective wage adjustment[3]	5.0	5.7	4.1
From settlements reached in period	1.9	4.1	3.2
Deferred from settlements reached in earlier periods	3.1	1.6	.9
From cost-of-living-adjustment clauses	(4)	(4)	(4)

[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases, and no changes in compensation or wages.

[3] Because of rounding total may not equal sum of parts.

[4] Less than 0.05 percent.

^{p} = preliminary.

29. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1985								1986				
	1984	1985	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.^{p}	Feb.^{p}	Mar.^{p}	Apr.^{p}	May^p
Number of stoppages:															
Beginning in period	62	54	2	2	9	8	11	6	3	2	4	3	3	4	5
In effect during period	68	61	8	8	13	18	20	20	13	9	7	7	9	9	10
Workers involved:															
Beginning in period (in thousands)	376.0	323.9	6.9	15.7	50.1	15.3	69.5	76.6	26.2	8.2	7.6	24.0	12.3	7.2	28.7
In effect during period (in thousands)	391.0	584.1	15.1	28.5	56.9	66.8	93.9	119.3	47.0	38.0	120	284	397	187	360
Days idle:															
Number (in thousands)	8,499.0	7,079.0	203.3	454.3	500.2	869.7	931.4	1,433.0	651.2	685.4	1,700	3,085	3,806	3,215	3,846
Percent of estimated working time[1]	.04	.03	.01	.02	.02	.04	.04	.06	.04	.03	1	2	2	2	2

[1] Agricultural and government employees are included in the total employed and total working time: private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time worked is found in "'Total economy' measure of strike idleness," *Monthly Labor Review*, October 1968, pp. 54-56.

^{p} = preliminary

nsumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity or group; and CPI for Urban Wage Earners and Clerical Workers, all items

00, unless otherwise indicated)

Series	Annual average		1985								1986				
	1984	1985	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
ER PRICE INDEX FOR ALL URBAN CONSUMERS:															
	311.1	322.2	321.3	322.3	322.8	323.5	324.5	325.5	326.6	327.4	328.4	327.5	326.0	325.3	326.3
(1957-59=100)	361.9	374.7	373.7	374.8	375.5	376.2	377.4	378.5	379.9	380.8	381.9	380.8	379.1	378.3	379.5
d beverages	295.1	302.0	301.0	301.4	301.8	301.8	302.1	302.5	303.6	305.6	307.9	307.7	307.8	308.5	309.4
	302.9	309.8	308.9	309.3	309.5	309.7	309.9	309.8	311.0	313.2	315.6	315.3	315.4	316.1	317.0
d at home	292.6	296.8	296.2	296.0	296.2	295.9	295.6	295.3	296.6	299.3	302.5	301.5	301.2	301.5	302.1
eals and bakery products	305.3	317.0	315.9	317.3	317.3	318.5	319.2	318.9	319.9	321.9	322.0	322.5	322.7	322.5	323.8
ats, poultry, fish, and eggs	266.6	263.4	259.8	259.8	260.5	259.7	260.6	261.1	266.1	269.9	271.5	268.4	267.7	264.2	263.4
iry products	253.2	256.0	258.4	257.8	257.8	257.4	258.0	257.1	257.1	256.9	257.2	257.3	256.8	256.8	257.1
uits and vegetables	317.4	325.7	330.3	329.0	328.9	326.3	319.9	317.1	314.3	323.9	334.4	320.7	319.2	329.5	336.5
her foods at home	352.2	361.1	361.3	360.8	360.6	361.7	362.6	363.0	362.2	361.3	365.7	375.1	375.7	376.1	374.6
Sugar and sweets	389.1	398.8	397.6	398.3	400.2	401.8	401.1	402.6	401.4	402.2	405.1	408.6	408.4	411.4	411.2
Fats and oils	288.0	294.4	294.0	296.0	297.8	297.1	294.8	291.2	292.1	290.3	292.1	291.4	290.2	288.5	287.2
Nonalcoholic beverages	443.0	451.7	454.1	451.5	448.2	440.6	452.8	454.1	451.7	448.8	459.7	485.3	488.0	487.4	481.9
Other prepared foods	284.9	294.2	293.4	293.4	294.5	295.8	296.3	296.8	296.8	297.3	298.0	299.5	299.3	300.2	301.4
d away from home	333.4	346.6	345.1	346.9	347.3	348.4	349.9	350.3	351.3	352.1	353.1	354.2	355.5	357.0	358.8
olic beverages	222.1	229.5	227.7	227.8	227.8	228.9	229.3	236.4	236.2	236.2	237.5	238.3	238.8	239.5	239.4
g	336.5	349.9	348.5	350.4	351.6	352.9	353.8	354.4	355.0	355.8	356.8	356.5	357.0	358.0	358.5
ter	361.7	382.0	379.5	381.0	383.2	385.9	386.9	389.1	391.3	392.3	393.8	394.8	397.0	400.1	400.9
nters' costs (12/82=100)	108.6	115.4	114.5	115.1	115.8	116.6	117.0	117.9	118.4	118.3	118.8	119.0	119.6	120.9	121.1
Rent, residential	249.3	264.6	262.6	263.6	265.0	266.6	267.7	269.9	271.7	272.4	273.4	273.7	275.0	277.9	278.4
Other renters' costs	373.4	398.4	396.5	401.6	405.1	409.9	410.7	412.5	408.7	398.1	401.1	404.1	405.5	410.8	411.3
omeowners' costs (12/82=100)	107.3	113.1	112.4	112.8	113.5	114.3	114.6	115.1	115.8	116.3	116.7	117.0	117.9	118.7	118.9
Owners' equivalent rent (12/82=100)	107.3	113.2	112.5	112.8	113.5	114.3	114.6	115.1	115.9	116.3	116.7	117.0	117.9	118.7	118.9
ousehold insurance (12/82=100)	107.5	112.4	112.0	112.7	112.7	113.0	113.7	114.6	114.5	115.0	115.7	117.4	118.0	118.3	118.8
intenance and repairs	359.2	368.9	366.2	367.6	367.8	370.6	368.7	368.5	372.7	373.7	379.1	379.6	367.5	367.6	367.1
Maintenance and repair services	409.7	421.1	416.0	423.2	421.1	425.1	421.9	422.2	426.4	426.2	432.6	432.8	422.4	424.6	425.5
Maintenance and repair commodities	262.7	269.6	269.2	265.7	267.8	269.2	268.6	268.0	271.5	273.3	277.1	277.8	266.1	264.5	262.9
el and other utilities	387.3	393.6	393.0	389.4	389.9	398.9	400.5	395.6	392.1	393.3	394.6	390.0	385.5	381.8	382.5
uels	485.5	488.1	490.0	487.7	497.3	494.4	496.8	488.4	481.5	483.6	484.7	476.3	467.6	459.6	460.6
Fuel oil, coal, and bottled gas	641.8	619.5	620.8	612.0	601.9	594.6	601.7	615.3	641.6	657.3	650.3	591.2	549.9	518.3	496.8
Gas (piped) and electricity	445.2	452.7	454.7	465.6	467.1	465.1	466.5	453.9	440.5	439.9	442.6	444.5	442.3	439.2	444.6
Other utilities and public services	230.2	240.7	236.8	241.1	242.8	244.2	244.6	244.7	245.9	245.8	247.3	247.9	249.0	251.3	251.5
usehold furnishings and operations	242.5	247.2	247.6	247.1	246.5	247.0	247.1	248.4	248.9	248.8	248.8	249.0	249.8	249.6	249.9
ousefurnishings	199.1	200.1	201.2	200.0	198.8	199.1	199.0	200.3	200.8	200.1	199.8	199.7	201.0	200.4	200.8
ousekeeping supplies	303.2	313.6	312.9	313.6	313.1	313.5	313.9	315.7	316.4	317.7	318.3	318.6	317.9	318.5	318.3
ousekeeping services	327.5	338.9	338.0	338.3	339.8	340.7	341.5	342.2	342.7	343.2	343.9	344.5	345.1	345.4	345.8
el and upkeep	200.2	206.0	205.3	204.6	202.8	205.3	209.6	211.1	211.2	209.0	205.0	204.1	206.3	207.3	206.4
arel commodities	187.0	191.6	191.0	190.2	188.0	190.6	195.3	196.7	196.8	194.2	189.5	188.5	190.8	191.7	190.7
en's and boys' apparel	192.4	197.9	197.8	196.4	194.5	197.2	201.5	203.2	203.6	202.0	198.6	196.8	198.3	199.7	200.2
omen's and girls' apparel	163.6	169.5	168.0	166.5	163.4	167.7	176.1	177.9	176.5	172.6	164.4	163.4	167.6	168.0	164.9
nfants' and toddlers' apparel	287.0	299.7	298.3	300.7	294.5	300.6	302.0	302.1	307.0	304.1	313.9	311.6	313.1	316.6	318.5
ootwear	209.5	212.1	213.2	213.9	211.4	210.3	210.9	212.3	215.5	213.1	209.1	207.9	210.1	211.4	211.5
ther apparel commodities	216.4	215.5	215.1	216.3	216.7	217.5	215.2	214.9	214.9	214.6	215.5	216.1	214.6	215.3	215.4
arel services	305.0	320.9	319.4	319.9	321.4	322.9	324.1	325.7	326.3	326.9	329.8	330.7	331.5	332.9	333.6
sportation	311.7	319.9	321.4	321.8	321.8	320.7	319.7	320.9	323.2	324.0	323.9	319.2	309.6	303.3	305.7
ivate transportation	306.6	314.2	316.0	316.3	316.1	314.9	313.6	314.7	317.0	317.8	317.3	312.2	302.1	295.3	297.8
ew vehicles	208.0	214.9	214.2	214.3	214.3	214.2	214.2	215.9	218.2	219.2	219.7	220.2	220.1	221.0	222.8
New cars	208.5	215.2	214.5	214.7	214.7	214.6	214.5	216.2	218.4	219.4	219.9	220.4	220.3	221.2	223.0
sed cars	375.7	379.7	384.2	380.3	376.7	374.0	374.3	375.3	376.4	375.6	374.1	370.7	367.2	364.8	363.6
otor fuel	370.7	373.8	381.6	384.7	385.5	381.9	377.7	374.6	376.7	377.5	373.3	351.5	308.5	279.5	289.3
Gasoline	370.2	373.3	381.4	384.5	385.5	381.8	377.4	374.2	376.1	376.8	372.5	350.8	307.7	278.6	288.7
aintenance and repair	341.5	351.4	349.6	350.4	351.1	351.9	353.5	355.7	355.8	357.5	357.9	358.9	359.3	360.6	361.3
ther private transportation	273.3	287.6	285.6	286.6	287.6	287.7	285.8	289.6	293.9	295.2	297.7	299.2	301.5	301.6	301.3
Other private transportation commodities	201.5	202.6	201.3	203.9	202.2	202.8	203.4	202.8	201.6	202.1	203.4	202.9	203.6	202.2	202.4
Other private transportation services	295.0	312.8	310.7	311.3	313.0	313.0	310.4	315.4	321.2	322.7	325.5	327.6	330.3	330.9	330.4
blic transportation	385.2	402.8	398.4	399.3	402.4	403.7	408.0	411.5	412.8	412.9	419.6	422.2	421.2	422.2	423.7
ical care	379.5	403.1	398.5	401.7	404.0	406.6	408.3	410.5	413.0	414.7	418.2	422.3	425.8	428.0	429.7
edical care commodities	239.7	256.7	255.2	257.0	257.8	259.3	260.2	261.3	262.7	262.9	264.5	267.4	269.4	271.3	272.3
edical care services	410.3	435.1	430.9	433.0	435.8	438.6	440.5	443.0	445.8	448.0	451.9	456.2	460.1	462.3	464.2
Professional services	346.1	367.3	364.5	366.4	368.1	370.0	371.7	373.2	375.5	377.1	378.9	381.6	385.0	386.9	388.3
Other medical care services	488.0	517.0	511.2	513.6	517.6	521.6	523.9	527.4	530.8	533.6	540.3	546.4	550.8	553.5	555.9
rtainment	255.1	265.0	263.6	264.8	265.7	265.7	266.8	268.4	269.0	268.3	270.8	272.0	271.9	272.3	272.9
Entertainment commodities	253.3	260.6	259.5	260.1	260.8	260.5	262.5	264.0	264.0	262.5	264.7	265.2	265.0	264.8	265.3
Entertainment services	258.3	271.8	269.9	272.0	273.3	273.6	273.3	275.2	276.6	277.1	279.9	282.1	282.2	283.5	284.2
er goods and services	307.7	326.6	322.3	323.0	325.0	326.0	333.3	334.9	335.3	336.5	339.1	340.3	341.1	341.8	342.1
Tobacco products	310.0	328.5	324.1	324.8	330.0	331.5	332.8	334.4	334.7	337.4	342.7	344.7	345.6	346.5	346.5
Personal care	271.4	281.9	280.9	281.7	282.3	283.3	284.1	285.0	285.4	286.3	288.1	289.1	290.3	290.5	290.9
Toilet goods and personal care appliances	269.6	278.5	277.5	277.9	278.9	279.4	280.6	281.4	281.1	282.5	285.3	286.0	287.3	287.7	287.9
Personal care services	274.1	286.0	285.0	286.1	286.3	287.7	288.2	289.2	290.2	290.6	291.8	293.0	294.0	294.1	294.7
Personal and educational expenses	365.7	397.1	388.5	389.1	390.1	390.7	412.5	414.7	415.4	415.5	416.8	417.7	417.9	418.9	419.5
School books and supplies	322.8	350.8	344.5	344.9	345.5	346.1	362.1	364.5	364.7	364.7	371.0	373.8	374.3	374.4	374.5
Personal and educational services	375.6	407.7	398.8	399.4	400.4	401.1	423.9	426.2	426.9	427.0	427.6	428.1	428.3	429.5	430.2

e footnotes at end of table.

30. Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity or service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967=100, unless otherwise indicated)

Series	Annual average		1985								1986			
	1984	1985	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
All items	311.1	322.2	321.3	322.3	322.8	323.5	324.5	325.5	326.6	327.4	328.4	327.5	326.0	325.3
Commodities	280.7	286.7	287.0	286.9	286.5	286.5	287.1	287.9	289.2	289.9	290.1	287.4	283.7	281.2
Food and beverages	295.1	302.0	301.0	301.4	301.8	301.8	302.1	302.5	303.6	305.6	307.9	307.7	307.8	308.5
Commodities less food and beverages	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nondurables less food and beverages	275.7	282.1	283.1	283.5	282.9	283.1	284.6	285.3	286.8	286.8	284.9	278.6	268.9	262.0
Apparel commodities	187.0	191.6	191.0	190.2	188.0	190.6	195.3	196.7	196.8	194.2	189.5	186.5	190.8	191.7
Nondurables less food, beverages, and apparel	325.8	333.3	335.1	336.2	336.4	335.4	335.3	335.6	337.8	339.1	338.7	329.5	313.6	302.6
Durables	266.5	270.7	271.6	270.4	269.3	268.6	268.7	270.2	271.5	271.4	271.4	270.5	269.7	269.2
Services	363.0	381.5	378.9	381.3	383.3	384.9	386.5	387.7	388.7	389.5	391.7	393.3	394.9	396.8
Rent of shelter	107.7	113.9	113.2	113.6	114.3	115.1	115.4	116.1	116.7	117.0	117.4	117.7	118.5	119.4
Household services less rent of shelter	108.1	111.2	110.9	112.7	113.2	113.2	113.5	112.1	110.8	110.8	111.4	111.8	111.6	111.6
Transportation services	321.1	337.0	334.5	335.3	337.0	337.4	337.1	341.1	344.7	346.1	349.0	351.0	352.4	353.2
Medical care services	410.3	435.1	430.9	433.0	435.8	438.6	440.5	443.0	445.8	448.0	451.9	456.2	460.1	462.3
Other services	296.0	314.1	310.7	312.0	313.0	313.8	319.7	321.4	322.5	322.9	324.8	326.1	326.6	327.6
Special indexes:														
All items less food	311.3	323.3	322.4	323.6	324.2	325.0	326.2	327.4	328.5	328.9	329.5	328.5	326.6	325.7
All items less shelter	295.1	303.9	303.4	304.3	304.4	304.6	305.7	306.3	307.2	307.9	306.8	307.4	305.2	303.6
All items less homeowners' costs	106.3	109.7	109.5	109.8	109.9	110.1	110.4	110.7	111.1	111.3	111.6	111.2	110.5	110.1
All items less medical care	307.3	317.7	317.0	317.9	318.4	318.9	319.9	320.8	321.9	322.6	323.4	322.2	320.5	319.7
Commodities less food	267.0	272.5	273.4	273.1	272.4	272.3	273.1	274.4	275.7	275.7	274.7	270.9	265.2	261.2
Nondurables less food	270.8	277.2	278.0	278.4	277.9	278.1	279.6	280.7	282.0	282.0	280.4	274.5	265.6	259.2
Nondurables less food and apparel	311.9	319.2	320.7	321.7	321.9	321.1	321.0	322.0	324.0	325.1	324.9	316.8	302.7	292.9
Nondurables	286.6	293.2	293.3	293.7	293.5	293.7	294.6	295.1	296.4	297.4	297.7	294.3	289.5	286.3
Services less rent of shelter	106.5	113.5	112.8	113.7	114.2	114.5	115.0	115.1	115.2	115.4	116.2	116.8	117.1	117.4
Services less medical care	355.6	373.3	370.9	373.3	375.2	376.7	378.3	379.3	380.1	380.8	382.7	384.0	385.4	387.2
Energy	423.6	426.5	431.7	436.8	437.1	433.8	432.6	427.1	425.1	426.5	424.7	408.9	381.3	361.8
All items less energy	302.9	314.8	313.3	313.9	314.5	315.6	316.8	318.4	319.8	320.5	321.8	322.3	323.3	324.4
All items less food and energy	301.2	314.4	312.8	313.4	314.1	315.3	316.9	318.9	320.4	320.7	321.6	322.3	323.6	324.8
Commodities less food and energy	253.1	259.7	259.6	259.0	258.2	258.8	260.2	262.0	262.7	262.2	261.8	261.6	262.0	262.1
Energy commodities	409.8	409.9	417.0	418.7	418.1	414.0	411.2	410.1	415.2	417.9	413.2	386.5	343.0	313.3
Services less energy	356.4	375.9	372.9	374.6	376.6	378.6	380.2	382.5	384.8	385.8	387.9	389.4	391.5	393.8
Purchasing power of the consumer dollar:														
1967=$1.00	32.1	31.0	31.1	31.0	31.0	30.9	30.8	30.7	30.6	30.5	30.5	30.5	30.7	30.7
1957-59=$1.00	27.6	26.7	26.8	26.7	26.6	26.6	26.5	26.4	26.3	26.3	26.2	26.3	26.4	26.4
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS:														
All items	307.6	318.5	317.8	318.7	319.1	319.6	320.5	321.3	322.6	323.4	324.3	323.2	321.4	320.4
All items (1957-59=100)	357.7	370.4	369.6	370.6	371.2	371.8	372.7	373.7	375.1	376.1	377.1	375.8	373.7	372.6
Food and beverages	295.2	301.8	300.8	301.2	301.4	301.6	301.8	302.2	303.4	305.4	307.7	307.5	307.6	308.3
Food	302.7	309.3	308.4	308.8	309.0	309.1	309.3	309.3	310.6	312.8	315.1	314.9	315.0	315.6
Food at home	291.2	295.3	294.6	294.5	294.6	294.3	294.0	293.7	295.2	297.9	300.9	300.1	299.7	299.9
Cereals and bakery products	303.7	315.4	314.1	315.7	315.7	316.8	317.6	317.3	318.2	320.4	320.4	320.9	321.1	320.9
Meats, poultry, fish, and eggs	266.0	262.7	259.2	259.3	259.7	259.0	259.9	260.4	265.4	269.2	270.7	267.7	267.2	263.5
Dairy products	252.2	256.9	257.3	256.7	256.6	256.3	256.8	255.9	255.9	255.7	256.0	256.0	255.5	255.5
Fruits and vegetables	312.5	320.3	324.8	323.5	323.9	320.6	313.6	311.2	309.4	319.3	329.7	316.0	314.6	325.0
Other foods at home	352.7	361.5	361.6	361.3	361.1	362.2	362.9	363.4	362.5	361.6	366.1	375.2	375.6	376.0
Sugar and sweets	388.6	398.3	396.9	398.0	399.8	401.4	400.8	402.2	400.9	401.8	404.7	406.1	407.8	410.9
Fats and oils	287.5	293.9	293.6	295.6	297.3	296.5	294.1	290.6	291.8	289.6	291.6	290.8	289.7	287.8
Nonalcoholic beverages	444.4	453.2	455.4	453.0	449.8	451.2	454.1	455.6	453.1	450.4	461.0	485.5	487.4	487.0
Other prepared foods	286.4	295.7	294.9	295.0	296.1	297.3	297.7	298.3	298.3	298.7	299.4	300.9	300.7	301.6
Food away from home	336.7	349.7	348.4	350.1	350.4	351.5	353.0	353.4	354.4	355.2	356.2	357.3	358.6	360.2
Alcoholic beverages	225.3	232.6	230.8	231.0	231.0	232.2	232.6	239.1	238.8	239.1	240.1	240.9	241.4	242.3
Housing	329.2	343.3	342.1	344.0	345.0	346.2	347.2	347.5	348.3	349.1	350.1	349.7	350.1	351.1
Shelter	350.0	370.4	368.1	369.5	371.5	374.0	375.0	377.1	379.3	380.4	381.8	382.9	385.0	388.1
Renters' costs (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rent, residential	248.6	263.7	261.8	262.7	264.1	265.7	266.8	268.9	270.7	271.5	272.5	272.8	274.1	277.0
Other renters' costs	372.4	397.9	396.7	401.0	405.2	409.6	409.8	411.6	408.0	397.5	400.8	403.5	405.4	411.6
Homeowners' costs (12/84=100)	-	103.1	102.5	102.8	103.4	104.1	104.3	104.8	105.5	105.9	106.3	106.6	107.4	108.1
Owners' equivalent rent (12/84=100)	-	103.0	102.4	102.8	103.4	104.1	104.3	104.8	105.5	105.9	106.3	106.6	107.3	108.1
Household insurance (12/84=100)	-	103.2	102.8	103.4	103.5	103.7	104.3	105.2	105.2	105.7	106.3	107.8	108.2	108.5
Maintenance and repairs	356.3	364.1	361.8	362.9	363.4	365.6	364.4	364.6	367.7	368.5	373.2	374.0	364.7	364.6
Maintenance and repair services	403.5	415.0	410.1	417.0	415.3	419.6	416.8	417.4	420.9	420.1	426.2	426.5	416.6	419.2
Maintenance and repair commodities	257.2	261.1	260.7	258.4	260.0	260.6	260.5	260.5	262.7	264.2	267.2	268.1	261.1	259.4
Fuel and other utilities	388.6	394.7	393.8	400.9	401.2	400.1	401.9	396.3	393.2	394.3	395.6	390.9	386.3	382.6
Fuels	485.0	487.5	488.9	497.7	497.0	494.0	496.7	487.2	481.0	483.1	484.1	475.7	467.1	459.1
Fuel oil, coal, and bottled gas	644.3	622.0	623.2	614.3	604.2	596.9	604.3	618.1	644.3	659.9	652.7	593.6	552.8	521.5
Gas (piped) and electricity	444.1	451.6	453.0	465.1	466.3	464.2	465.9	452.0	439.5	438.8	441.4	443.2	441.2	438.0
Other utilities and public services	231.2	241.6	237.7	242.0	243.7	245.1	245.6	245.7	246.8	246.7	248.3	248.8	249.9	252.1
Household furnishings and operations	239[illegible]	243.4	244.0	243.3	242.6	243.1	243.2	244.5	245.1	245.2	245.1	245.3	246.0	246.0
Housefurnishings	197[illegible]	197.6	196.9	197.6	196.2	196.6	196.5	197.7	198.3	197.8	197.3	197.2	196.5	196.1
Housekeeping supplies	300.2	310.7	310.0	310.8	310.3	310.4	311.0	312.7	313.5	315.0	315.8	316.4	315.5	316.3
Housekeeping services	326.0	340.2	339.2	339.5	341.0	342.2	342.9	343.9	344.5	345.0	345.6	346.3	346.6	347.1
Apparel and upkeep	199.1	205.0	204.2	203.7	201.8	204.3	208.7	210.2	210.2	208.1	204.1	203.1	205.2	206.1

See footnotes at end of table.

Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity or service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967=100, unless otherwise indicated)

Series	Annual average		1985								1986				
	1984	1985	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Apparel commodities	186.6	191.3	190.7	190.0	187.8	190.4	195.1	196.6	196.5	194.1	189.4	188.2	190.4	191.2	190.1
Men's and boys' apparel	192.9	198.2	198.2	198.6	194.8	197.3	201.8	203.5	203.7	202.2	198.8	196.8	198.0	199.3	200.0
Women's and girls' apparel	165.0	171.3	169.7	168.4	165.5	169.9	178.2	180.0	178.3	174.5	168.1	165.2	169.0	169.3	165.9
Infants' and toddlers' apparel	297.6	311.7	310.6	313.5	306.4	311.2	314.9	314.8	320.7	317.3	332.7	328.6	329.6	331.3	334.3
Footwear	210.0	212.5	213.3	214.1	211.6	210.5	211.0	212.6	215.9	213.6	209.9	208.4	210.7	212.1	212.0
Other apparel commodities	204.5	203.1	202.7	204.0	204.5	205.2	202.5	202.4	202.5	202.4	203.5	204.2	203.5	204.1	203.8
Apparel services	302.9	318.5	317.0	317.6	319.0	320.5	321.6	323.2	323.6	324.4	327.2	328.1	329.0	330.2	330.9
Transportation	313.9	321.6	323.3	323.6	323.5	322.3	321.1	322.2	324.6	325.3	325.1	320.1	310.3	303.5	305.9
Private transportation	310.1	317.4	319.4	319.6	319.3	318.0	316.6	317.6	320.1	320.8	320.2	314.8	304.5	297.4	299.9
New vehicles	207.3	214.2	213.5	213.6	213.6	213.5	213.5	215.3	217.5	218.6	219.0	219.4	219.4	220.2	222.0
New cars	207.9	214.5	213.8	214.0	214.0	213.9	213.8	215.5	217.8	218.8	219.2	219.7	219.5	220.4	222.3
Used cars	375.7	379.7	384.2	380.3	376.7	374.0	374.3	375.3	376.4	375.6	374.1	370.7	367.2	364.8	363.6
Motor fuel	372.2	375.4	383.0	386.2	387.2	383.8	379.5	376.3	378.7	379.6	375.3	353.0	309.6	280.1	290.3
Gasoline	371.8	375.0	382.7	386.0	387.0	383.7	379.2	375.8	378.1	378.9	374.6	352.3	308.8	279.1	289.6
Maintenance and repair	342.2	352.6	350.6	351.5	352.2	352.9	354.5	356.9	357.2	359.0	359.4	360.4	360.9	362.2	362.8
Other private transportation	274.2	287.7	285.9	286.9	287.7	287.6	285.2	289.2	293.7	294.7	296.9	298.4	300.6	300.4	299.8
Other private transportation commodities	203.9	204.7	203.5	205.9	204.3	204.9	205.6	205.0	203.7	204.3	205.6	205.4	206.0	204.6	204.9
Other private transportation services	295.4	312.3	310.4	310.9	312.4	312.1	308.9	314.1	320.2	321.3	323.7	325.7	328.3	328.5	327.7
Public transportation	376.8	391.7	387.6	388.4	392.1	393.5	396.8	399.3	400.1	400.2	408.6	412.6	412.0	413.0	413.8
Medical care	377.7	401.2	397.7	399.8	402.0	404.5	406.3	408.5	410.9	412.6	416.0	420.0	423.5	425.7	427.3
Medical care commodities	239.7	256.3	254.8	256.7	257.4	259.0	259.8	260.9	262.2	262.3	264.1	267.0	268.8	270.7	271.7
Medical care services	407.9	432.7	428.7	430.7	433.3	436.1	438.1	440.6	443.2	445.4	449.2	453.5	457.3	459.5	461.3
Professional services	346.5	367.7	365.0	366.8	368.5	370.4	372.1	373.7	375.8	377.6	379.3	382.2	385.6	387.4	388.8
Other medical care services	484.7	513.9	508.2	510.5	514.4	518.4	520.7	524.4	527.5	530.4	536.9	543.0	547.3	550.0	552.3
Entertainment	251.2	260.1	258.9	260.1	260.9	260.8	261.6	263.0	263.7	263.0	265.4	266.5	266.5	266.9	267.3
Entertainment commodities	247.7	254.2	253.1	253.9	254.5	254.3	256.0	257.1	257.2	255.7	257.8	258.3	258.3	258.4	258.7
Entertainment services	258.5	271.6	270.0	272.0	273.2	273.3	272.6	274.6	276.3	276.8	280.0	282.0	282.1	283.0	283.6
Other goods and services	304.9	322.7	318.8	319.5	321.8	322.9	328.7	330.1	330.5	331.9	334.9	336.1	337.0	337.6	338.0
Tobacco products	309.7	328.1	323.6	324.4	329.7	331.1	332.4	334.0	334.3	337.1	342.4	344.4	345.2	346.0	346.0
Personal care	269.4	279.6	278.6	279.2	279.9	280.9	281.8	282.7	283.1	284.0	285.9	286.8	288.0	288.2	288.6
Toilet goods and personal care appliances	270.3	279.0	277.8	278.2	279.2	280.0	281.1	282.0	281.9	283.3	285.9	286.7	288.1	288.4	288.6
Personal care services	268.8	280.5	279.7	280.7	280.9	282.2	282.8	283.7	284.8	285.2	286.4	287.4	288.4	288.4	289.0
Personal and educational expenses	368.2	399.3	390.9	391.6	392.5	393.2	414.5	416.5	417.3	417.4	418.9	419.9	420.1	421.2	422.0
School books and supplies	327.5	355.7	349.5	349.9	350.6	351.2	366.9	369.2	369.3	369.4	375.6	378.4	379.0	379.1	379.1
Personal and educational services	378.2	410.1	401.2	401.9	402.9	403.6	426.1	428.1	428.9	429.1	429.7	430.3	430.5	431.8	432.8
All items	307.6	318.5	317.8	318.7	319.1	319.6	320.5	321.3	322.6	323.4	324.3	323.2	321.4	320.4	321.4
Commodities	280.4	286.5	286.8	286.8	286.4	286.3	286.8	287.6	288.9	289.7	289.8	287.0	283.1	280.4	281.3
Food and beverages	295.2	301.8	300.8	301.2	301.4	301.6	301.8	302.2	303.4	305.4	307.7	307.5	307.6	308.3	309.0
Commodities less food and beverages	269.3	-	277.5	277.7	-	-	-	-	-	-	-	-	-	-	-
Nondurables less food and beverages	277.5	283.8	284.9	285.4	285.0	285.1	286.5	287.0	288.5	288.7	286.9	280.1	269.6	262.0	263.6
Apparel commodities	186.6	191.3	190.7	190.0	187.8	190.4	195.1	196.6	196.5	194.1	189.4	188.2	190.4	191.2	190.1
Nondurables less food, beverages, and apparel	327.0	334.2	336.0	337.2	337.6	336.6	336.4	336.5	338.8	340.1	339.6	330.1	313.2	301.6	304.5
Durables	261.1	265.2	266.3	265.1	263.8	263.1	263.1	264.5	265.7	265.7	265.6	264.6	263.7	263.3	263.5
Services	358.0	377.3	374.9	377.4	379.2	380.7	382.0	383.0	384.2	385.1	387.2	388.8	390.5	392.2	393.2
Rent of shelter (12/84=100)	-	103.2	102.6	102.9	103.5	104.3	104.5	105.1	105.8	106.1	106.4	106.7	107.4	108.3	108.5
Household services less rent of shelter (12/84=100)	-	102.6	102.2	104.2	104.5	104.6	104.8	103.3	102.1	102.0	102.6	103.0	102.8	102.7	103.4
Transportation services	317.2	332.2	329.9	330.6	332.2	332.4	331.4	335.5	339.3	340.5	343.3	345.4	347.0	347.5	347.3
Medical care services	407.9	432.7	428.7	430.7	433.3	436.1	438.1	440.6	443.2	445.4	449.2	453.5	457.3	459.5	461.3
Other services	292.9	310.1	307.2	308.4	309.3	310.1	315.0	316.7	317.8	318.3	320.4	321.6	322.1	322.9	323.6
Special indexes:															
All items less food	307.5	319.4	318.7	319.8	320.3	320.9	321.9	322.9	324.2	324.6	325.1	323.8	321.5	320.2	321.2
All items less shelter	295.1	303.4	303.0	303.9	304.0	304.0	304.8	305.4	306.4	307.2	307.9	306.4	303.8	302.1	303.0
All items less homeowners' costs (12/84=100)	-	101.8	101.7	102.0	102.0	102.1	102.4	102.6	103.0	103.2	103.5	103.0	102.3	101.8	102.1
All items less medical care	304.0	314.3	313.7	314.6	314.9	315.3	316.1	316.9	318.1	318.9	319.6	318.3	316.2	315.2	316.1
Commodities less food	267.1	272.8	273.8	273.6	272.8	272.7	273.4	274.5	275.9	275.9	275.0	270.9	264.9	260.7	261.6
Nondurables less food	272.6	279.0	279.8	280.4	280.0	280.2	281.5	282.4	283.8	283.9	282.3	276.1	266.4	259.4	260.9
Nondurables less food and apparel	313.2	320.3	321.8	322.9	323.2	322.4	322.3	323.1	325.0	326.3	325.9	317.5	302.6	292.2	294.9
Nondurables	287.4	293.9	294.0	294.4	294.3	294.5	295.2	295.7	297.1	298.2	298.4	295.0	289.8	286.3	287.5
Services less rent of shelter (12/84=100)	-	102.6	101.9	102.8	103.3	103.5	103.8	103.9	103.9	104.2	104.9	105.5	105.7	105.9	106.2
Services less medical care	350.5	369.0	366.8	369.3	371.1	372.5	373.6	374.5	375.5	376.2	378.2	379.5	381.0	382.7	383.6
Energy	423.3	426.3	431.3	436.9	437.2	433.9	432.5	426.6	425.4	426.8	424.7	408.1	379.0	358.4	364.6
All items less energy	298.3	309.9	308.6	309.1	309.5	310.4	311.5	313.0	314.5	315.3	316.5	316.9	317.8	318.8	319.2
All items less food and energy	295.8	308.7	307.3	307.8	308.3	309.4	310.7	312.7	314.2	314.6	315.4	316.1	317.2	318.3	318.6
Commodities less food and energy	250.5	256.8	256.8	256.2	255.3	255.8	257.2	258.8	259.5	259.2	258.8	258.5	258.7	258.8	258.8
Energy commodities	410.5	410.9	418.0	419.9	419.6	415.7	412.6	411.2	416.3	418.9	414.1	387.3	343.3	312.9	319.8
Services less energy	350.8	371.1	368.4	369.9	371.9	373.7	374.9	377.3	379.8	380.8	382.9	384.5	386.5	388.8	389.4
Purchasing power of the consumer dollar:															
1967=$1.00	32.5	31.4	31.5	31.4	31.3	31.3	31.2	31.1	31.0	30.9	30.8	30.9	31.1	31.2	31.1
1957-59=$1.00	28.0	27.0	27.1	27.0	26.9	26.9	26.8	26.8	26.7	26.6	26.5	26.6	26.8	26.8	26.8

- Data not available.

31. Consumer Price Index: U.S. city average and available local area data: all items

(1967=100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1985		1986					1985		1986				
			May	June	Jan.	Feb.	Mar.	Apr.	May	May	June	Jan.	Feb.	Mar.	Apr.	May
U.S. city average		-	321.3	322.3	326.4	327.5	326.0	325.3	326.3	317.8	318.7	324.3	323.2	321.4	320.4	321.4
Chicago, Ill.-Northwestern Ind.	M	-	319.8	324.1	326.3	326.4	323.9	323.7	324.2	306.9	310.9	312.9	312.8	309.7	309.1	309.6
Detroit, Mich.	M	-	316.1	317.0	323.1	322.9	320.0	318.8	321.7	308.6	307.4	313.4	312.3	309.3	306.1	311.0
Los Angeles-Long Beach, Anaheim, Calif.	M	-	319.1	319.3	326.8	326.6	326.2	326.8	329.4	314.1	314.1	320.9	320.4	321.6	320.2	322.7
New York, N.Y.-Northeastern N.J.	M	-	312.6	313.2	323.1	322.3	322.4	321.4	320.6	305.8	306.3	315.8	314.7	314.5	313.2	312.3
Philadelphia, Pa.-N.J.	M	-	314.2	314.2	320.3	320.1	319.1	317.8	318.9	317.2	317.2	323.0	322.8	321.4	319.7	320.8
Anchorage, Alaska (10/67 = 100)	1	10/67	278.8	-	287.1	-	291.2	-	288.9	271.9	-	280.2	-	284.4	-	281.8
Baltimore, Md.	1	-	323.1	-	332.0	-	331.1	-	329.1	322.3	-	331.1	-	329.5	-	326.8
Boston, Mass.	1	-	315.2	-	327.1	-	324.9	-	322.6	313.2	-	324.5	-	322.3	-	319.3
Cincinnati, Ohio-Ky.-Ind.	1	-	330.4	-	333.2	-	329.4	-	332.0	324.0	-	326.0	-	321.8	-	324.8
Denver-Boulder, Colo.	1	-	356.3	-	364.4	-	355.7	-	356.3	351.9	-	359.1	-	350.1	-	350.3
Miami, Fla. (11/77 = 100)	1	11/77	171.0	-	174.6	-	174.5	-	173.0	172.2	-	175.7	-	175.1	-	173.4
Milwaukee, Wis.	1	-	330.9	-	333.9	-	329.1	-	332.0	350.2	-	353.0	-	347.2	-	350.6
Northeast, Pa.	1	-	306.0	-	311.6	-	309.3	-	309.2	305.2	-	310.6	-	308.3	-	308.1
Portland, Oreg.-Wash.	1	-	310.4	-	321.3	-	315.0	-	314.6	301.2	-	311.0	-	304.3	-	303.2
St. Louis, Mo.-Ill.	1	-	315.9	-	322.4	-	319.2	-	318.6	313.0	-	319.1	-	315.0	-	314.2
San Diego, Calif.	1	-	372.1	-	381.9	-	379.2	-	382.8	336.5	-	344.7	-	341.9	-	345.2
Seattle-Everett, Wash.	1	-	321.0	-	327.0	-	325.0	-	323.5	308.4	-	313.5	-	311.4	-	309.4
Washington, D.C.-Md.-Va.	1	-	319.8	-	331.1	-	329.1	-	329.6	323.0	-	332.6	-	330.5	-	330.2
Atlanta, Ga.	2	-	-	328.0	-	336.9	-	334.9	-	-	326.0	-	334.3	-	331.7	-
Buffalo, N.Y.	2	-	-	307.3	-	310.1	-	308.0	-	-	293.7	-	295.8	-	292.7	-
Cleveland, Ohio	2	-	-	346.4	-	350.2	-	346.9	-	-	325.3	-	328.3	-	324.4	-
Dallas-Ft. Worth, Tex.	2	-	-	339.6	-	347.0	-	341.4	-	-	333.5	-	340.4	-	334.1	-
Honolulu, Hawaii	2	-	-	293.5	-	301.2	-	299.0	-	-	300.4	-	308.5	-	306.0	-
Houston, Tex.	2	-	-	337.6	-	337.2	-	330.0	-	-	335.0	-	334.3	-	327.7	-
Kansas City, Mo.-Kansas	2	-	-	320.1	-	321.1	-	320.7	-	-	310.5	-	310.1	-	308.9	-
Minneapolis-St. Paul, Minn.-Wis.	2	-	-	336.7	-	339.9	-	338.4	-	-	332.3	-	334.9	-	332.3	-
Pittsburgh, Pa.	2	-	-	325.9	-	330.1	-	328.1	-	-	306.3	-	311.4	-	307.8	-
San Francisco-Oakland, Calif.	2	-	-	333.2	-	341.1	-	330.3	-	-	326.7	-	336.0	-	333.2	-
Region[3]																
Northeast	2	12/77	-	170.4	-	174.5	-	173.7	-	-	168.4	-	172.3	-	171.1	-
North Central	2	12/77	-	174.2	-	175.4	-	173.9	-	-	171.0	-	171.8	-	170.0	-
South	2	12/77	-	173.8	-	176.6	-	175.1	-	-	173.7	-	176.1	-	174.1	-
West	2	12/77	-	174.6	-	177.5	-	176.8	-	-	172.8	-	175.4	-	174.5	-
Population size class[3]																
A-1	2	12/77	-	170.9	-	174.7	-	173.9	-	-	167.2	-	170.5	-	169.3	-
A-2	2	12/77	-	176.0	-	178.7	-	177.4	-	-	173.2	-	175.5	-	173.8	-
B	2	12/77	-	174.7	-	176.9	-	175.6	-	-	172.3	-	174.2	-	172.7	-
C	2	12/77	-	172.3	-	174.7	-	173.4	-	-	172.9	-	175.0	-	173.4	-
D	2	12/77	-	171.9	-	174.0	-	172.7	-	-	173.5	-	175.2	-	173.6	-
Region/population size class cross classification[3]																
Class A:																
Northeast	2	12/77	-	167.5	-	171.8	-	171.0	-	-	164.2	-	168.1	-	166.9	-
North Central	2	12/77	-	177.6	-	179.2	-	177.8	-	-	172.8	-	174.0	-	172.1	-
South	2	12/77	-	174.1	-	177.3	-	175.5	-	-	174.2	-	177.0	-	174.9	-
West	2	11/77	-	176.1	-	179.8	-	179.6	-	-	172.2	-	175.5	-	174.9	-
Class B:																
Northeast	2	12/77	-	173.5	-	176.4	-	174.7	-	-	170.5	-	173.4	-	171.7	-
North Central	2	12/77	-	172.6	-	173.7	-	172.1	-	-	169.0	-	169.7	-	167.7	-
South	2	12/77	-	175.3	-	178.2	-	177.0	-	-	172.2	-	174.6	-	173.2	-
West	2	12/77	-	176.2	-	177.6	-	176.7	-	-	176.8	-	178.2	-	177.1	-

See footnotes at end of table.

31. Continued— Consumer Price Index: U.S. city average and available local area data: all items

(1967 = 100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1985		1986					1985		1986				
			May	June	Jan.	Feb.	Mar.	Apr.	May	May	June	Jan.	Feb.	Mar.	Apr.	May
Class C:																
Northeast	2	12/77	-	179.0	-	183.1	-	183.0	-	-	183.7	-	187.8	-	187.4	-
North Central	2	12/77	-	169.6	-	170.4	-	168.5	-	-	166.7	-	167.1	-	165.1	-
South	2	12/77	-	172.8	-	175.3	-	173.6	-	-	174.5	-	176.6	-	174.3	-
West	2	12/77	-	168.4	-	171.1	-	170.5	-	-	167.2	-	169.6	-	168.9	-
Class D:																
Northeast	2	12/77	-	173.7	-	178.9	-	177.9	-	-	173.8	-	178.6	-	177.2	-
North Central	2	12/77	-	170.4	-	170.7	-	170.0	-	-	172.5	-	172.4	-	171.4	-
South	2	12/77	-	172.2	-	174.7	-	173.2	-	-	174.0	-	176.0	-	174.0	-
West	2	12/77	-	172.5	-	174.8	-	172.6	-	-	174.2	-	176.3	-	173.9	-

[1] Area is generally the Standard Metropolitan Statistical Area (SMSA), exclusive of farms. L.A.-Long Beach, Anaheim, Calif. is a combination of two SMSA's, and N.Y., N.Y.-Northeastern N.J. and Chicago, Ill.-Northwestern Ind. are the more extensive Standard Consolidated Areas. Area definitions are those established by the Office of Management and Budget in 1973, except for Denver-Boulder, Colo. which does not include Douglas County. Definitions do not include revisions made since 1973.

[2] Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated:

M - Every month.
1 - January, March, May, July, September, and November.
2 - February, April, June, August, October, and December.

[3] Regions are defined as the four Census regions.

The population size classes are aggregations of areas which have urban population as defined:

A-1 - More than 4,000,000.
A-2 - 1,250,000 to 4,000,000.
B - 385,000 to 1,250,000
C - 75,000 to 385,000.
D - Less than 75,000.

Population size class A is the aggregation of population size classes A-1 and A-2.

– Data not available.

NOTE: Local area CPI indexes are byproducts of the national CPI program. Because each local index is a small subset of the national index, it has a smaller sample size and is, therefore, subject to substantially more sampling and other measurement error than the national index. As a result, local area indexes show greater volatility than the national index, although their long-term trends are quite similar. Therefore, the Bureau of Labor Statistics strongly urges users to consider adopting the national average CPI for use in escalator clauses.

32. Annual data: Consumer Price Index all items and major groups

Series	1977	1978	1979	1980	1981	1982	1983	1984	1985
Consumer Price Index for All Urban Consumers:									
All items:									
Index	181.5	195.4	217.4	246.8	272.4	289.1	298.4	311.1	322.2
Percent change	6.5	7.7	11.3	13.5	10.4	6.1	3.2	4.3	3.6
Food and beverages:									
Index	188.0	206.3	228.5	248.0	267.3	278.2	284.4	295.1	302.0
Percent change	6.0	9.7	10.8	8.5	7.8	4.1	2.2	3.8	2.3
Housing									
Index	186.5	202.8	227.6	263.3	293.5	314.7	323.1	336.5	349.9
Percent change	6.8	8.7	12.2	15.7	11.5	7.2	2.7	4.1	4.0
Apparel and upkeep:									
Index	154.2	159.6	166.6	178.4	186.9	191.8	196.5	200.2	206.0
Percent change	4.5	3.5	4.4	7.1	4.8	2.6	2.5	1.9	2.9
Transportation:									
Index	177.2	185.5	212.0	249.7	280.0	291.5	298.4	311.7	319.9
Percent change	7.1	4.7	14.3	17.8	12.1	4.1	2.4	4.5	2.6
Medical care:									
Index	202.4	219.4	239.7	265.9	294.5	328.7	357.3	379.5	403.1
Percent change	9.6	8.4	9.3	10.9	10.8	11.6	8.7	6.2	6.2
Entertainment:									
Index	167.7	176.6	188.5	205.3	221.4	235.8	246.0	255.1	265.0
Percent change	4.9	5.3	6.7	8.9	7.8	6.5	4.3	3.7	3.9
Other goods and services:									
Index	172.2	183.3	196.7	214.5	235.7	259.9	288.3	307.7	326.6
Percent change	5.8	6.4	7.3	9.0	9.9	10.3	10.9	6.7	6.1
Consumer Price Index for Urban Wage Earners and Clerical Workers									
All items:									
Index	181.5	195.3	217.7	247.0	272.3	288.6	297.4	307.6	318.5
Percent change	6.5	7.6	11.5	13.5	10.2	6.0	3.0	3.4	3.5

33. Producer Price Indexes, by stage of processing

(1967 = 100)

Grouping	Annual average		1985							1986				
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Finished goods	291.1	293.7	294.0	294.8	293.5	290.0	294.7	296.4	297.2	296.0	292.3	288.1	286.9	289.0
Finished consumer goods	290.3	291.8	292.2	293.1	291.4	288.2	292.3	294.4	295.4	293.8	288.9	283.5	281.6	284.2
Finished consumer foods	273.3	271.2	268.7	271.2	268.7	265.7	268.2	271.8	275.0	275.0	272.3	272.2	272.4	274.9
Finished consumer goods excluding foods	294.1	297.3	299.0	299.2	297.8	294.7	299.4	300.7	300.7	298.3	292.5	284.4	281.4	284.1
Nondurable goods less food	337.3	339.3	342.1	342.4	340.0	340.3	340.3	342.6	343.2	339.6	329.3	315.0	308.6	312.9
Durable goods	236.8	241.5	241.9	241.9	241.8	234.5	244.9	245.0	244.3	243.5	243.6	243.9	245.4	245.8
Capital equipment	294.0	300.5	300.5	300.8	301.0	296.3	303.5	303.8	303.7	303.9	304.2	304.3	305.6	305.8
Intermediate materials, supplies, and components	320.0	318.7	319.3	318.6	317.9	317.7	317.6	318.1	318.9	317.4	313.5	309.4	307.0	306.8
Materials and components for manufacturing	301.8	299.5	300.3	299.8	299.1	298.4	298.0	297.7	297.9	297.1	296.5	296.4	295.2	295.3
Materials for food manufacturing	271.1	258.8	262.0	260.3	253.0	249.9	252.3	254.0	254.3	252.8	248.9	246.3	244.6	248.6
Materials for nondurable manufacturing	290.5	285.9	286.4	285.8	285.8	285.1	283.3	282.8	283.1	283.8	283.0	281.9	279.0	278.0
Materials for durable manufacturing	325.1	320.2	322.3	320.9	320.3	319.2	318.6	317.5	317.6	313.4	313.0	313.6	313.1	313.2
Components for manufacturing	287.5	291.5	291.3	291.6	291.9	292.1	292.3	292.3	292.4	293.1	293.3	294.2	294.1	294.1
Materials and components for construction	310.3	315.2	317.3	316.9	316.5	315.6	315.5	315.0	315.7	316.2	316.6	316.8	318.0	318.3
Processed fuels and lubricants	566.2	548.9	549.1	544.0	539.8	542.4	542.6	550.5	557.2	540.8	500.7	453.9	430.2	425.7
Containers	302.3	311.2	312.0	311.4	310.3	309.9	310.4	309.8	310.6	311.2	310.6	311.2	312.5	313.9
Supplies	283.4	284.2	283.3	283.6	284.1	284.5	285.1	285.6	285.7	286.6	286.3	286.7	287.0	287.2
Crude materials for further processing	330.8	306.1	305.6	303.9	295.3	291.8	297.8	304.7	304.3	301.0	290.5	280.9	272.8	278.9
Foodstuffs and feedstuffs	259.5	235.0	233.7	231.6	221.0	215.4	224.6	236.6	236.8	231.7	226.9	224.0	220.1	228.9
Nonfood materials[1]	380.5	355.3	354.0	353.5	351.2	352.2	352.8	352.0	351.6	352.4	321.7	293.2	280.8	278.8
Special groupings														
Finished goods, excluding foods	294.8	299.0	300.2	300.5	299.5	295.9	301.3	302.4	302.4	300.7	296.7	291.1	289.4	291.3
Finished energy goods	750.3	720.9	741.4	733.8	719.9	718.2	716.5	729.5	733.8	700.9	636.8	551.1	511.3	532.7
Finished goods less energy	265.1	269.2	268.4	269.7	269.0	265.5	270.5	271.6	272.2	272.7	272.2	272.3	273.2	274.2
Finished consumer goods less energy	257.8	261.3	260.3	261.9	260.9	257.7	262.1	263.4	264.3	264.8	264.1	264.2	265.0	266.2
Finished goods less food and energy	262.3	268.7	268.6	269.4	269.4	265.7	271.6	271.8	271.4	272.1	272.4	272.6	273.7	274.2
Finished consumer goods less food and energy	245.9	252.1	252.0	252.9	252.9	249.6	254.9	255.0	254.6	255.5	255.9	256.1	257.1	257.7
Consumer nondurable goods less food and energy	239.0	246.2	245.6	247.4	247.3	247.9	248.3	248.5	248.3	250.5	251.1	251.3	251.8	252.5
Intermediate materials less foods and feeds	325.0	325.0	325.7	325.0	324.5	324.4	324.1	324.5	325.3	323.6	319.7	315.5	312.9	312.5
Intermediate foods and feeds	253.1	232.8	232.2	231.7	227.1	225.4	228.6	231.4	232.7	232.6	228.6	227.6	226.8	229.4
Intermediate energy goods	545.0	528.3	528.6	523.8	519.8	522.3	522.2	529.3	536.2	520.0	481.9	437.4	414.9	410.5
Intermediate goods less energy	303.8	304.0	304.6	304.3	303.9	303.4	303.4	303.2	303.5	303.4	303.0	303.2	302.8	303.0
Intermediate materials less foods and energy	303.6	305.2	306.0	305.6	305.5	305.0	304.6	304.2	304.5	304.3	304.2	304.4	304.0	304.0
Crude energy materials	785.2	748.1	754.5	752.6	742.9	743.2	743.1	737.1	735.6	732.8	679.0	618.4	570.7	571.6
Crude materials less energy	255.5	233.2	231.7	230.1	221.8	217.9	224.7	233.2	233.0	229.8	225.9	224.0	221.8	228.5
Crude nonfood materials less energy	266.1	249.7	247.4	247.2	245.8	246.7	246.5	244.6	242.9	245.8	244.6	245.6	249.1	249.3

[1] Crude nonfood materials except fuel.

4. Producer Price indexes, by durability of product

(1967 = 100)

Grouping	Annual average		1985							1986				
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Total durable goods	293.6	297.3	297.8	297.8	297.8	295.2	298.8	298.5	298.5	298.1	298.3	298.7	298.6	299.7
Total nondurable goods	323.3	317.2	317.5	317.3	314.1	313.0	314.3	317.8	318.8	316.8	309.0	300.6	295.7	297.9
Total manufactures	302.9	304.3	304.8	304.6	303.8	302.2	304.4	305.4	306.0	304.8	301.0	297.3	296.0	295.9
Durable	293.9	298.1	298.7	298.7	298.6	298.0	299.7	299.5	299.5	299.0	299.2	299.5	300.3	300.5
Nondurable	312.3	310.5	311.0	310.6	309.0	306.4	309.2	311.4	312.5	310.6	302.7	294.7	291.2	292.6
Total raw or slightly processed goods	346.6	327.9	327.3	327.5	320.2	317.6	320.6	326.2	327.6	326.0	319.0	310.4	302.0	305.6
Durable	266.7	252.2	247.3	247.6	249.7	249.7	248.1	245.2	244.3	246.2	250.6	251.5	252.7	252.0
Nondurable	351.4	332.4	332.1	332.3	324.4	321.6	324.9	331.2	332.7	330.6	323.1	313.8	304.7	308.7

35. Annual data: Producer Price indexes, by stage of processing

(1967 = 100)

Index	1977	1978	1979	1980	1981	1982	1983	1984	1985
Finished goods:									
Total	181.7	195.9	217.7	247.0	269.8	280.7	285.2	291.1	293.7
Consumer goods	180.7	194.9	217.9	248.9	271.3	281.0	284.6	290.3	291.8
Capital equipment	184.6	199.2	216.5	239.8	264.3	279.4	287.2	294.0	300.5
Intermediate materials, supplies, and components:									
Total	201.5	215.6	243.2	280.3	306.0	310.4	312.3	320.0	318.7
Materials and components for manufacturing	195.4	208.7	234.4	265.7	286.1	289.8	293.4	301.8	299.5
Materials and components for construction	203.4	224.7	247.4	268.3	287.6	293.7	301.8	310.3	312.2
Processed fuels and lubricants	282.5	295.3	364.8	503.0	595.4	591.7	564.8	566.2	548.9
Containers	188.3	202.8	226.8	254.5	276.1	285.6	286.6	302.3	311.2
Supplies	188.7	198.5	218.2	244.5	263.8	272.1	277.1	283.4	284.2
Crude materials for further processing:									
Total	209.2	234.4	274.3	304.6	329.0	319.5	323.6	330.8	306.1
Foodstuffs and feedstuffs	192.1	216.2	247.9	259.2	257.4	247.8	252.2	259.5	236.0
Nonfood materials except fuel	212.2	233.1	284.5	346.1	413.7	376.8	372.2	380.5	355.3
Fuel	372.1	426.8	507.6	615.0	751.2	886.1	931.5	931.3	909.6

36. U.S. export price indexes by Standard International Trade Classification

(June 1977 = 100, unless otherwise indicated)

Category	1974 SITC	1983		1984				1985				1986
		Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
ALL COMMODITIES (9/83 = 100)		100.0	99.5	100.2	101.5	99.3	98.1	97.5	97.5	96.5	96.7	97.0
Food (3/83 = 100)	0	113.1	108.8	106.2	109.6	103.5	96.5	95.8	94.0	90.2	93.6	90.5
Meat (3/83 = 100)	01	100.8	101.2	108.9	108.7	105.6	104.4	103.9	104.7	106.1	112.2	111.5
Fish (3/83 = 100)	03	97.7	100.4	99.8	98.7	98.0	98.7	101.0	103.6	102.6	101.8	102.2
Grain and grain preparations (3/80 = 100)	04	111.5	105.6	102.7	107.4	101.2	92.9	92.4	90.3	82.6	87.1	82.1
Vegetables and fruit (3/83 = 100)	05	114.8	116.1	116.2	126.8	125.5	114.6	119.4	120.1	126.8	118.8	115.2
Feedstuffs for animals (3/83 = 100)	08	121.4	117.4	106.9	98.8	83.5	82.4	72.8	68.6	75.7	83.4	88.5
Misc. food products (3/83 = 100)	09	102.8	101.7	104.9	110.6	109.5	108.4	110.6	109.2	108.1	107.7	108.0
Beverages and tobacco (6/83 = 100)	1	100.0	101.5	101.6	101.9	102.8	101.3	99.9	100.1	99.7	98.6	95.6
Beverages (9/83 = 100)	11	100.0	103.3	102.3	102.9	103.3	103.7	104.0	105.3	101.8	100.9	101.9
Tobacco and tobacco products (6/83 = 100)	12	100.0	101.4	101.6	101.8	102.7	101.1	99.5	99.6	99.5	98.4	95.1
Crude materials (6/83 = 100)	2	114.6	112.2	112.5	118.3	105.2	101.4	97.5	96.0	93.3	92.5	95.8
Raw hides and skins (6/80 = 100)	21	129.2	135.2	145.6	154.7	153.7	133.6	121.0	126.2	129.0	139.9	138.9
Oilseeds and oleaginous fruit (9/77 = 100)	22	105.6	96.8	93.9	104.3	79.9	74.8	71.0	71.2	64.2	63.9	66.9
Crude rubber (including synthetic and reclaimed) (9/83 = 100)	23	100.0	102.2	103.3	108.0	104.1	104.0	106.4	108.3	107.1	106.0	106.0
Wood	24	128.7	129.8	131.1	129.4	123.8	125.4	126.7	125.7	124.5	128.1	128.7
Pulp and waste paper (6/83 = 100)	25	103.5	106.0	112.5	122.1	120.8	114.2	100.5	96.1	93.8	92.7	90.3
Textile fibers	26	117.3	123.1	120.5	125.6	109.4	106.7	102.4	105.8	103.6	97.7	101.6
Crude fertilizers and minerals	27	144.8	144.8	146.6	147.7	163.0	163.2	165.6	167.9	169.4	165.5	166.0
Metalliferous ores and metal scrap	28	100.0	96.7	100.2	98.5	93.2	92.4	89.2	82.0	80.1	78.7	83.4
Mineral fuels	3	100.0	99.2	99.1	99.7	96.7	99.7	100.1	99.2	97.6	98.6	91.9
Animal and vegetables oils, fats, and waxes	4	125.6	122.0	129.8	164.5	145.7	147.9	142.0	144.5	114.5	101.4	90.6
Fixed vegetable oils and fats (6/83 = 100)	42	136.2	129.3	133.2	176.4	159.0	156.7	152.9	164.8	128.8	106.7	95.4
Chemicals (3/83 = 100)	5	97.0	98.6	101.4	99.7	98.3	97.7	97.0	96.8	97.1	98.6	96.5
Organic chemicals (12/83 = 100)	51	-	100.0	100.2	101.0	97.4	94.7	93.8	96.5	97.1	95.4	93.5
Fertilizers, manufactured (3/83 = 100)	56	89.8	96.8	108.3	96.9	97.4	94.8	92.5	87.9	89.8	90.0	88.6
Intermediate manufactured products (9/81 = 100)	-	100.8	100.0	101.0	101.3	102.0	100.4	99.4	99.2	99.2	99.1	100.3
Leather and furskins (9/79 = 100)	6	70.1	75.8	83.5	81.2	80.8	79.0	82.5	79.2	75.9	78.5	77.8
Rubber manufactures	61	145.0	145.0	146.7	147.5	148.9	148.5	150.2	149.0	148.3	148.7	151.0
Paper and paperboard products (6/78 = 100)	62	139.7	145.5	150.2	154.7	160.0	159.5	155.0	151.6	149.6	148.2	152.2
Iron and steel (3/82 = 100)	64	96.6	96.3	95.9	96.1	96.8	96.5	95.5	95.3	95.9	98.2	98.4
Nonferrous metals (9/81 = 100)	-	102.3	93.8	94.2	92.9	90.4	82.5	79.7	79.6	79.8	78.2	80.2
Metal manufactures, n.e.s. (3/82 = 100)	-	101.9	102.1	103.1	104.5	105.1	105.0	105.4	105.2	105.4	104.4	105.3
Machinery and transport equipment, excluding military and commercial aircraft (12/78 = 100)	67	135.9	137.0	138.5	139.4	140.1	141.5	142.3	142.9	143.1	143.3	144.0
Power generating machinery and equipment (12/78 = 100)	68	152.3	154.4	156.4	156.9	160.6	167.5	165.3	167.4	167.1	167.5	169.1
Machinery specialized for particular industries (9/78 = 100)	69	149.1	151.1	152.3	152.8	153.7	153.4	155.0	155.7	156.0	156.1	155.4
Metalworking machinery (6/78 = 100)	7	148.3	148.7	150.8	151.2	151.7	151.6	153.4	155.1	156.3	156.4	158.0
General industrial machines and parts n.e.s. 9/78 = 100)	71	145.4	145.9	148.6	149.0	149.3	150.2	152.4	152.0	152.4	152.2	152.3
Office machines and automatic data processing equipment	72	103.2	102.5	101.4	101.5	99.8	101.4	100.9	100.0	99.9	99.4	99.9
Telecommunications, sound recording and reproducing equipment	73	132.2	132.1	133.0	132.3	134.4	134.3	133.3	133.3	134.1	134.5	136.5
Electrical machinery and equipment	74	109.4	109.8	110.2	112.6	113.8	114.6	114.9	116.1	115.3	113.8	115.1
Road vehicles and parts (3/80 = 100)	75	127.5	128.8	130.2	131.2	131.0	131.8	133.1	133.9	133.8	135.0	135.5
Other transport equipment, excl. military and commercial aviation	76	176.4	179.3	183.1	187.7	189.6	191.7	195.5	198.6	199.3	200.7	203.3
Other manufactured articles	77	100.0	100.2	100.6	100.4	100.7	99.3	99.5	100.4	100.3	100.3	102.6
Apparel (9/83 = 100)	78	100.0	100.8	101.9	102.1	103.9	103.4	104.7	104.7	105.0	105.3	-
Professional, scientific, and controlling instruments and apparatus	79	169.0	171.5	171.8	172.0	175.8	171.7	175.5	178.3	178.7	178.8	182.2
Photographic apparatus and supplies, optical goods, watches and clocks (12/77 = 100)	8	130.0	132.0	132.0	131.3	132.7	130.3	128.0	129.1	127.5	128.5	131.6
Miscellaneous manufactured articles, n.e.s.	84	100.0	98.2	96.5	97.9	95.2	94.1	92.4	93.1	90.1	92.4	95.6
Gold, non-monetary (9/83 = 100)	971	-	-	-	-	-	-	-	-	-	-	-

- Data not available.

37. U.S. import price indexes by Standard International Trade Classification

(June 1977 = 100, unless otherwise indicated)

Category	1974 SITC	1984				1985				1986
		Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
ALL COMMODITIES (9/82 = 100)		98.0	98.3	96.7	95.7	93.5	93.0	92.9	94.2	98.5
Food (9/77 = 100)	0	102.5	103.5	102.0	98.1	98.5	96.8	94.9	102.8	113.5
Meat	01	133.4	133.8	135.4	132.3	130.4	118.2	120.6	131.2	122.7
Dairy products and eggs (6/81 = 100)	02	100.8	99.8	98.9	98.4	98.3	97.9	99.1	100.5	106.8
Fish	03	132.7	134.2	134.2	133.9	132.9	129.4	129.7	132.7	139.3
Bakery goods, pasta products, grain and grain preparations (9/77 = 100)	04	136.5	134.8	132.9	132.8	131.8	132.3	136.3	141.9	146.9
Fruits and vegetables	05	136.1	135.8	135.4	117.2	127.1	129.4	120.2	131.3	119.4
Sugar, sugar preparations, and honey (3/82 = 100)	06	117.1	120.3	119.0	118.5	118.4	122.6	123.1	111.9	124.6
Coffee, tea, cocoa	07	61.4	62.4	60.3	58.4	57.0	56.0	54.4	64.6	65.9
Beverages and tobacco	1	156.3	156.3	157.1	156.5	156.2	157.1	158.0	162.1	163.2
Beverages	11	152.6	153.6	153.5	152.8	154.2	154.3	156.0	159.1	161.8
Crude materials	2	103.2	102.6	100.6	98.9	94.0	90.5	91.5	91.2	94.7
Crude rubber (inc. synthetic & reclaimed) (3/84 = 100)	23	100.0	93.7	90.7	83.8	77.6	76.4	68.9	73.2	78.8
Wood (9/81 = 100)	24	114.8	103.2	99.6	104.0	100.7	108.9	101.6	99.4	104.3
Pulp and waste paper (12/81 = 100)	25	87.6	96.1	96.3	93.2	84.0	80.4	76.8	75.8	74.9
Crude fertilizers and crude minerals (12/83 = 100)	27	100.0	96.2	98.0	98.6	100.3	101.7	102.7	102.1	101.5
Metalliferous ores and metal scrap (3/84 = 100)	28	100.0	102.8	100.1	95.6	90.4	87.6	89.5	90.1	96.2
Crude vegetable and animal materials, n.e.s.	29	100.0	100.8	101.1	106.4	104.3	104.9	102.5	102.5	103.6
Fuels and related products (6/82 = 100)	3	88.3	88.0	86.9	85.2	82.9	80.9	79.8	79.1	55.3
Petroleum and petroleum products (6/82 = 100)	33	88.2	88.1	87.0	85.2	83.8	81.6	80.3	80.1	54.7
Fats and oils (9/83 = 100)	4	117.4	141.8	124.4	114.9	89.9	78.7	57.6	50.6	41.4
Vegetable oils (9/83 = 100)	42	118.1	143.1	125.3	115.3	89.5	75.9	56.2	48.9	39.3
Chemicals (9/82 = 100)	5	101.1	100.6	98.8	97.1	95.7	94.9	94.5	94.2	94.6
Medicinal and pharmaceutical products (3/84 = 100)	54	100.0	98.5	96.4	94.6	91.6	95.1	95.3	96.7	102.9
Manufactured fertilizers (3/84 = 100)	56	100.0	101.7	98.5	92.9	94.2	82.0	80.8	78.5	79.2
Chemical materials and products, n.e.s. (9/84 = 100)	59	-	-	100.0	97.5	96.1	95.6	96.9	97.8	99.9
Intermediate manufactured products (12/77 = 100)	6	137.6	139.6	137.2	136.8	133.1	132.4	133.6	133.4	134.0
Leather and furskins	61	141.6	145.3	144.0	140.4	135.3	133.3	137.0	141.3	141.6
Rubber manufactures, n.e.s.	62	141.8	140.8	139.6	140.5	139.5	138.6	137.3	138.1	136.5
Cork and wood manufactures	63	130.1	131.0	126.4	126.1	121.3	121.2	123.4	124.0	130.8
Paper and paperboard products	64	148.0	150.4	156.1	157.5	157.6	157.2	157.8	156.5	157.1
Textiles	65	130.8	130.1	131.6	132.9	130.4	127.5	128.5	128.1	131.2
Nonmetallic mineral manufactures, n.e.s.	66	166.4	166.6	156.6	159.4	154.3	151.8	157.6	162.3	164.2
Iron and steel (9/78 = 100)	67	118.5	123.8	124.7	123.7	121.0	120.1	119.1	118.3	117.3
Nonferrous metals (12/81 = 100)	68	95.0	95.3	90.2	87.3	81.9	82.3	83.7	80.4	79.4
Metal manufactures, n.e.s.	69	119.7	120.5	119.3	119.3	117.4	117.8	119.5	121.6	124.4
Machinery and transport equipment (6/81 = 100)	7	104.0	104.1	102.6	102.9	101.6	102.6	103.5	107.2	111.5
Machinery specialized for particular industries (9/78 = 100)	72	100.4	100.0	98.8	98.0	96.2	97.0	101.4	104.9	112.1
Metalworking machinery (3/80 = 100)	73	94.3	93.8	92.1	89.9	86.3	90.5	94.2	98.1	105.0
General industrial machinery and parts, n.e.s. (6/81 = 100)	74	93.7	94.4	92.4	91.3	89.2	91.1	94.3	98.0	103.8
Office machines and automatic data processing equipment (3/80 = 100)	75	97.8	96.7	94.1	92.2	89.6	89.4	90.3	93.7	96.9
Telecommunications, sound recording and reproducing apparatus (3/80 = 100)	76	94.2	94.8	93.6	91.3	90.0	88.8	88.3	88.6	89.4
Electrical machinery and equipment (12/81 = 100)	77	94.2	91.2	87.0	86.4	82.1	83.9	81.4	83.1	84.3
Road vehicles and parts (6/81 = 100)	78	109.0	110.4	109.8	111.3	111.5	112.1	112.7	117.8	123.4
Misc. manufactured articles (3/80 = 100)	8	100.6	101.5	99.7	100.0	97.0	98.0	99.6	100.8	103.3
Plumbing, heating, and lighting fixtures (6/80 = 100)	81	109.5	112.0	110.7	111.6	113.9	114.1	117.8	115.0	120.1
Furniture and parts (6/80 = 100)	82	136.8	140.8	138.4	142.5	137.4	136.7	142.1	142.7	147.0
Clothing (9/77 = 100)	84	130.2	132.5	135.4	138.5	136.7	133.9	134.5	134.5	133.4
Footwear	85	136.8	140.8	138.4	142.5	137.4	136.7	142.1	142.7	147.0
Professional, scientific, and controlling instruments and apparatus (12/79 = 100)	87	98.7	97.8	95.6	92.9	89.2	92.3	98.8	102.4	106.4
Photographic apparatus and supplies, optical goods, watches, and clocks (3/80 = 100)	88	89.6	92.8	91.2	91.3	88.9	89.5	91.1	94.5	99.3
Misc. manufactured articles, n.e.s. (6/82 = 100)	89	105.2	104.0	98.3	96.3	91.2	95.2	96.4	97.9	102.1
Gold, non-monetary (6/82 = 100)	971	-	-	-	-	-	-	-	-	-

- Data not available.

38. U.S. export price indexes by end-use category

(September 1983 = 100 unless otherwise indicated)

Category	Percentage of 1980 Trade Value	1984				1985				1986
		Mar	June	Sept.	Dec.	Mar	June	Sept.	Dec.	Mar
Foods, feeds, and beverages	18.294	92.8	96.5	98.6	83.0	81.5	80.9	76.2	77.5	75.
Raw materials	30.698	102.2	102.5	100.5	99.1	97.6	97.2	96.5	95.9	96.
Raw materials, nondurable	21.327	103.6	104.4	102.8	101.4	99.6	99.5	98.7	97.9	97.
Raw materials, durable	9.368	98.8	97.7	95.0	93.3	92.6	91.6	91.1	91.0	92.
Capital goods (12/82 = 100)	30.198	103.2	103.9	104.6	105.6	106.2	106.6	106.6	106.6	107.
Automotive vehicles, parts and engines (12/82 = 100)	7.483	104.5	105.3	105.3	105.7	106.7	108.0	108.1	108.2	108.
Consumer goods	7.467	100.9	100.9	101.3	100.8	100.9	101.1	101.9	101.4	102.
Durables	3.866	100.1	99.6	99.4	99.3	99.1	99.2	100.4	99.5	101.
Nondurables	3.601	101.6	102.1	103.0	102.3	102.7	103.0	103.3	103.3	105.

39. U.S. import price indexes by end-use category

(December 1982 = 100)

Category	Percentage of 1980 Trade Value	1984				1985				1986
		Mar	June	Sept.	Dec.	Mar	June	Sept.	Dec.	Mar
Foods, feeds, and beverages	7.477	108.0	107.2	105.6	101.8	102.1	100.4	99.0	106.0	115.8
Petroleum and petroleum products, excl. natural gas	31.108	88.8	88.5	87.5	85.7	84.4	82.1	80.9	80.5	55.4
Raw materials, excluding petroleum	19.205	103.5	104.3	102.5	101.1	98.3	95.8	95.4	93.9	94.5
Raw materials, nondurable	9.391	100.7	102.1	101.7	100.7	95.0	93.9	93.5	91.8	91.1
Raw materials, durable	9.814	106.5	106.7	103.3	101.6	97.7	97.8	97.4	96.2	98.0
Capital goods	13.164	100.8	99.8	98.0	97.8	94.8	96.3	97.6	100.0	102.8
Automotive vehicles, parts and engines	11.790	103.8	104.9	104.0	105.2	105.4	105.9	106.4	111.4	115.8
Consumer goods	14.250	101.0	101.9	100.6	101.1	99.5	99.4	101.0	102.4	104.5
Durable	5.507	101.1	101.4	98.8	98.5	97.0	97.0	98.9	100.7	103.4
Nondurable	8.743	108.9	102.5	103.0	104.6	103.0	102.5	103.9	104.7	108.0

40. U.S. export price indexes by Standard Industrial Classification [1]

Industry group	1984				1985				1986
	Mar	June	Sept.	Dec.	Mar	June	Sept.	Dec.	Mar
Manufacturing:									
Food and kindred products (6/83 = 100)	109.0	112.7	105.6	103.3	99.5	99.5	98.7	98.1	97.0
Lumber and wood products, except furniture (6/83 = 100)	101.5	100.1	97.0	97.9	99.9	99.5	98.3	101.2	101.5
Furniture and fixtures (9/83 = 100)	101.8	103.1	103.5	104.9	105.2	106.5	107.1	108.4	109.2
Paper and allied products (3/81 = 100)	98.6	104.3	106.2	103.6	97.1	94.7	93.2	92.1	95.7
Chemicals and allied products (12/84 = 100)	103.3	102.3	101.3	100.7	100.3	99.8	99.7	99.2	98.9
Petroleum and coal products (12/83 = 100)	101.6	102.1	100.7	100.4	101.3	102.7	102.0	99.1	93.5
Primary metal products (3/82 = 100)	106.1	104.0	100.0	96.8	91.2	92.7	93.6	93.6	96.4
Machinery, except electrical (9/78 = 100)	137.4	137.9	138.0	139.9	140.4	140.5	140.6	140.5	140.6
Electrical machinery (12/80 = 100)	108.0	109.5	110.7	111.1	111.3	112.4	111.9	111.2	112.6
Transportation equipment (12/78 = 100)	155.7	157.2	157.8	158.9	160.5	161.9	162.8	164.3	165.2
Scientific instruments; optical goods; clocks (6/77 = 100)	153.1	153.2	156.0	153.0	154.9	156.6	156.2	156.7	159.7

[1] SIC - based classification.

41. U.S. import price indexes by Standard Industrial Classification [1]

Industry group	1984				1985				1986
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Manufacturing:									
Food and kindred products (6/77 = 100)	122.3	126.6	124.1	122.6	118.8	115.0	114.2	115.1	117.7
Textile mill products (9/82 = 100)	104.4	103.8	104.3	104.7	102.8	101.0	100.4	101.8	104.7
Apparel and related products (6/77 = 100)	128.1	129.6	133.9	138.2	135.6	133.0	133.9	134.4	133.4
Lumber and wood products, except furniture (6/77 = 100)	129.4	121.1	117.3	120.0	116.3	120.6	117.5	115.8	122.1
Furniture and fixtures (6/80 = 100)	95.7	96.9	96.2	95.6	93.9	96.1	97.7	96.2	101.2
Paper and allied products (6/77 = 100)	136.5	141.9	146.0	145.5	141.5	139.8	138.7	137.4	137.6
Chemicals and allied products (9/82 = 100)	101.8	101.8	99.8	98.2	95.3	93.9	93.3	95.8	98.6
Rubber and miscellaneous plastic products (12/80 = 100)	98.1	98.5	97.8	98.0	96.9	96.7	96.6	97.5	100.9
Leather and leather products	140.3	143.7	141.6	144.2	139.1	138.9	142.3	144.0	145.8
Primary metal products (6/81 = 100)	90.1	91.9	88.3	86.6	82.2	83.0	83.4	81.9	82.0
Fabricated metal products (12/84 = 100)	-	-	-	100.0	99.0	99.1	101.0	102.6	104.9
Machinery, except electrical (3/80 = 100)	97.8	97.1	95.5	94.1	91.8	93.4	96.6	100.0	105.5
Electrical machinery (9/84 = 100)	-	-	100.0	98.6	95.1	95.8	94.5	95.8	96.8
Transportation equipment (6/81 = 100)	110.6	111.6	110.7	112.9	113.1	114.2	114.8	119.6	123.9
Scientific instruments; optical goods; clocks (12/79 = 100)	94.0	95.5	94.4	93.2	90.7	91.7	94.6	98.8	103.9
Miscellaneous manufactured commodities (9/82 = 100)	99.8	99.1	95.8	96.4	95.1	95.1	96.6	98.7	100.0

[1] SIC - based classification.

- Data not available.

42. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

(1977 = 100)

Item	Annual average	Quarterly Indexes										
	1984	1983		1984				1985				1986
		III	IV	I	II	III	IV	I	II	III	IV	I
Business:												
Output per hour of all persons	105.2	103.5	103.6	104.9	105.5	105.3	105.0	105.3	105.5	105.9	104.9	105.5
Compensation per hour	168.2	162.1	164.1	166.1	167.5	169.1	170.4	172.4	174.3	176.1	177.6	178.2
Real compensation per hour	98.2	98.1	98.3	98.3	98.2	98.2	98.1	98.5	98.5	98.9	98.7	98.7
Unit labor costs	159.9	156.6	158.4	158.4	158.7	160.6	162.3	163.8	165.2	166.3	169.3	168.9
Unit nonlabor payments	156.5	146.8	148.6	153.4	156.8	157.3	158.0	157.6	158.2	158.6	156.2	159.1
Implicit price deflator	158.7	153.1	154.9	156.6	158.0	159.4	160.8	161.6	162.7	163.5	164.6	165.4
Nonfarm business:												
Output per hour of all persons	104.1	103.3	103.0	104.0	104.5	104.2	103.8	104.1	104.2	104.3	103.2	104.1
Compensation per hour	168.0	162.3	164.0	165.9	167.4	168.8	170.1	172.1	173.7	175.0	176.4	177.3
Real compensation per hour	98.0	98.2	98.2	98.1	98.1	98.0	97.9	98.3	98.2	98.3	98.0	98.2
Unit labor costs	161.4	157.1	159.1	159.6	160.1	162.0	163.9	165.3	166.8	167.8	170.9	170.3
Unit nonlabor payments	156.3	148.9	150.7	152.5	156.3	157.6	158.4	158.8	160.2	161.4	157.7	161.9
Implicit price deflator	159.6	154.2	156.1	157.1	158.8	160.5	161.9	163.0	164.5	165.5	166.3	167.4
Nonfinancial corporations:												
Output per hour of all employees	106.2	104.6	105.0	106.2	106.7	106.1	105.8	105.8	105.8	106.5	105.9	105.8
Compensation per hour	166.1	160.8	162.4	164.2	165.6	166.8	167.9	169.4	170.8	172.0	173.3	173.9
Real compensation per hour	96.9	97.3	97.3	97.1	97.1	96.9	96.7	96.7	96.6	96.6	96.3	96.3
Total unit costs	161.2	159.6	159.5	159.1	159.9	162.2	163.6	164.4	165.8	165.5	167.2	168.0
Unit labor costs	156.4	153.8	154.8	154.7	155.1	157.2	158.7	160.0	161.5	161.5	163.7	164.3
Unit nonlabor costs	175.3	176.7	173.7	172.3	174.0	177.0	177.9	177.6	178.6	177.2	177.8	179.0
Unit profits	135.6	114.4	124.0	132.9	139.1	134.3	135.9	138.3	139.1	150.2	143.1	146.1
Unit nonlabor payments	161.4	154.9	156.3	158.5	161.8	162.1	163.2	163.8	164.8	167.7	165.7	167.5
Implicit price deflator	158.1	154.2	155.3	156.0	157.4	158.9	160.3	161.3	162.6	163.6	164.4	165.4
Manufacturing:												
Output per hour of all persons	118.5	114.5	114.7	116.7	117.8	119.8	119.5	120.0	121.8	122.8	122.4	123.1
Compensation per hour	169.1	163.3	164.4	166.7	168.1	169.9	171.8	174.3	176.1	177.3	178.8	179.2
Real compensation per hour	98.7	98.8	98.5	98.6	98.6	98.7	98.9	99.5	99.5	99.6	99.4	99.3
Unit labor costs	142.8	142.6	143.4	142.8	142.7	141.9	143.7	145.3	144.5	144.4	146.0	145.6

43. Annual indexes of multifactor productivity and related measures, selected years

(1977 = 100)

Item	1960	1970	1973	1974	1976	1978	1979	1980	1981	1982	1983	1984
Private business												
Productivity:												
Output per hour of all persons	64.8	86.1	94.8	92.5	97.6	100.5	99.3	98.7	100.6	100.8	103.7	107.1
Output per unit of capital services	98.4	98.5	103.0	96.5	96.1	101.8	100.3	95.6	94.1	89.5	92.3	97.4
Multifactor productivity	75.4	90.2	97.5	93.8	97.1	101.0	99.7	97.6	98.3	96.8	99.6	103.7
Output	53.3	78.3	91.8	89.9	93.7	105.5	107.9	106.4	109.2	106.3	111.1	121.0
Inputs:												
Hours of all persons	82.2	90.8	96.8	97.2	95.9	105.0	108.6	107.8	108.5	105.4	107.2	113.0
Capital services	54.1	79.4	89.1	93.1	97.5	103.6	107.5	111.4	116.0	118.8	120.4	124.3
Combined units of labor and capital input	70.7	86.7	94.1	95.8	96.5	104.5	108.2	109.0	111.0	109.9	111.6	116.8
Capital per hour of all persons	65.9	87.4	92.0	95.9	101.6	98.7	98.9	103.3	106.9	112.7	112.3	109.9
Private nonfarm business												
Productivity:												
Output per hour of all persons	68.0	86.8	95.3	92.9	97.8	100.6	99.0	98.2	99.6	99.9	103.5	106.3
Output per unit of capital services	98.4	98.6	103.2	96.5	96.1	101.9	100.1	95.2	93.2	88.7	91.9	96.6
Multifactor productivity	77.6	90.7	97.9	94.1	97.2	101.0	99.4	97.2	97.4	95.9	99.4	102.9
Output	52.3	77.8	91.7	89.7	93.6	105.7	108.0	106.4	108.7	105.9	111.3	121.0
Inputs:												
Hours of all persons	77.0	89.7	96.2	96.5	95.7	105.1	109.1	108.4	109.1	106.0	107.6	113.8
Capital services	53.2	78.9	88.8	93.0	97.4	103.7	107.9	111.7	116.6	119.4	121.1	125.2
Combined units of labor and capital input	67.4	85.9	93.6	95.3	96.3	104.6	108.7	109.5	111.6	110.4	112.0	117.5
Capital per hour of all persons	69.1	88.0	92.4	96.3	101.8	98.7	98.9	103.1	106.8	112.6	112.6	110.1
Manufacturing												
Productivity:												
Output per hour of all persons	60.0	79.2	93.0	90.8	97.6	100.9	101.6	101.7	104.9	107.1	111.6	115.6
Output per unit of capital services	87.9	91.8	108.2	99.6	96.1	101.5	99.5	90.7	89.9	82.9	87.6	96.0
Multifactor productivity	67.0	82.3	96.8	93.1	97.1	101.1	101.0	96.8	100.8	100.3	104.9	110.4
Output	50.7	77.0	95.9	91.9	93.6	105.3	108.2	103.5	106.1	99.3	104.4	115.3
Inputs:												
Hours of all persons	84.4	97.3	103.1	101.2	95.9	104.4	106.5	101.7	101.1	92.7	93.5	99.8
Capital services	57.6	83.9	88.6	92.2	97.4	103.8	108.8	114.1	118.0	119.8	119.2	120.2
Combined units of labor and capital inputs	75.6	93.5	99.0	98.7	96.3	104.2	107.1	104.8	105.2	99.0	99.5	104.5
Capital per hour of all persons	68.3	86.2	85.9	91.1	101.6	99.4	102.1	112.2	116.7	129.2	127.5	120.4

44. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years

(1977 = 100)

Item	1960	1970	1973	1974	1976	1978	1979	1980	1981	1982	1983	1984	1985
Business:													
Output per hour of all persons	67.5	88.3	95.9	93.9	98.3	100.8	99.6	99.2	100.7	100.3	103.2	105.2	105.3
Compensation per hour	33.6	57.7	70.9	77.6	92.8	108.5	119.1	131.5	143.7	154.9	161.9	168.2	175.0
Real compensation per hour	68.8	90.1	96.7	95.4	98.7	100.8	99.4	96.7	95.7	97.3	98.5	98.2	98.6
Unit labor costs	49.8	65.4	73.9	82.7	94.3	107.7	119.6	132.6	142.7	154.5	157.0	159.9	166.2
Unit nonlabor payments	46.3	59.4	72.5	76.4	93.4	106.7	112.5	118.8	134.7	136.8	145.4	156.5	157.7
Implicit price deflator	48.5	63.2	73.4	80.5	94.0	107.3	117.0	127.6	139.8	148.1	152.8	158.7	163.1
Nonfarm business:													
Output per hour of all persons	70.9	89.1	96.4	94.3	98.5	100.8	99.2	98.8	99.8	99.2	102.6	104.1	103.9
Compensation per hour	35.3	58.1	71.2	78.0	92.8	108.6	118.9	131.3	143.6	154.8	162.1	168.0	174.2
Real compensation per hour	72.2	90.7	97.1	95.9	98.8	100.9	99.2	96.6	95.7	97.2	98.6	98.0	98.1
Unit labor costs	49.8	65.2	73.9	82.7	94.2	107.7	119.8	132.9	144.0	156.0	158.0	161.4	167.7
Unit nonlabor payments	46.2	60.0	69.4	74.0	93.1	105.6	110.5	118.5	133.5	136.6	147.0	156.3	159.5
Implicit price deflator	48.5	63.4	72.3	79.7	93.8	107.0	116.5	127.8	140.3	149.2	154.1	159.6	164.8
Nonfinancial corporations:													
Output per hour of all employees	73.4	91.1	97.5	94.6	98.4	100.6	99.8	99.1	99.6	100.4	104.0	106.2	105.9
Compensation per hour	36.9	59.2	71.6	78.2	92.9	108.4	118.7	131.1	143.3	154.3	160.6	168.1	171.3
Real compensation per hour	75.5	92.4	97.6	96.1	98.9	100.7	99.1	96.4	95.5	96.9	97.7	96.9	96.5
Unit labor costs	50.2	65.0	73.4	82.6	94.3	107.8	119.0	132.3	143.8	153.8	154.5	156.4	161.7
Unit nonlabor payments	51.5	60.1	68.9	73.1	93.8	104.4	108.4	118.6	137.8	142.1	152.2	161.4	165.5
Implicit price deflator	50.7	63.3	71.9	79.4	94.2	106.6	115.4	127.6	141.7	149.8	153.7	158.1	163.0
Manufacturing:													
Output per hour of all persons	62.2	80.8	93.4	90.6	97.1	101.5	101.4	101.4	103.6	105.9	112.9	118.5	121.8
Compensation per hour	36.5	57.3	68.8	76.2	92.1	108.2	118.6	132.4	145.2	157.5	163.2	169.1	176.6
Real compensation per hour	74.7	89.4	93.8	93.6	98.1	100.5	96.1	97.4	96.7	98.9	99.3	98.7	99.5
Unit labor costs	58.7	70.9	73.7	84.1	94.9	106.6	117.0	130.6	140.1	148.7	144.5	142.8	145.0
Unit nonlabor payments	60.2	64.3	70.7	67.7	93.5	101.9	98.9	97.8	111.8	114.0	132.4	140.5	138.9
Implicit price deflator	59.1	69.0	72.8	79.3	94.5	105.2	111.7	121.0	131.8	138.6	141.0	142.1	143.3

45. Unemployment rates in nine countries, quarterly data seasonally adjusted

Country	Annual average		1984		1985				1986
	1984	1985	III	IV	I	II	III	IV	I
Total labor force basis									
United States	7.4	7.1	7.3	7.1	7.2	7.2	7.1	6.9	7.0
Canada	11.2	10.4	11.2	11.1	11.0	10.5	10.2	10.1	9.7
Australia	8.9	8.2	8.7	8.6	8.5	8.4	8.1	7.8	7.9
Japan	2.7	2.6	2.8	2.7	2.6	2.5	2.6	2.9	2.6
France	9.7	10.1	9.9	10.0	10.2	10.1	10.2	9.9	10.0
Germany	7.7	7.7	7.8	7.7	7.8	7.8	7.7	7.7	7.7
Great Britain	12.8	13.0	13.0	12.8	12.9	13.0	13.2	12.8	13.0
Italy [1], [2]	5.8	5.9	5.8	5.7	5.8	5.7	5.9	6.2	6.2
Sweden	3.1	2.8	3.0	3.0	3.0	2.9	2.7	2.7	2.8
Civilian labor force basis									
United States	7.5	7.2	7.4	7.2	7.3	7.3	7.2	7.0	7.1
Canada	11.3	10.5	11.3	11.1	11.1	10.6	10.2	10.1	9.7
Australia	9.0	8.3	8.8	8.6	8.6	8.5	8.2	7.9	8.0
Japan	2.8	2.6	2.8	2.7	2.6	2.6	2.7	2.9	2.7
France	9.9	10.3	10.1	10.3	10.5	10.4	10.4	10.1	10.2
Germany	7.8	7.9	7.9	7.8	7.9	8.0	7.9	7.8	7.8
Great Britain	12.9	13.2	13.2	13.0	13.1	13.2	13.4	13.0	13.1
Italy	5.9	6.0	5.9	5.8	5.9	5.8	6.0	6.3	6.3
Sweden	3.1	2.8	3.1	3.0	3.0	2.9	2.8	2.7	2.8

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[1] Quarterly rates are for the first month of the quarter.

[2] Major changes in the Italian labor force survey, introduced in 1977, resulted in a large increase in persons enumerated as unemployed. However, many persons reported that they had not actively sought work in the past 30 days, and they have been provisionally excluded for comparability with U.S. concepts. Inclusion of such persons would more than double the Italian unemployment rate shown.

NOTE: Quarterly and monthly figures for France, Germany, and Great Britain are calculated by applying annual adjustment factors to current published data and therefore should be viewed as less precise indicators of unemployment under U.S. concepts than the annual figures.

46. Annual data: Employment status of the civilian working-age population, ten countries

(Numbers in thousands)

Employment status and country	1976	1977	1978	1979	1980	1981	1982	1983	1984
Labor force									
United States	96,158	99,009	102,251	104,962	106,940	108,670	110,204	111,550	113,544
Canada	10,203	10,500	10,895	11,231	11,573	11,904	11,958	12,183	12,399
Australia	6,244	6,358	6,443	6,519	6,693	6,810	6,910	6,997	7,133
Japan	53,100	53,820	54,610	55,210	55,740	56,320	56,980	58,110	58,480
France	22,000	22,300	22,470	22,670	22,790	22,930	23,150	23,110	23,250
Germany	25,900	25,870	26,000	26,240	26,500	26,610	26,640	26,640	26,700
Great Britain	25,290	25,430	25,620	25,710	25,870	25,870	25,880	26,010	26,530
Italy	20,300	20,530	20,630	20,910	21,210	21,410	21,450	21,610	21,680
Netherlands	4,880	4,950	5,010	5,100	5,290	5,500	5,580	5,720	5,740
Sweden	4,149	4,168	4,203	4,262	4,312	4,326	4,350	4,369	4,385
Participation rate									
United States	61.6	62.3	63.2	63.7	63.8	63.9	64.0	64.0	64.4
Canada	61.1	61.6	62.7	63.4	64.1	64.8	64.1	64.4	64.8
Australia	62.7	62.7	62.0	61.7	62.2	62.0	61.8	61.5	61.5
Japan	62.4	62.5	62.8	62.7	62.6	62.6	62.7	63.1	62.7
France	57.3	57.6	57.5	57.5	57.2	57.1	57.1	56.5	56.6
Germany	53.8	53.4	53.3	53.3	53.2	52.9	52.5	52.3	52.7
Great Britain	63.2	63.2	63.3	63.2	63.2	62.2	61.9	61.9	62.7
Italy	47.8	48.0	47.7	47.8	48.0	48.0	47.4	47.2	47.3
Netherlands	49.1	49.0	48.8	49.0	50.0	51.3	51.2	52.1	52.0
Sweden	66.0	65.9	66.1	66.6	67.0	66.8	66.8	66.7	66.8
Employed									
United States	88,752	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005
Canada	9,477	9,651	9,987	10,395	10,708	11,006	10,644	10,734	11,000
Australia	5,946	6,000	6,038	6,111	6,284	6,416	6,415	6,300	6,490
Japan	52,020	52,720	53,370	54,040	54,600	55,060	55,620	56,550	56,870
France	21,010	21,180	21,260	21,300	21,320	21,200	21,230	21,150	20,940
Germany	25,010	24,970	25,130	25,460	25,730	25,520	25,060	24,650	24,610
Great Britain	23,810	23,840	24,040	24,360	24,100	23,190	22,820	22,680	23,100
Italy	19,600	19,800	19,870	20,100	20,360	20,460	20,430	20,470	20,390
Netherlands	4,630	4,700	4,750	4,830	4,960	4,990	4,950	4,890	4,880
Sweden	4,083	4,093	4,109	4,174	4,226	4,218	4,213	4,218	4,249
Employment-population ratio									
United States	56.8	57.9	59.3	59.9	59.2	59.0	57.8	57.9	59.5
Canada	56.7	58.6	57.5	58.7	59.3	59.9	57.0	56.7	57.4
Australia	59.7	59.2	58.1	57.9	58.4	58.4	57.3	55.4	56.0
Japan	61.1	61.2	61.3	61.4	61.3	61.2	61.2	61.4	61.0
France	54.8	54.7	54.4	54.0	53.5	52.8	52.3	51.7	51.0
Germany	52.0	51.6	51.5	51.7	51.6	50.7	49.4	48.4	48.6
Great Britain	59.5	59.3	59.4	59.8	58.9	55.8	54.6	54.0	54.8
Italy	46.1	46.3	45.9	45.9	46.1	45.9	45.2	44.7	44.5
Netherlands	46.5	46.5	46.3	46.4	46.9	46.5	45.4	44.5	44.2
Sweden	64.9	64.8	64.6	65.3	65.6	65.1	64.7	64.4	64.7
Unemployed									
United States	7,406	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539
Canada	726	849	908	836	865	898	1,314	1,448	1,399
Australia	298	358	405	408	409	394	495	697	642
Japan	1,080	1,100	1,240	1,170	1,140	1,260	1,360	1,560	1,610
France	990	1,120	1,210	1,370	1,470	1,730	1,920	1,960	2,310
Germany	890	900	870	780	770	1,090	1,580	1,990	2,090
Great Britain	1,480	1,590	1,580	1,350	1,770	2,680	3,060	3,330	3,430
Italy	700	740	780	810	830	920	1,020	1,140	1,290
Netherlands	260	250	290	270	330	510	630	830	860
Sweden	66	75	94	88	86	108	137	151	136
Unemployment rate									
United States	7.7	7.1	6.1	5.8	7.1	7.6	9.7	9.6	7.5
Canada	7.1	8.1	8.3	7.4	7.5	7.5	11.0	11.9	11.3
Australia	4.8	5.6	6.3	6.3	6.1	5.8	7.2	10.0	9.0
Japan	2.0	2.0	2.3	2.1	2.0	2.2	2.4	2.7	2.8
France	4.5	5.0	5.4	6.0	6.4	7.5	8.3	8.5	9.9
Germany	3.4	3.5	3.4	3.0	2.9	4.1	5.9	7.5	7.8
Great Britain	5.9	6.3	6.2	5.3	6.8	10.4	11.6	12.8	12.9
Italy	3.4	3.6	3.7	3.9	3.9	4.3	4.8	5.3	5.9
Netherlands	5.3	5.0	5.2	5.3	6.2	9.3	11.3	14.5	15.0
Sweden	1.6	1.8	2.2	2.1	2.0	2.5	3.1	3.5	3.1

7. Annual indexes of productivity and related measures, twelve countries

(977=100)

Item and country	1960	1970	1973	1974	1976	1977	1979	1980	1981	1982	1983	1984	1985
Output per hour													
United States	62.2	80.8	93.4	90.6	97.1	100.0	101.4	101.4	103.6	105.9	112.9	118.5	121.8
Canada	50.3	76.8	91.3	93.4	96.2	100.0	104.2	101.9	104.0	101.0	107.6	111.5	115.1
Japan	23.2	54.8	83.1	88.5	94.3	100.0	114.8	122.7	127.2	135.0	142.3	152.2	159.9
Belgium	32.8	60.0	78.7	83.2	95.3	100.0	111.8	119.3	127.2	132.8	141.0	145.5	-
Denmark	37.2	65.5	83.2	86.0	98.2	100.0	106.5	112.3	114.2	114.6	117.3	118.3	118.4
France	36.4	69.6	82.2	85.2	95.0	100.0	110.3	112.0	116.4	123.5	129.3	135.0	140.2
Germany	40.3	71.2	84.0	87.4	96.5	100.0	108.2	108.6	111.0	112.6	119.0	124.7	131.9
Italy	38.5	72.7	90.9	95.3	98.9	100.0	110.5	116.9	121.0	123.4	126.6	135.0	139.1
Netherlands	32.4	64.3	81.5	88.1	95.8	100.0	112.3	113.9	116.9	119.4	126.1	139.3	-
Norway	54.6	81.7	94.6	97.7	99.7	100.0	107.1	109.3	109.7	112.6	119.2	122.3	125.0
Sweden	42.3	80.7	94.8	98.8	101.7	100.0	110.9	112.7	113.2	116.5	125.5	132.6	135.2
United Kingdom	53.8	77.6	92.9	95.2	99.1	100.0	102.2	101.2	107.9	112.7	121.2	126.2	129.7
Output													
United States	52.5	78.6	96.3	91.7	93.1	100.0	108.1	103.2	104.8	98.4	105.6	117.9	121.0
Canada	41.5	75.1	94.6	98.0	98.1	100.0	110.9	107.7	108.8	96.4	101.7	110.1	115.2
Japan	19.2	68.9	91.9	91.7	94.8	100.0	113.9	124.1	129.8	137.3	148.2	165.2	175.8
Belgium	41.7	78.1	95.8	99.6	99.5	100.0	104.2	107.2	105.9	109.1	110.7	112.8	-
Denmark	49.2	82.0	95.9	97.4	99.6	100.0	105.4	110.1	106.6	108.3	112.2	118.6	122.3
France	35.4	73.3	88.6	91.8	96.1	100.0	106.1	106.6	105.9	106.0	107.4	108.4	109.0
Germany	50.0	86.6	96.1	95.4	98.0	100.0	106.6	106.6	104.9	102.4	103.5	107.4	113.0
Italy	37.4	78.0	90.5	96.3	97.9	100.0	108.6	115.4	114.3	111.6	109.2	113.2	115.3
Netherlands	44.8	84.4	95.8	100.0	99.0	100.0	106.1	106.6	106.7	105.0	105.3	110.8	-
Norway	55.1	87.0	99.5	104.0	101.4	100.0	100.3	101.3	100.1	99.8	98.8	101.3	103.7
Sweden	52.6	92.5	100.3	105.7	106.1	100.0	103.6	104.0	100.6	100.1	105.2	112.4	114.6
United Kingdom	71.0	94.7	104.7	103.5	98.2	100.0	100.5	91.7	86.2	86.4	88.9	92.4	95.0
Total hours													
United States	84.4	97.3	103.1	101.2	95.9	100.0	106.5	101.7	101.1	92.9	93.5	99.5	99.3
Canada	82.6	97.7	103.6	105.0	102.0	100.0	106.4	105.7	104.6	95.4	94.6	98.7	100.1
Japan	82.7	107.9	110.7	106.1	100.6	100.0	99.3	101.2	102.0	101.7	104.2	108.5	110.0
Belgium	127.0	130.1	121.8	119.7	104.4	100.0	93.2	89.9	83.3	82.1	78.5	77.5	-
Denmark	132.4	125.1	115.2	113.2	101.4	100.0	99.0	98.1	93.4	94.5	95.7	100.2	103.3
France	97.2	105.3	107.8	107.8	101.2	100.0	96.2	95.2	91.0	85.9	83.0	80.3	77.8
Germany	123.8	121.7	114.4	109.2	101.6	100.0	98.5	98.1	94.6	91.0	87.0	86.2	85.7
Italy	102.3	107.4	99.6	101.0	99.0	100.0	98.2	98.7	94.5	90.4	86.2	83.9	82.9
Netherlands	138.4	131.2	117.6	113.5	103.3	100.0	94.4	93.6	91.2	88.0	83.5	79.5	-
Norway	101.0	106.4	105.1	106.5	101.7	100.0	93.6	92.6	91.3	88.6	82.9	82.8	83.0
Sweden	124.4	114.6	105.7	107.0	104.3	100.0	93.4	92.3	88.9	85.9	83.9	84.8	84.8
United Kingdom	131.9	122.1	112.7	108.7	99.0	100.0	98.3	90.7	79.9	76.7	73.3	73.2	73.3
Compensation per hour													
United States	36.5	57.3	68.8	76.2	92.1	100.0	118.6	132.4	145.2	157.5	163.2	169.1	176.6
Canada	27.1	46.5	59.2	68.5	89.9	100.0	118.3	130.6	151.5	167.1	179.3	182.1	191.4
Japan	8.9	33.9	55.1	72.3	90.7	100.0	113.4	120.7	129.8	136.6	140.7	144.8	148.3
Belgium	13.8	34.9	53.5	65.2	89.5	100.0	117.6	130.4	144.6	152.0	163.7	176.6	-
Denmark	12.6	36.3	56.1	67.9	90.4	100.0	123.1	135.9	149.6	162.9	174.3	183.9	195.5
France	15.1	36.6	52.3	62.0	88.9	100.0	129.3	147.5	170.3	200.8	226.2	246.5	262.7
Germany	18.8	48.0	67.5	76.9	91.3	100.0	116.1	125.6	134.5	141.0	148.4	155.3	164.7
Italy	8.3	28.1	43.7	54.5	84.2	100.0	134.7	160.2	197.1	237.3	276.4	303.0	334.0
Netherlands	12.5	39.0	60.5	71.9	91.9	100.0	117.0	123.6	129.1	137.5	144.7	152.8	-
Norway	15.8	37.9	54.5	63.6	88.8	100.0	116.0	128.0	142.8	156.0	173.5	188.3	205.2
Sweden	14.7	38.5	54.2	63.8	91.5	100.0	120.1	133.6	148.1	158.9	173.3	190.7	205.8
United Kingdom	14.8	30.8	44.8	56.9	88.4	100.0	137.7	165.8	188.9	206.4	222.4	237.2	257.0
Unit labor costs: National currency basis:													
United States	58.7	70.9	73.7	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.8	145.0
Canada	53.9	60.6	64.8	73.3	93.5	100.0	113.5	128.1	145.7	165.4	166.7	163.2	166.3
Japan	38.4	52.3	68.4	83.6	96.2	100.0	98.8	98.4	102.0	101.2	98.9	95.1	92.7
Belgium	42.0	58.1	68.0	78.3	93.9	100.0	105.2	109.3	113.6	114.4	116.1	121.4	-
Denmark	33.8	55.4	67.4	79.0	92.1	100.0	115.7	121.0	131.1	142.2	148.6	155.5	165.1
France	41.6	52.6	63.6	72.8	93.6	100.0	117.3	131.7	146.3	162.6	175.0	182.5	187.4
Germany	46.6	67.4	80.3	88.0	94.6	100.0	107.3	115.7	121.2	125.2	124.7	124.6	124.9
Italy	22.8	38.0	48.1	57.2	85.1	100.0	121.9	137.0	162.9	192.4	218.3	224.5	240.1
Netherlands	38.5	60.7	74.3	81.6	96.0	100.0	104.1	108.5	110.4	115.2	114.7	109.7	-
Norway	29.0	46.4	57.6	65.2	89.1	100.0	108.2	117.0	130.2	138.6	145.5	154.0	164.2
Sweden	34.8	47.7	57.2	64.6	90.0	100.0	108.3	118.6	130.9	136.3	138.1	143.8	152.2
United Kingdom	27.8	39.7	48.2	59.7	89.2	100.0	134.7	163.8	175.1	183.1	183.5	187.9	198.1
Unit labor costs: U.S. dollar basis:													
United States	58.7	70.9	73.7	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.8	145.0
Canada	58.0	61.7	68.8	79.7	100.7	100.0	103.0	116.4	129.1	142.3	143.7	133.9	129.4
Japan	29.5	39.1	65.6	76.8	86.9	100.0	121.3	116.8	123.8	108.8	111.5	107.2	104.2
Belgium	30.2	42.0	62.8	72.1	87.2	100.0	128.5	134.1	109.9	89.5	81.3	75.3	-
Denmark	29.5	44.4	67.2	77.9	91.5	100.0	132.0	129.0	110.3	102.3	97.5	90.1	93.5
France	41.7	48.8	70.4	74.5	96.3	100.0	135.5	153.4	132.2	121.5	112.9	102.7	102.6
Germany	25.9	42.9	70.4	79.1	87.3	100.0	135.9	147.9	124.9	119.7	113.4	101.6	98.6
Italy	32.5	50.6	73.1	77.6	90.5	100.0	129.5	141.4	126.3	125.4	126.8	112.8	111.1
Netherlands	25.1	41.2	65.6	74.6	89.1	100.0	127.4	134.2	108.9	105.8	98.6	83.9	-
Norway	21.7	34.5	53.4	62.8	86.9	100.0	113.8	126.2	120.6	114.2	106.1	100.4	101.7
Sweden	30.1	41.1	58.7	65.1	92.3	100.0	112.9	125.3	115.4	96.9	80.4	77.7	79.1
United Kingdom	44.4	54.4	67.7	80.1	92.3	100.0	163.9	218.3	203.1	183.5	159.4	143.9	147.3

- Data not available.

48. Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]							
	1977	1978	1979	1980	1981	1982	1983	1984
PRIVATE SECTOR[3]								
Total cases	9.3	9.4	9.5	8.7	8.3	7.7	7.6	8.0
Lost workday cases	3.8	4.1	4.3	4.0	3.8	3.5	3.4	3.7
Lost workdays	61.6	63.5	67.7	65.2	61.7	58.7	58.5	63.4
Agriculture, forestry, and fishing[3]								
Total cases	11.5	11.6	11.7	11.9	12.3	11.8	11.9	12.0
Lost workday cases	5.1	5.4	5.7	5.8	5.9	5.9	6.1	6.1
Lost workdays	81.1	80.7	83.7	82.7	82.8	86.0	90.8	90.7
Mining								
Total cases	10.9	11.5	11.4	11.2	11.6	10.5	8.4	9.7
Lost workday cases	6.0	6.4	6.8	6.5	6.2	5.4	4.5	5.3
Lost workdays	128.8	143.2	150.5	163.6	146.4	137.3	125.1	160.2
Construction								
Total cases	15.5	16.0	16.2	15.7	15.1	14.6	14.8	15.5
Lost workday cases	5.9	6.4	6.8	6.5	6.3	6.0	6.3	6.9
Lost workdays	111.5	109.4	120.4	117.0	113.1	115.7	118.2	128.1
General building contractors:								
Total cases	15.0	15.9	16.3	15.5	15.1	14.1	14.4	15.4
Lost workday cases	5.7	6.3	6.8	6.5	6.1	5.9	6.2	6.9
Lost workdays	100.2	105.3	111.2	113.0	107.1	112.0	113.0	121.3
Heavy construction contractors:								
Total cases	16.0	16.6	16.6	16.3	14.9	15.1	15.4	14.9
Lost workday cases	5.7	6.2	6.7	6.3	6.0	5.8	6.2	6.4
Lost workdays	116.7	110.9	123.1	117.6	106.0	113.1	122.4	131.7
Special trade contractors:								
Total cases	15.6	15.8	16.0	15.5	15.2	14.7	14.8	15.8
Lost workday cases	6.1	6.6	6.9	6.7	6.6	6.2	6.4	7.1
Lost workdays	115.5	111.0	124.3	118.9	119.3	118.6	119.0	130.1
Manufacturing								
Total cases	13.1	13.2	13.3	12.2	11.5	10.2	10.0	10.6
Lost workday cases	5.1	5.6	5.9	5.4	5.1	4.4	4.3	4.7
Lost workdays	82.3	84.9	90.2	86.7	82.0	75.0	73.5	77.9
Durable goods								
Lumber and wood products:								
Total cases	22.3	22.6	20.7	18.6	17.6	16.9	18.3	19.6
Lost workday cases	10.4	11.1	10.8	9.5	9.0	8.3	9.2	9.9
Lost workdays	178.0	178.8	175.9	171.8	158.4	153.3	163.5	172.0
Furniture and fixtures:								
Total cases	17.2	17.5	17.6	16.0	15.1	13.9	14.1	15.3
Lost workday cases	6.0	6.9	7.1	6.6	6.2	5.5	5.7	6.4
Lost workdays	92.0	95.9	99.6	97.6	91.9	85.6	83.0	101.5
Stone, clay, and glass products:								
Total cases	16.9	16.8	16.8	15.0	14.1	13.0	13.1	13.6
Lost workday cases	6.9	7.8	8.0	7.1	6.9	6.1	6.0	6.6
Lost workdays	120.4	126.3	133.7	128.1	122.2	112.2	112.0	120.8
Primary metal industries:								
Total cases	16.2	17.0	17.3	15.2	14.4	12.4	12.4	13.3
Lost workday cases	6.8	7.5	8.1	7.1	6.7	5.4	5.4	6.1
Lost workdays	119.4	123.6	134.7	128.3	121.3	101.6	103.4	115.3
Fabricated metal products:								
Total cases	19.1	19.3	19.9	18.5	17.5	15.3	15.1	16.1
Lost workday cases	7.2	8.0	8.7	8.0	7.5	6.4	6.1	6.7
Lost workdays	109.0	112.4	124.2	118.4	109.9	102.5	96.5	104.9
Machinery, except electrical:								
Total cases	14.0	14.4	14.7	13.7	12.9	10.7	9.8	10.7
Lost workday cases	4.7	5.4	5.9	5.5	5.1	4.2	3.6	4.1
Lost workdays	69.9	75.1	83.6	81.3	74.9	66.0	58.1	65.8
Electric and electronic equipment:								
Total cases	8.6	8.7	8.6	8.0	7.4	6.5	6.3	6.8
Lost workday cases	3.0	3.3	3.4	3.3	3.1	2.7	2.6	2.8
Lost workdays	46.7	50.3	51.9	51.8	48.4	42.2	41.4	45.0
Transportation equipment:								
Total cases	11.8	11.5	11.6	10.6	9.8	9.2	8.4	9.3
Lost workday cases	5.0	5.1	5.5	4.9	4.6	4.0	3.6	4.2
Lost workdays	79.3	78.0	85.9	82.4	78.1	72.2	64.5	68.8
Instruments and related products:								
Total cases	7.0	6.9	7.2	6.8	6.5	5.6	5.2	5.4
Lost workday cases	2.4	2.6	2.8	2.7	2.7	2.3	2.1	2.2
Lost workdays	37.4	37.0	40.0	41.8	39.2	37.0	35.6	37.5
Miscellaneous manufacturing industries:								
Total cases	11.5	11.8	11.7	10.9	10.7	9.9	9.9	10.5
Lost workday cases	4.0	4.5	4.7	4.4	4.4	4.1	4.0	4.3
Lost workdays	58.7	66.4	67.7	67.9	68.3	69.9	66.3	70.2

See footnotes at end of table.

48. Continued— Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]							
	1977	1978	1979	1980	1981	1982	1983	1984
Nondurable goods								
Food and kindred products:								
Total cases	19.5	19.4	19.9	18.7	17.8	16.7	16.5	16.7
Lost workday cases	8.5	8.9	9.5	9.0	8.6	8.0	7.9	8.1
Lost workdays	130.1	132.2	141.8	136.8	130.7	129.3	131.2	131.6
Tobacco manufacturing:								
Total cases	9.1	8.7	9.3	8.1	8.2	7.2	6.5	7.7
Lost workday cases	3.8	4.0	4.2	3.8	3.9	3.2	3.0	3.2
Lost workdays	66.7	58.6	64.8	45.8	56.8	44.6	42.8	51.7
Textile mill products:								
Total cases	10.2	10.2	9.7	9.1	8.8	7.6	7.4	8.0
Lost workday cases	2.9	3.4	3.4	3.3	3.2	2.8	2.8	3.0
Lost workdays	57.4	61.5	61.3	62.8	59.2	53.8	51.4	54.0
Apparel and other textile products:								
Total cases	6.7	6.5	6.5	6.4	6.3	6.0	6.4	6.7
Lost workday cases	2.0	2.2	2.2	2.2	2.2	2.1	2.4	2.5
Lost workdays	31.7	32.4	34.1	34.9	35.0	36.4	40.6	40.9
Paper and allied products:								
Total cases	13.6	13.5	13.5	12.7	11.6	10.6	10.0	10.4
Lost workday cases	5.0	5.7	6.0	5.8	5.4	4.9	4.5	4.7
Lost workdays	101.6	103.3	108.4	112.3	103.6	99.1	90.3	93.8
Printing and publishing:								
Total cases	6.8	7.0	7.1	6.3	6.7	6.6	6.6	6.5
Lost workday cases	2.7	2.9	3.1	3.1	3.0	2.8	2.9	2.9
Lost workdays	41.7	43.8	45.1	46.5	47.4	45.7	44.6	46.0
Chemicals and allied products:								
Total cases	8.0	7.8	7.7	6.8	6.6	5.7	5.5	5.3
Lost workday cases	3.1	3.3	3.5	3.1	3.0	2.5	2.5	2.4
Lost workdays	51.4	50.9	54.9	50.3	48.1	39.4	42.3	40.8
Petroleum and coal products:								
Total cases	8.1	7.9	7.7	7.2	6.7	5.3	5.5	5.1
Lost workday cases	3.3	3.4	3.6	3.5	2.9	2.5	2.4	2.4
Lost workdays	59.2	58.3	62.0	59.1	51.2	46.4	46.8	53.5
Rubber and miscellaneous plastics products:								
Total cases	16.8	17.1	17.1	15.5	14.6	12.7	13.0	13.6
Lost workday cases	7.6	8.1	8.2	7.4	7.2	6.0	6.2	6.4
Lost workdays	118.1	125.5	127.1	118.6	117.4	100.9	101.4	104.3
Leather and leather products:								
Total cases	11.5	11.7	11.5	11.7	11.5	9.9	10.0	10.5
Lost workday cases	4.4	4.7	4.9	5.0	5.1	4.5	4.4	4.7
Lost workdays	66.9	72.5	76.2	82.7	82.6	86.5	87.3	94.4
Transportation and public utilities								
Total cases	9.7	10.1	10.0	9.4	9.0	8.5	8.2	8.8
Lost workday cases	5.3	5.7	5.9	5.5	5.3	4.9	4.7	5.2
Lost workdays	95.9	102.3	107.0	104.5	100.6	96.7	94.9	105.1
Wholesale and retail trade								
Total cases	7.7	7.9	8.0	7.4	7.3	7.2	7.2	7.4
Lost workday cases	2.9	3.2	3.4	3.2	3.1	3.1	3.1	3.3
Lost workdays	44.0	44.9	49.0	48.7	45.3	45.5	47.8	50.5
Wholesale trade:								
Total cases	8.5	8.9	8.8	8.2	7.7	7.1	7.0	7.2
Lost workday cases	3.6	3.9	4.1	3.9	3.6	3.4	3.2	3.5
Lost workdays	52.5	57.5	59.1	58.2	54.7	52.1	50.6	55.5
Retail trade:								
Total cases	7.4	7.5	7.7	7.1	7.1	7.2	7.3	7.5
Lost workday cases	2.7	2.8	3.1	2.9	2.9	2.9	3.0	3.2
Lost workdays	40.5	39.7	44.7	44.5	41.1	42.6	46.7	48.4
Finance, insurance, and real estate								
Total cases	2.0	2.1	2.1	2.0	1.9	2.0	2.0	1.9
Lost workday cases	.8	.8	.9	.8	.8	.9	.9	.9
Lost workdays	10.4	12.5	13.3	12.2	11.6	13.2	12.8	13.6
Services								
Total cases	5.5	5.5	5.5	5.2	5.0	4.9	5.1	5.2
Lost workday cases	2.2	2.4	2.5	2.3	2.3	2.3	2.4	2.5
Lost workdays	35.4	36.2	38.1	35.8	35.9	35.8	37.0	41.1

---

[1] Total cases include fatalities.

[2] The incidence rates represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as: (N/EH) X 200,000, where:

N = number of injuries and illnesses or lost workdays.

EH = total hours worked by all employees during calendar year.

200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year.)

[3] Excludes farms with fewer than 11 employees since 1976.

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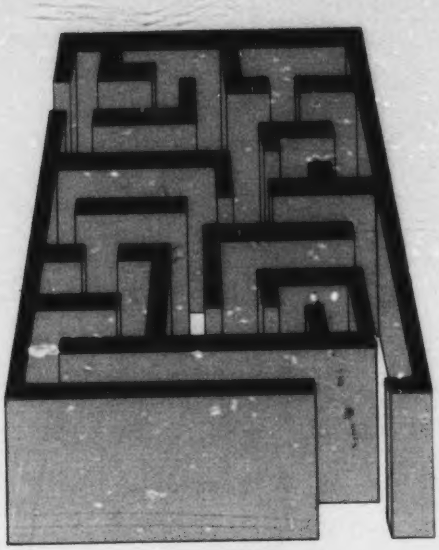

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U.S. Department of Labor
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August 1986

In this issue:

FOUR ARTICLES ON EMPLOYMENT
in 1986's first half, in retail trade,
and in health services and hospitals

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AUGUST 1986
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Labor Month In Review

CHANGING DEMOGRAPHICS. A subcommittee of the Congressional Joint Economic Committee conducted hearings in late July on the likely social and economic effects of projected population shifts. Some highlights:

Rep. James H. Scheuer of New York, subcommittee chairman: Four problem areas already are apparent: First is the aging of the population, as women have fewer children, people live longer, and the baby-boom generation grows older. This development will cause major changes in the labor market, in the nature of retirement, in social security, and in the health care system.

Second, we will see big changes in the labor force. The baby boomers born during the 1950's and 1960's are just now entering their prime working years and are swelling demand for good, well-paid jobs. As they approach retirement, there are many fewer young people coming behind to take their places. Thus, the economy is going to have to adjust from an abundance of workers to the possibility of a real shortage.

Third, children will be a declining fraction of the population. Already children make up the majority of Americans in poverty. We are going to have to protect the needs of our children even as we struggle to meet the needs of other population groups, particularly the very old.

Fourth, blacks and other minorities will make up an increasing share of the population. These groups bear a disproportionate share of poverty and unemployment. One of the major challenges facing the public and private sectors is to provide education and job training to these groups.

William E. Brock, Secretary of Labor, pointed to some positive implications of this demographic picture: A slower rate of labor force growth suggests tighter labor markets, which should foster the employment of youth, minorities, women, and the handicapped and a narrowing of occupational and earnings gaps. And a more mature work force implies greater experience, stability, reliability, and productivity.

We have the opportunity to take advantage of projected developments and deal meaningfully with some of the more significant problems our society now faces. But, we must be bold and creative if we are to meet this challenge, specifically by promoting dynamism, flexibility, and adaptability in the economy and labor force.

Janet L. Norwood, Commissioner of Labor Statistics, cited the demonstrated ability of the economy to accommodate large influxes of workers—specifically, women and baby-boom cohorts—although minority groups remain at a severe disadvantage.

The challenge is to make the jobs the economy generates in coming years accommodate the emerging labor force. On the one hand, projected strong growth in highly skilled professional, managerial, and technical occupations will make it easier for the growing proportion of college educated workers to fulfill their job expectations. On the other hand, the shift away from factory operative and laborer occupations may make it more difficult for persons with less education to find jobs.

John G. Keane, director of the Census Bureau, addressed the implications of an aging society: Tomorrow's elderly will be very different from today's in their ability to function effectively in old age. For example, the relatively high educational attainment of the baby-boom generation bodes well for their lifetime economic status. Another indication that the retirement experience will be quite different in the future is based on changes in occupational patterns. Tomorrow's elderly women, for example, will be much more likely to have been in occupations covered by social security and other pension plans, and thus should be in better financial shape than their grandmothers are today.

Roger D. Semerad, Assistant Secretary of Labor for Employment and Training, examined the public policy implications of the population trends through the year 2000, emphasizing the importance of looking ahead to anticipate potential problems rather than merely reacting to the pressure of immediate concerns. Among the more important considerations: ensuring that individuals achieve minimum levels of educational competency; providing quality, education-oriented child care for two-earner families and single parents; orienting workers to a process of lifelong learning and repeated retraining for new and restructured jobs, and involving employers in the reeducation process; assisting workers in adjusting to occupational dislocation; encouraging more cooperative labor-management relations; and developing alternatives to retirement, including nontraditional work schedules and part-time jobs, for older workers. □

Employment up, unemployment stable in the first half of 1986

Moderate job growth continued, but only in the service-producing sector and in construction; the level and rate of unemployment were about unchanged, as employment increases matched labor force expansion

SUSAN E. SHANK

Employment rose at a steady, though unspectacular, pace in the first 6 months of 1986. However, as the economy moved into the fourth year of recovery following the 1981–82 recession, the number of unemployed persons and the unemployment rate were little changed. Civilian employment increases slowed during 1985 and the first half of 1986 from the very robust gains evident in the 2 years immediately after the recession trough. Similarly, the civilian jobless rate, which had dropped sharply during the first 2 years of the recovery, declined only moderately in 1985 and then leveled off at about 7 percent in early 1986.

Job gains during the first half of 1986 took place entirely in the service-producing sector and construction. In contrast, manufacturing employment declined, and the number of mining jobs dropped precipitously—due mainly to the steep fall in oil prices and the consequent layoffs in oil and gas extraction. Most of these developments represented a continuation of the patterns evident during 1985 and reflected both the long-term trend toward the service-producing sector and cyclical developments. The weakness in the goods-producing sector has been especially pronounced in the 1980's, as employment has declined in absolute numbers, augmenting the longer-term decline in relative terms. This sector failed to regain all the jobs lost during the 1980–82 recessions, and its second quarter 1986 employment level (25 million) was about 1.7 million below the July 1979 all-time high.[1]

This article summarizes labor market developments in the first half of 1986 and compares them to earlier periods in the current economic expansion, as well as to long-term trends. The data are from two sources: household interviews and employer reports.[2] Changes during the first half of 1986 refer to movements in seasonally adjusted data from the fourth quarter of 1985 to the second quarter of 1986. References to the last 3½ years cover the period from fourth quarter 1982 to second quarter 1986, and the last 1½ years pertain to 1985 and the first half of 1986.

Employment

Only three of the previous seven economic expansions in the post-World War II period lasted as long as the current one (43 months as of June 1986). The growth rate for civilian employment in the first 3½ years of this expansion was 10 percent, substantially more than the increases during comparable periods after the 1948–49 and 1960–61 recessions, but less than the nearly 13-percent rise following the 1973–75 recession. The robust employment increase in the late 1970's was unusual, because it accelerated in the third and fourth years after the recession. The more typical pattern has been for employment to rebound sharply in the first 1½ to 2 years following a recession trough and then to show moderate growth in subsequent quarters.[3]

The current expansion adhered to the usual pattern of a strong initial rebound followed by slower but steady job growth. In the first half of 1986, the number of employed persons rose by about 900,000 (after allowance for the revisions introduced into the household survey in January 1986),[4] proportionately less than the gains posted earlier in the recovery. At 109.2 million in the second quarter of 1986, civilian employment had expanded by just about

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Susan E. Shank is an economist in the Division of Employment and Unemployment Analysis, Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

10 million from the recession trough in the fourth quarter of 1982—with 7 million of the increase occurring in the first 2 years of the recovery and about 3 million coming in the last 1½ years.

Age and sex. Virtually all of the employment increase during the first 6 months of 1986, as well as throughout the current expansion, has been among adults. (See table 1.) Over the 3½ years since the end of the recession, employment rose by about 5 million each for adult men and adult women, while teenage employment was essentially flat. (However, the teenage employment-population ratio rose in the recovery, offsetting declines in their population.) During the first 2 years of recovery, employment gains for men outpaced those for women, as male employment rebounded strongly from the very sharp job cutbacks experienced during the recession. However, in the past 1½ years, the employment increase for women exceeded that for men (2.1 versus 1.2 million).

Occupation. Consistent with overall movements, employment increases for most major occupational groups slowed in 1985 and 1986. Moreover, the composition of the job movements by occupation changed markedly.[5] Nonfarm manual occupations registered very strong gains in the early phase of the economic rebound—7.7 percent for skilled workers and 5.6 percent for semi- and low-skilled workers. The following tabulation shows the percent change in employment for major occupations based on averages for the first 6 months of 1983–86:

	1983–84	*1984–85*	*1985–86*
All occupations	4.9	2.3	2.2
Managerial and professional	5.6	3.7	2.5
Technical, sales, and administrative	4.3	2.6	3.0
Service	3.8	1.7	2.0
Precision production, craft, and repair	7.7	2.8	.2
Operators, fabricators, and laborers	5.6	.3	2.3
Farming, forestry, and fishing	−3.1	−1.1	−1.7

From 1984 to 1985, the expansion was greatest for office workers, especially highly educated managerial and professional workers, while growth slowed for precision production, craft, and repair workers and almost halted for operatives, fabricators, and laborers.

Between 1985 and 1986, office occupations—particularly technical, sales, and administrative support positions—continued to register the largest increases. The small rise for skilled manual workers took place entirely in the construction trades. Similarly, the employment gain among operators, fabricators, and laborers was led by an extremely large increase for construction laborers. In contrast, the number of machine operators, assemblers, and inspectors (almost all of whom are employed in manufacturing) edged up only slightly. The service occupations have experienced only moderate growth throughout the last 3 years, while farming, forestry, and fishing jobs have declined.

Industrial developments

The number of employees on nonagricultural payrolls averaged nearly 100 million in the second quarter of 1986. In the 3½ years since the recession trough, payroll employment has increased by about 11.0 million, with 7.3 million of the gain coming in the first 2 years of recovery and just under 4 million taking place in the last 1½ years. (See table 2.) The moderation in the pace of job growth since late 1984 occurred entirely in the goods-producing sector. The following tabulation shows the change (in millions) in nonfarm jobs in service- and goods-producing industries for selected periods:

	Total	*Service-producing*	*Goods-producing*
Nov. 1982 to May 1986	11.2	9.2	2.0
Nov. 1982 to Nov. 1984	7.3	5.3	2.0
Nov. 1984 to May 1986	3.9	3.9	.0

As shown, goods-producing employment rebounded strongly in the 2 years immediately following the recession, but then showed no net gain in the subsequent 18 months. In contrast, service-producing employment grew robustly, and at a similar rate per month, in both periods.

Service-producing industries. Throughout the current expansion, the largest absolute job gains have been in services and retail trade, although finance, insurance, and real estate also posted substantial increases. Job growth in each of these three industry divisions ranged from 17 to 20 percent over the 3½-year period of recovery, compared with less than 9 percent in the goods-producing sector. During 1985 and the first half of 1986, most service-producing industries continued to record large increases. Services (up 1.7 million) and retail trade (950,000) led the way, followed by government (550,000) and finance, insurance, and real estate (475,000).

Within the services division, business services has experienced phenomenal job growth over the last decade, especially among those firms that provide computer and data processing services and temporary help.[6] Since the recession trough, business services employment has jumped by 1.5 million or 45 percent, with 600,000 of the increase occurring in the past 1½ years. Health services also continued its long-term job growth. Engineering and architectural services, as well as accounting, auditing, and bookkeeping, are two other industries that have registered large job increases over the 1985–86 period.

Retail trade employment continued to advance, but at a slower pace than in 1983 and 1984. Three industries—eating and drinking places, automotive dealers and service stations, and food stores—have accounted for almost all the job growth since late 1984. In contrast, employment in general merchandise or department stores has been about unchanged over the last 1½ years, following a healthy pick-up in the first 2 years of recovery.

Finance, insurance, and real estate, while much smaller than retail trade or services, has also grown at a very brisk pace throughout the current expansion. Moreover, the rate of job growth in this division has accelerated in the last 1½ years, compared with 1983 and 1984. Much of the recent strength has been in finance, reflecting greater activity among mortgage lenders in response to increased demand for new and refinanced home loans at lower interest rates.

Goods-producing industries. Employment trends within the goods-producing sector differed dramatically during the first half of 1986. Construction employment continued to advance strongly, but mining jobs dropped off sharply, and manufacturing employment edged down.

Construction employment has jumped by 1.1 million, or 30 percent, during the current economic expansion—the

Table 1. Selected labor force indicators by sex, age, race, and Hispanic origin, seasonally adjusted quarterly averages, 1982–86

[Numbers in thousands]

Characteristic	1982 IV	1984 IV	1985 I	1985 II	1985 III	1985 IV	1986 I	1986 II
Total								
Civilian labor force	110,926	114,235	115,024	115,206	115,468	116,158	117,027	117,671
Percent of population	64.1	64.5	64.8	64.7	64.7	64.9	65.1	65.3
Employed	99,135	105,959	106,618	106,804	107,200	107,996	108,768	109,225
Agriculture	3,475	3,325	3,319	3,259	3,077	3,093	3,227	3,182
Nonagriculture	95,660	102,634	103,298	103,545	104,123	104,903	105,541	106,043
Employment-population ratio	57.3	59.8	60.1	60.0	60.1	60.4	60.5	60.6
Unemployed	11,791	8,276	8,406	8,402	8,268	8,162	8,259	8,446
Unemployment rate	10.6	7.2	7.3	7.3	7.2	7.0	7.1	7.2
Men, 20 years and over								
Civilian labor force	58,340	59,981	60,063	60,217	60,278	60,542	61,221	61,216
Percent of population	78.7	78.2	78.2	78.1	78.0	78.0	78.3	78.1
Employed	52,552	56,234	56,305	56,439	56,597	56,909	57,516	57,421
Employment-population ratio	70.9	73.4	73.3	73.2	73.2	73.4	73.6	73.2
Unemployed	5,788	3,747	3,757	3,778	3,681	3,633	3,705	3,795
Unemployment rate	9.9	6.2	6.3	6.3	6.1	6.0	6.1	6.2
Women, 20 years and over								
Civilian labor force	44,115	46,368	46,900	47,123	47,363	47,749	47,923	48,440
Percent of population	52.9	54.0	54.5	54.6	54.7	54.9	55.0	55.4
Employed	40,139	43,280	43,744	43,947	44,210	44,716	44,829	45,331
Employment-population ratio	48.2	50.4	50.8	50.9	51.0	51.5	51.4	51.8
Unemployed	3,976	3,088	3,156	3,176	3,153	3,033	3,094	3,109
Unemployment rate	9.0	6.7	6.7	6.7	6.7	6.4	6.5	6.4
Both sexes, 16 to 19 years								
Civilian labor force	8,471	7,888	8,061	7,866	7,826	7,867	7,883	8,015
Percent of population	54.3	54.1	55.2	54.2	54.2	54.4	54.5	55.4
Employed	6,445	6,445	6,568	6,418	6,393	6,371	6,423	6,473
Employment-population ratio	41.3	44.2	45.0	44.2	44.2	44.0	44.4	44.7
Unemployed	2,027	1,443	1,493	1,448	1,434	1,496	1,460	1,542
Unemployment rate	23.9	18.3	18.5	18.4	18.3	19.0	18.5	19.2
White								
Civilian labor force	96,604	98,798	99,611	99,672	99,900	100,515	101,147	101,579
Percent of population	64.4	64.7	65.0	64.9	64.9	65.2	65.3	65.4
Employed	87,466	92,622	93,357	93,392	93,706	94,487	94,975	95,331
Employment-population ratio	58.3	60.7	60.9	60.8	60.9	61.3	61.3	61.4
Unemployed	9,138	6,175	6,254	6,280	6,195	6,028	6,172	6,249
Unemployment rate	9.5	6.3	6.3	6.3	6.2	6.0	6.1	6.2
Black								
Civilian labor force	11,500	12,242	12,299	12,351	12,340	12,464	12,583	12,758
Percent of population	61.4	62.8	62.9	63.0	62.6	63.0	63.3	64.0
Employed	9,150	10,393	10,402	10,498	10,520	10,580	10,739	10,857
Employment-population ratio	48.9	53.3	53.2	53.5	53.4	53.5	54.1	54.4
Unemployed	2,350	1,849	1,897	1,853	1,821	1,883	1,843	1,902
Unemployment rate	20.4	15.1	15.4	15.0	14.8	15.1	14.6	14.9
Hispanic origin								
Civilian labor force	6,723	7,610	7,573	7,631	7,779	7,803	7,883	8,029
Percent of population	63.6	65.4	64.4	64.3	65.0	64.6	64.7	65.3
Employed	5,693	6,815	6,794	6,825	6,956	6,966	7,024	7,173
Employment-population ratio	53.9	58.5	57.8	57.5	58.1	57.7	57.7	58.4
Unemployed	1,030	795	778	805	823	837	859	856
Unemployment rate	15.3	10.5	10.3	10.6	10.6	10.7	10.9	10.7

NOTE: Detail for race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups.

largest growth rate for any major industry group. What is more, this expansion was just as robust during the 1985–86 period, when the number of construction jobs rose by about 500,000. Much of the recent strength was related to the upsurge in housing starts in the wake of sharply lower mortgage interest rates. In the initial stage of the recovery, both housing starts and the value of residential construction put in place rebounded sharply, but during 1984 they had leveled off.[7] Also, housing starts, at 1.7 to 1.8 million per year in the 1983–85 period, were below earlier highs of more than 2 million units per year.

Much of the underlying strength in construction in 1984, 1985, and early 1986 has been in private nonresidential building—especially structures for use by service-producing firms.[8] Between 1983 and 1985, the annual value of construction put in place rose by 76 percent for commercial structures other than office buildings. This category includes shopping malls, department stores, warehouses, banks, gas stations, and other buildings intended for use by trade and service businesses. Office building construction also grew substantially between 1983 and 1985 (by about 40 percent), but industrial construction rose by only 12 percent, reflecting the weakness in manufacturing. The value of all private nonresidential buildings increased by a healthy 35 percent between 1983 and 1985, while residential construction rose by 15 percent.

The number of mining jobs fell by approximately 130,000, or 15 percent, in the first 6 months of 1986, after trending downward more gradually since early 1982. Most of the drop took place in oil and gas extraction, which was adversely impacted by the worldwide oil glut and the subsequent collapse of oil prices. At $15 a barrel in May 1986, the price of oil had dropped about 40 percent from the first of the year, and many marginal wells had been shut down. Between December 1985 and June 1986, the oil and gas industry lost 1 of 5 of its jobs.

Manufacturing employment edged down from 19.3 million in early 1986 to 19.2 million in the second quarter, and was considerably below its peak of 21.2 million reached in July of 1979. From that record high to the recession trough in 1982, factory employment fell by 3.1 million; during the first 2 years of recovery, it regained almost half of the jobs lost, but has shown no sustained growth since late 1984. In fact, the number of factory jobs declined during most of 1985 before leveling off in the fourth quarter. In the first half, small job losses occurred in primary metals, machinery, and motor vehicles, as well as in leather. However, small gains in lumber and wood products and stone, clay,

Table 2. Employees on nonagricultural payrolls by industry, seasonally adjusted quarterly averages, 1982–86
[In thousands]

Industry	1982	1984	1985				1986	
	IV	IV	I	II	III	IV	I	II^{p}
Total	88,725	95,907	96,581	97,295	97,897	98,668	99,403	99,837
Goods-producing	22,982	24,943	24,970	24,947	24,866	24,937	25,028	24,954
Mining	1,029	958	946	943	922	907	876	793
Oil and gas extraction	651	610	600	596	581	565	538	463
Construction	3,837	4,498	4,585	4,681	4,703	4,769	4,868	4,965
General building contractors	959	1,180	1,222	1,242	1,257	1,282	1,316	1,308
Manufacturing	18,116	19,486	19,439	19,323	19,241	19,261	19,284	19,196
Durable goods	10,485	11,635	11,616	11,539	11,459	11,454	11,446	11,370
Nondurable goods	7,631	7,851	7,823	7,784	7,782	7,806	7,838	7,826
Service-producing	65,743	70,964	71,611	72,347	73,031	73,731	74,375	74,883
Transportation and public utilities	5,022	5,201	5,223	5,236	5,239	5,270	5,281	5,233
Transportation	2,735	2,965	2,984	2,999	3,004	3,037	3,052	3,038
Communication and public utilities	2,288	2,236	2,239	2,237	2,235	2,232	2,229	2,194
Wholesale trade	5,214	5,645	5,678	5,721	5,760	5,800	5,838	5,852
Durable goods	3,034	3,337	3,364	3,396	3,424	3,451	3,477	3,473
Nondurable goods	2,179	2,308	2,313	2,325	2,336	2,349	2,361	2,379
Retail trade	15,193	16,931	17,079	17,316	17,452	17,585	17,786	17,891
General merchandise stores	2,139	2,316	2,302	2,328	2,326	2,324	2,331	2,343
Food stores	2,510	2,685	2,718	2,759	2,804	2,484	2,891	2,918
Automotive dealers and service stations	1,635	1,835	1,858	1,889	1,904	1,919	1,935	1,942
Eating and drinking places	4,873	5,527	5,622	5,702	5,748	5,785	5,851	5,889
Finance, insurance, and real estate	5,356	5,779	5,841	5,913	5,989	6,068	6,155	6,253
Finance	2,664	2,890	2,920	2,957	2,996	3,039	3,081	3,134
Insurance	1,715	1,785	1,801	1,820	1,839	1,861	1,889	1,916
Real estate	976	1,105	1,120	1,137	1,152	1,168	1,185	1,203
Services	19,134	21,237	21,551	21,824	22,108	22,410	22,643	22,931
Business services	3,289	4,197	4,298	4,403	4,503	4,601	4,682	4,770
Health services	5,892	6,177	6,231	6,280	6,328	6,400	6,472	6,535
Government	15,824	16,171	16,240	16,337	16,483	16,599	16,672	16,723
Federal	2,745	2,830	2,842	2,867	2,888	2,904	2,920	2,923
State	3,641	3,773	3,801	3,829	3,861	3,900	3,922	3,934
Local	9,438	9,568	9,596	9,641	9,733	9,795	9,830	9,867

p = preliminary.

and glass products—related to the construction boom—and in food and printing partially offset the declines.

Unemployment

The number of unemployed persons and the civilian unemployment rate both showed little change during the first half of 1986.[9] However, it is not unusual for the unemployment rate to plateau or even increase slightly following a sharp drop in the first 4 to 6 quarters after a recession. Chart 1 clearly shows this pattern in the four postwar expansions that have lasted as long as 3½ years. In the first year and a half of the current recovery, the civilian jobless rate dropped from 10.7 to 7.3 percent; it then remained at that level for a full year before edging down to 7.0 percent at the end of 1985.

Age and sex. The recent stability in overall unemployment has also been evident for most major worker groups. The 6.2-percent jobless rate for men in the second quarter of 1986 and the 6.4-percent rate for women were little changed from the rates posted in late 1985, but both were at their lowest sustained levels since early 1980. However, the rate for teenagers, at 19.2 percent in the second quarter, was slightly above the rate in evidence during most of 1985.

Although recent jobless rates for most worker groups were at or near their lowest levels in 6 years, they remained substantially above the lows recorded in 1979. The difference is most notable for adult men, who were particularly hard hit by the back-to-back recessions of 1980 and 1981–82. The jobless rate for men jumped from 4 percent in mid-1979 to a recession high of nearly 10 percent. Despite marked improvement in the subsequent 3½ years, the second quarter 1986 unemployment rate for men was half again as high as their rate 7 years earlier. The following tabulation shows unemployment rates for men, women, and teenagers, in selected quarters:

	1979–II	*1982–IV*	*1986–II*
Total, 16 years and over	5.9	10.6	7.2
Men	4.0	9.9	6.2
Women	5.7	9.0	6.4
Teenagers	16.0	23.9	19.2

The impact of the two recessions in the early 1980's was much less marked for women and teenagers. By the second quarter of 1986, jobless rates for both for these groups had dropped back to only slightly above their 1979 levels.

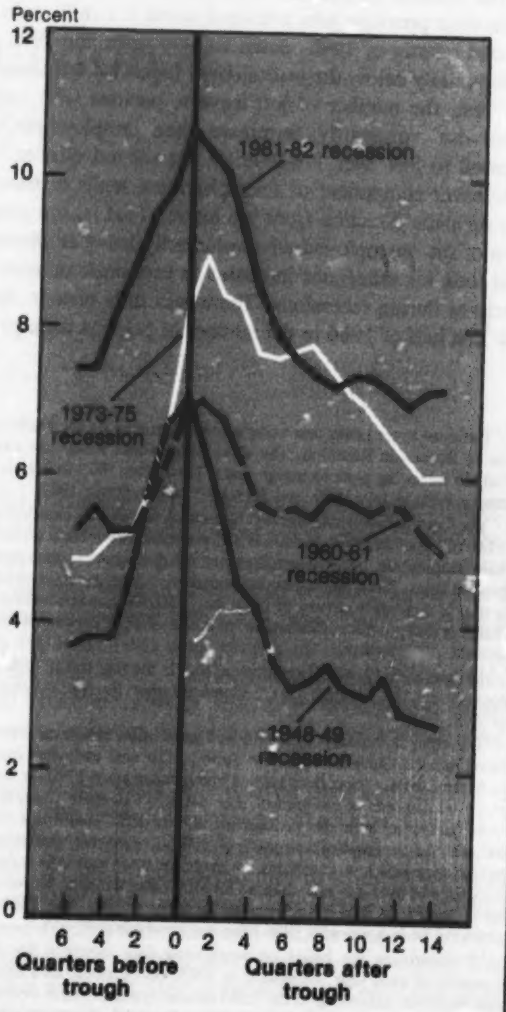
Race and ethnic origin. The unemployment rate for black workers, at 14.9 percent in the second quarter, was about 2½ times the 6.2-percent rate for whites, while the rate for persons of Hispanic origin—at 10.7 percent—remained in an intermediate position. Jobless rates for all three groups showed little change from late 1985 to mid-1986.

However, unemployment rates for the various race-ethnic groups displayed slightly different patterns during the 1979–86 period. The already high black rate did not rise quite as much relatively as the white and Hispanic rates (which nearly doubled) during the 1980 and 1981–82 recessions. The following tabulation shows unemployment rates for whites, blacks, and Hispanics, selected quarterly averages:

	1979–II	*1982–IV*	*1986–II*
Whites	4.9	9.5	6.2
Blacks	12.5	20.4	14.9
Hispanics	8.2	15.3	10.7

Similarly, during the last 3½ years of expansion, the jobless rate for blacks did not fall proportionately as much as did

Chart 1. Cyclical behavior of civilian unemployment rate in four postwar expansions lasting as long as 3½ years



those for whites or Hispanics. Although there have been considerable drops in unemployment since the recession trough, jobless rates for whites, blacks, and Hispanics in mid-1986 were all about one-fourth above their 1979 lows.

Duration and reason. Although the number of unemployed persons held about steady in the first half of 1986, there were shifts in some key categories. Long-term unemployment (15 weeks or more) dipped to 26 percent of total joblessness in the second quarter of 1986, its lowest proportion since mid-1980. Most of the decrease occurred among persons who had been jobless for more than 6 months. Their proportion of total unemployment declined to about 14 percent in the second quarter from $15\frac{1}{2}$ percent in late 1985. The decrease in long-term joblessness was reflected in a lower mean duration of unemployment—14.6 weeks in the second quarter of 1986, compared with about 15.5 weeks in the last 3 quarters of 1985.

The number of persons unemployed because of layoff from their previous jobs averaged about 1.1 million in the second quarter of 1986, down slightly from late 1985 and substantially below the recessionary high of 2.4 million. In contrast, the number of job leavers, persons who quit or otherwise voluntarily terminate their employment, increased to just over 1 million in the second quarter. The job-leaver component of unemployment tends to move in the opposite direction from job losers. That is, the proportion of the unemployed who voluntarily leave employment and look for other jobs increases in economic upturns and declines during recessions. There was little change during the first half of 1986 in the number of persons unemployed because they were entering or reentering the labor force, or in the number of job losers who were not on layoff.

Discouraged workers

In the first half of 1986, there were approximately 1.1 million discouraged workers—persons who want to work but are not actively looking for jobs because they believe that they can not find one. The number was down slightly from the levels that had prevailed in the previous $1\frac{1}{2}$ years. The recent decrease was evident both among persons who cite job market factors as the reason for their discouragement and among those citing personal factors. The decline was concentrated among men and whites—two groups that are underrepresented among discouraged workers. By mid-1986, men, who made up 55 percent of the civilian labor force, accounted for only 35 percent of discouraged workers; whites constituted 86 percent of the labor force, but only 66 percent of the discouraged.

THE MODERATE PACE of economic expansion evident during 1985 continued into the first half of 1986. Employment increases just about matched labor force expansion—leaving both the level and rate of unemployment about unchanged. All of the job growth in the past $1\frac{1}{2}$ years has taken place in the service-producing sector—especially the services and retail trade industries—and in construction. Manufacturing employment has edged down since the end of 1985. Mining employment fell precipitously during the first half of 1986, as lower oil prices resulted in sharp reductions in the number of jobs in oil and gas extraction. □

FOOTNOTES

[1] Business cycle peaks and troughs are designated by the National Bureau of Economic Research. The three most recent recessions extended from the following peak-to-trough dates: November 1973 to March 1975, January 1980 to July 1980, and July 1981 to November 1982.

[2] The Current Population Survey (household survey) is a monthly sample survey of about 59,500 households and provides information on the labor force, employment, and unemployment by demographic and economic characteristics. The Current Employment Statistics program (establishment survey) is a monthly survey of more than 250,000 nonagricultural establishments and provides information on the number of persons on business payrolls.

[3] See Susan E. Shank, "Employment rose in the first half of 1985, as the recovery entered its third year," *Monthly Labor Review*, August 1985, pp. 3–8.

[4] Effective in January 1986, revised population estimates were introduced into the Current Population Survey. The new estimates include an explicit allowance for undocumented immigration since 1980, as well as an improved estimate of emigration. The net effect of these changes was to cause jumps in both the civilian population and labor force of about 400,000 and an employment jump of 350,000 (between December 1985 and January 1986). Adjustments are made for these breaks in series in the discussion of over-the-year changes for all civilian workers. However, with the exception of data for persons of Hispanic origin, data shown in the tables for periods prior to 1986 have *not* been adjusted.

[5] Comparisons are based on unadjusted data averaged for the first 6 months of each year. Beginning in 1983, occupational data were coded and published according to the 1980 census system, which evolved from the Standard Occupational Classification. Seasonal adjustment will not be possible until at least 5 years of data are available on the new classification system. For further information, see "Revisions in the Current Population Survey Beginning in January 1983," *Employment and Earnings*, February 1983, pp. 7–15.

[6] See the following articles in the April 1986 *Monthly Labor Review:* Wayne J. Howe, "The business services industry sets pace in employment growth," pp. 29–36; and Max L. Carey and Kim L. Hazelbaker, "Employment growth in the temporary help industry," pp. 37–44.

[7] See U.S. Bureau of the Census, *Construction Reports-Value of New Construction Put in Place: May 1985*, C-30-85-5, and later monthly news releases. All references to value of construction are in constant (1977) dollars.

[8] Employment data for construction are classified differently from data on the value of construction put in place. The latter estimates are based on the type of construction or the final use of the project. Employment data are classified in two ways: first, based on the type of builder (general or special trades contractors) and second, for the general contractors on whether they construct buildings (of all types) or other projects. The most rapid employment growth in recent years has been among special trades contractors, for example, firms specializing in plumbing, painting, electrical work, or carpentry. These contractors work on all types of construction—residential and nonresidential, private and public.

[9] On a monthly basis, the unemployment rate declined from 6.9 to 6.7 percent in January 1986, but increased in February to 7.3 percent. Both of these movements appear to have been exaggerated owing to several factors, including coding errors on a question that was reworded slightly in January and exceptionally mild weather in January that was followed by stormy weather in February.

The employment expansion in retail trade, 1973–85

Strong employment gains in the industry can be attributed mostly to exceptional growth in eating and drinking places and food stores; part-time positions accounted for much of the overall growth

STEVEN E. HAUGEN

One of the largest and fastest growing industries in the United States, in terms of employment, is retail trade. Nearly 17.4 million persons were employed in this field in 1985, or more than 1 of every 6 nonagricultural wage and salary workers. From 1973 to 1985, retail trade employment expanded by 5 million, accounting for a fourth of the total nonagricultural employment increase over the period. Only services and manufacturing employed a larger number of workers, and only services; finance, insurance, and real estate; and mining exhibited a higher rate of employment growth over the 12-year period. Although growth in retail trade employment was pervasive, a closer inspection reveals that most of the increase can be attributed to very sharp expansion in two key industries within the retail trade division—eating and drinking places, and food stores.

This article discusses employment trends in retail trade as well as in key industry groups since 1973. In addition, it explores the changing demographic, occupational, and earnings characteristics of retail trade workers, as well as the incidence of self-employment in the industry. Data for the years 1973 and 1985 were chosen for comparison, because they are indicative of periods characterized by relatively robust economic activity and, more importantly, because they each represent the third year of recovery following a recession.[1]

Data for this study were derived from both the Current Employment Statistics survey and the Current Population Survey.[2] The Current Employment Statistics survey is a monthly sample of the payroll records from 250,000 business establishments nationwide and is widely regarded as the most detailed and statistically reliable source of information on industry employment, hours, and earnings. Data from this survey are used in the analysis of employment and earnings trends among wage and salary workers in retail

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Steven E. Haugen is an economist in the Division of Employment and Unemployment Analysis, Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

trade industries over time. However, because the payroll survey does not provide information on the demographic or occupational characteristics of workers, or on self-employed and unpaid family workers in the industry, data on these subjects were derived from the Current Population Survey, a monthly sample survey of 59,500 households nationwide.

What is retail trade?

The role of retail trade industries in a market-based economy is obvious: to serve as "middlemen" between those who supply goods and those who purchase the goods for final consumption. More formally, the retail trade division, as defined in the 1972 *Standard Industrial Classification Manual,* includes ". . .establishments engaged in selling merchandise for personal or household consumption, and rendering services incidental to the sale of the goods." These firms are classified into eight major component industries, including general merchandise stores, food stores, automotive dealers and gasoline service stations, apparel and accessory stores, and eating and drinking places.[3] Altogether, there were about 2 million retail establishments in 1982.[4] Clearly, retail industries are the major conduits for the distribution of goods from producer to consumer. As such, they should be distinguished from their wholesale trade counterparts, which employ roughly one-third as many workers basically in the sale of goods to retailers or to industrial or commercial users.

Retail trade, by nature, is highly labor intensive, and by and large it is the retail worker who usually plays the preeminent role in the transaction between buyer and seller. Although there have been recent developments in the way retailers conduct business that are lessening the dependence upon workers for certain tasks, such as the extensive use of computerized gasoline pumps to serve customers, there are many services provided by the industry for which it has been exceedingly difficult to substitute capital for labor. Whether through providing information and assistance to the customer in the selection of the product, ringing up the sale, or in delivering the product, the retail worker is an intrinsic and seemingly irreplaceable "factor of production" in the industry. Therefore, just as consumer demand for all kinds of merchandise has increased over time, retail employment has expanded to handle the larger number of transactions between producer and consumer.

Overall growth

Employment in retail trade expanded by 5.0 million between 1973 and 1985, an increase of about 41 percent. By comparison, employment in all nonagricultural industries increased by about 27 percent. Relatively stronger employment growth in retail trade over the period reflects not only increases during business expansions that were either proportionately equal to or greater than those for all industries, but also more resilience to employment declines during each of the three recessions that occurred during the 12-year period under study. The following tabulation shows seasonally adjusted percent changes in employment during selected business cycle expansions and contractions. (As of March 1986, the economy was in the 40th month of business recovery since the recession trough in November 1982.)

Business cycles	*All nonagricultural industries*	*Retail trade*
Expansions:		
March 1975–January 1980	18.8	20.6
July 1980–July 1981	2.0	1.9
November 1982–March 1986	12.2	17.5
Contractions:		
November 1973–March 1975	−1.8	0
January 1980–July 1980	−1.2	−1.0
July 1981–November 1982	−3.0	−0.4

It may seem somewhat surprising that employment in retail trade was not only far less affected by cyclical downturns than that in all nonagricultural industries, but also that it barely declined at all in the two longer recessions of the 1973–85 period. Logically, when consumer demand wanes, employment in retail trade would be expected to decline as fewer workers are needed to handle the smaller volume of sales. Indeed, although overall employment in the retail division remained relatively unchanged during the three contractions, a closer look reveals that there were substantial differences in the response to cyclical and other developments by individual retail industries.

Employment growth by industry

For the purposes of this analysis, the eight major industry groups within the retail trade division can be broken down into three groups: 1) "slow" growth industries—those which grew only slightly during expansions and experienced deep employment declines as a result of recessions, resulting in little growth over the 1973–85 period, 2) "medium" growth industries—those which exhibited marked employment growth over the period, growing during recoveries and suffering only moderate declines during recessions, and 3) "strong" growth industries—those which grew very sharply during expansions and continued to grow during contractions, thereby establishing a pattern of extraordinary employment growth over the entire period. (See table 1.)

Slow growth industries. The general merchandise stores and automotive dealers and gasoline service stations industry groups exhibited the slowest rate of growth among the retail industries over the period, each expanding by less than 7 percent over the entire 12 years. The general merchandise stores industry, the third largest retail employer in 1985, is basically comprised of department stores and similar establishments which sell a wide variety of products. The industry had been the second largest in 1973 when it employed some 2.2 million workers. However, relatively weak employment growth since that time, in part reflecting sharp and protracted employment declines as a result of business cycle contractions, substantially eroded its share of retail employment. By 1985, the industry employed 2.3 million workers. Automotive dealers and service stations, at 1.9 million in 1985, were only 115,000 above the 1973 level. Like general merchandise stores, this industry was severely affected by cyclical downturns (which is not surprising, given the industry's close attachment to the very cyclically sensitive automobile manufacturing industry). In addition, the gasoline crises of 1973 and 1979 had a deleterious impact on automotive dealers and gasoline service stations. Resultant losses limited overall employment growth over the 1973–85 period.

Medium growth industries. The building materials and garden supplies, apparel and accessories, furniture and home furnishings, and miscellaneous retail industries registered substantially greater employment growth than the first group of industries over the period. Among these four industries, growth was proportionately the smallest for the building materials and garden supplies industry. Comprised of all stores which sell primarily lumber, hardware, and other building supplies, this industry grew by 28 percent, employing a total of 685,000 persons by 1985. Slightly stronger employment growth occurred within apparel and accessories, as clothing stores and related establishments employed about 1 million persons in 1985, or 31 percent more than in 1973. The furniture and home furnishings industry exhibited fairly sharp growth, expanding by 38 percent to an employment level of 735,000 in 1985. Like the "slow" growth group, though to a lesser degree, all three of these industries suffered significant employment losses as a result of the recessions which occurred over the 1973–85 period. The last member of this "medium" growth group, miscellaneous retail, added 640,000 workers over the period, reaching a level of 2.2 million workers. This represents an expansion of 41 percent. Miscellaneous retail includes all retail establishments that cannot be classified in the seven other industries, such as drugstores, bookstores, and mail order houses.

Strong growth industries. Food stores and eating and drinking places comprised the "strong" growth group. The food stores industry, which includes all businesses which primarily sell food for home preparation, grew rapidly over the period and by 1985 was the second largest industry within retail trade. This industry is comprised of groceries, bakeries, various produce markets, and similar establishments. There were 2.8 million workers employed in the food stores industry in 1985, up roughly 925,000 from the 1973 level, representing an increase of 50 percent.

The eating and drinking places industry, which remained the largest industry in the division throughout the period, registered the highest employment growth rate since 1973 among the eight retail industries (87 percent). Composed of restaurants of all types, including cafeterias, fast food restaurants, and sit-down eating places, as well as a full range of establishments engaged in the retail sale of beverages for on-site consumption, the industry employed 5.7 million persons in 1985, up 2.7 million since 1973. Thus, this industry alone accounted for half of total employment growth in retail trade over the period.

Eating and drinking places and food stores industries together employed 8.5 million persons in 1985 (about half of all retail workers), and accounted for 71 percent of employment growth in retail trade since 1973. (See chart 1.) Not only did these industries grow at a much faster pace than the rest of retail trade during expansions, but employment increases in these industries during recessions were sufficient to largely offset declines that occurred in the rest of the retail industries.[5] The following tabulation shows the changes in employment in the eating and drinking places and food stores industries and all other retail industries during selected business cycle expansions and contractions

Table 1. Number of employees in the retail trade industry by major division, 1973–85 annual averages
[In thousands]

Year	Total nonagricultural employees	Total retail trade	Building materials and garden supplies	General merchandise stores	Food stores	Automotive dealers and service stations	Apparel and accessory stores	Furniture and home furnishings stores	Eating and drinking places	Miscellaneous retail trade
1973	76,790	12,329	535	2,229	1,856	1,778	795	533	3,054	1,551
1974	78,265	12,554	542	2,210	1,948	1,666	811	538	3,231	1,609
1975	76,945	12,645	521	2,113	2,007	1,677	806	517	3,380	1,625
1976	79,382	13,209	548	2,155	2,039	1,744	842	540	3,656	1,687
1977	82,471	13,808	576	2,204	2,106	1,801	870	583	3,949	1,740
1978	86,697	14,573	606	2,308	2,199	1,861	909	595	4,277	1,816
1979	89,823	14,989	629	2,287	2,297	1,812	949	615	4,513	1,886
1980	90,406	15,035	617	2,245	2,384	1,689	957	606	4,626	1,912
1981	91,156	15,189	607	2,230	2,448	1,653	968	595	4,750	1,938
1982	89,566	15,179	586	2,184	2,478	1,632	943	584	4,831	1,940
1983	90,200	15,613	615	2,165	2,556	1,674	983	606	5,042	1,989
1984	94,496	16,545	659	2,267	2,637	1,799	1,006	678	5,388	2,106
1985	97,614	17,360	685	2,320	2,779	1,892	1,042	736	5,715	2,191

NOTE: Data were obtained from the Current Employment Statistics (establishment) survey.

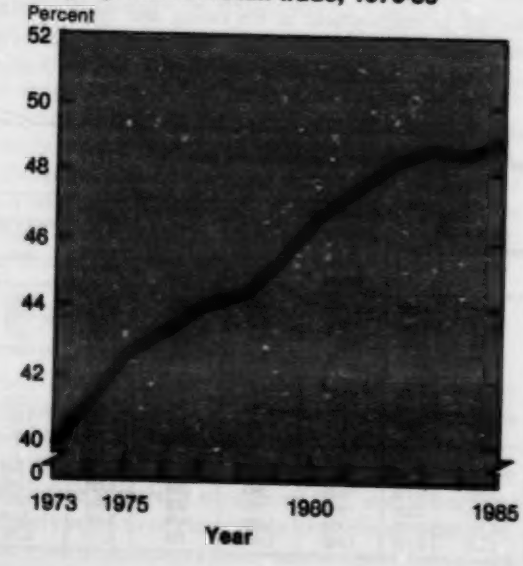
(employment in thousands, seasonally adjusted):

Business cycles	*Eating and drinking places and food stores*	*All other retail industries*
Expansions:		
March 1975–January 1980	1,649	954
July 1980–July 1981	210	88
November 1982–March 1986	1,399	1,260
Contractions:		
November 1973–March 1975	289	−255
January 1980–July 1980	51	−216
July 1981–November 1982	158	−235

Job growth factors

There are many factors which can be associated with employment growth in retail trade since 1973. Obviously, increasing consumer demand is largely responsible, and to some extent, this simply reflects population growth and the increase in aggregate income over the period. Perhaps more importantly, there are many demographic and socioeconomic developments which have directly and indirectly magnified demand for goods and services in general, including the increased incidence of working women, and thus of two-income families; an increased number of persons who live alone; and a general trend towards increased demand for leisure time. One end product of these changes is the gradual emergence of a more affluent society, in which time has become a scarcer resource.[6] This, in turn, has led to increased customer demand for convenience. Consumers have less time for shopping, and they want to be able to shop whenever time becomes available. As a result, many retail stores have not only increased in size and number, but have expanded their hours of operation as well. Both factors have resulted in the addition of more workers in retail trade, particularly part-timers. Probably the greatest impact of these developments has been in the eating and drinking and food store establishments.

Chart 1. Employment in eating and drinking places and food stores as a percentage of employment in retail trade, 1973-85



It is generally more expensive to eat meals prepared in restaurants than it is to eat at home, and this disparity has widened over time. Consequently, all other things being equal, one would expect to see a cutback in the amount of dollars spent on food away from home. In fact, there has been a change in eating habits. Data from BLS Consumer Expenditure Surveys indicate that between 1972–73 and 1982–83, not only has the proportion of the overall consumer's budget spent on food declined, but that of this total food budget, the proportion spent on food away from home has increased significantly.[7] This preference of eating out to cooking at home can certainly be associated with the increasing desire to conserve time, as it typically takes more time to prepare a meal at home than it does to eat out. As noted previously, there are many groups that have had more constraints placed upon their available time, and many of them find it more convenient to eat out, augmenting demand for the industry.[8]

But if this is the case, then why has demand in the food stores industry increased as well? In addition to the marked population growth over the period, one possible reason for the increase over time is the growing diversification of products offered by grocery stores. To meet the customer's growing demand for convenience, grocery stores have increasingly offered many services and products that once were the province of other industries.[9] These include the installation of delis and salad bars, service centers for check cashing, and other services such as film processing.[10] Ultimately, demand for the industry has increased as people are able to obtain a wider selection of goods with just one stop at a store, thereby saving time.

Technical innovations and productivity

Employment growth in retail trade over the 1973–85 period would probably have been even more dramatic had it not been for the adoption of many labor-saving and management-related innovations which have helped to increase productivity in the sector. For example, the use of computer technology to manage inventories and handle customer billing and accounting has limited the labor resources that were once needed to handle these tasks.[11] In addition, the overall trend towards consumer self-selection of merchandise has limited labor requirements in many industries, such as the proliferation of self-service pumps at gas stations and convenience stores and the self-selection of products in apparel and department stores.

In part reflecting these innovations, productivity in the retail trade division increased at an average annual rate of

1.0 percent from 1973–84, slightly higher than the 0.8 percent recorded for the total business sector.[12] However, there were divergent movements in productivity over the period for many of the detailed retail industries. In fact, among the retail industries for which data are available, there were average annual productivity declines for only two industries, eating and drinking places and food stores. As increased output can be satisfied by either increased productivity or increased input, these two industries were increasingly reliant upon labor to meet the higher output requirements.

Characteristics of retail workers

An understanding of certain characteristics of the retail trade work force helps explain employment patterns and trends in this industry division. Historically, the retail trade work force has differed in many respects from the overall work force. For example, the industry has typically employed a disproportionately large share of part-time workers, women and young persons, sales and service workers, workers who have below average earnings, as well as self-employed and unpaid family workers. While this profile has changed little between 1973 and 1985, there have been important changes in the proportionate representation of these groups.[13]

Part-time workers. Employment growth in retail trade may be somewhat misleading if one does not note the fact that much of the growth reflected large increases in the size of the part-time component. More than 1 of every 3 retail trade workers was employed on a part-time basis in 1985—twice the proportion of total nonagricultural employment. Although the services industry employed a larger number of part-time workers, no other industry had such a large proportion of its work force putting in fewer than 35 hours per week. Part-time employment was even more prevalent in 1985 than it had been 12 years earlier. In fact, about 40 percent of the employment growth in retail trade since 1973 has been among part-time workers; the relative contribution of part-timers to total employment growth for all nonagricultural industries was about one-fourth.[14] (See table 2.) This finding is supported by data from the establishment survey, which show that average weekly hours in the industry have fallen by about 11 percent since 1973, twice the proportional decline in all private nonagricultural industries.

Table 2. Percent distribution of employed wage and salary workers in the retail trade industry by selected characteristics, 1973 and 1985 annual averages

Characteristics	1973		1985	
	Total	Retail trade	Total	Retail trade
Total, 16 years and over	100.0	100.0	100.0	100.0
16 to 19 years	8.7	21.6	6.1	18.5
20 to 24 years	15.0	16.7	13.8	21.4
25 years and over	76.3	61.7	80.0	60.1
Men, 16 years and over	61.1	52.0	54.9	47.6
16 to 19 years	4.8	11.6	3.1	8.8
20 to 24 years	8.3	9.3	7.1	10.2
25 years and over	47.9	31.1	44.6	28.5
Women, 16 years and over	38.9	48.0	45.1	52.4
16 to 19 years	3.9	10.0	3.0	9.7
20 to 24 years	6.7	7.4	6.7	11.2
25 years and over	28.4	30.6	35.4	31.6
Full-time workers[1]	86.1	68.0	83.8	65.3
Men, 16 years and over	56.4	41.1	49.9	36.2
Women, 16 years and over	29.7	26.9	33.9	29.1
Part-time workers[1]	13.9	32.0	16.2	34.7
Men, 16 years and over	4.7	10.9	5.0	11.4
Women, 16 years and over	9.3	21.1	11.2	23.3

[1] Employed persons with a job but not at work and persons at work part time are distributed according to whether they usually work full or part time.

NOTE: Data were obtained from the Current Population (household) Survey and exclude agricultural and private household workers.

There are several reasons part-time employment is so prevalent in retail trade. From the standpoint of the employer, hiring part-time workers is an efficient way to handle changes in the extended hours of operation necessitated by ever-fluctuating consumer demand for retail goods. Consumer demand for many products varies seasonally, monthly, and even daily. As mentioned earlier, the emergence of a "time-scarce" American consumer has exacerbated the variability of peak and non-peak periods of demand. The result is that most retailers must stay open evenings, Saturdays, and, in many cases, even Sundays, to capture as much of this demand as possible. However, because these oscillations in demand are somewhat predictable, the retailer can use part-time labor to meet the demand at any given time.[15]

Just as many retailers have a need for part-time workers, so do many workers have a need for part-time jobs. Part-time schedules are often fairly flexible, allowing the worker time for other activities. This being the case, it is not surprising that women and young workers make up a large portion of the part-time workers in the industry. For example, in 1985, two-thirds of the part-time work force in retail trade were women. For many women, part-time work affords the option of supplementing family income while still allowing time for maintaining a home and child rearing; for youth, part-time work is scheduled around school attendance.

Demographic characteristics of workers. When compared with other industries, retail trade has always had a disproportionately high concentration of women and young workers. Women accounted for just under two-thirds of the employment growth in the industry between 1973 and 1985, boosting their proportion of the retail trade work force to just over one-half. This increase reflects changes occurring in the work force, as women also made up two-thirds of employment growth in all nonagricultural industries over the same period; as a result, the proportion of women in the work force increased from 39 to 45 percent.

The situation is somewhat different for young workers. Despite the general aging of the overall work force, young workers (16 to 24 years of age) commanded an even larger share of retail trade employment in 1985 than in 1973. This was entirely due to very large increases in the number of retail workers 20 to 24 years of age. In fact, about 73 percent of the increase in total industry employment for workers ages 20 to 24 occurred in retail trade. Teenagers accounted for about 1 of every 5 retail workers in 1985, and more than half of all employed teens worked in retail trade. On the whole, about 40 percent of all workers in retail trade were less than 25 years of age in 1985, twice the percentage for the overall work force; the figures in 1973 were 38 and 24 percent, respectively. (See table 2.) There is little variation in the extent to which whites and minorities hold jobs in retail trade. About 17 percent of both white and Hispanic workers were employed in the industry in 1985, compared with about 14 percent of black workers.[16]

There are several likely reasons for the relatively high prevalence of young and female workers in retail trade. Young workers typically have fewer job skills and less training than their older counterparts. In addition, as mentioned earlier, both young and female workers have a relatively high proclivity to work part time. Based on the fact that skill requirements in the industry are generally low, and that part-time work arrangements are often easily accommodated, many young and female workers find positions in the industry very suitable.

Occupation. Sales and service jobs were the most prevalent occupations in retail trade in 1985.[17] About 42 percent of all workers in the industry held sales positions, and about 23 percent were employed in service jobs. Most of those in the latter category worked in eating and drinking places. Combined, these two occupational groups accounted for almost two-thirds of the employed total in retail trade; this compares with about 25 percent of those in all industries. Within retail trade, the most prevalent occupations in the sales and service areas were salesworkers, sales supervisors, cashiers, and food preparation and service workers. (See table 3.)

Table 3. Occupational distribution of employment in the retail trade industry, 1985 annual averages

Occupation	1985	
	Total employed	Retail trade
Total employed	100.0	100.0
Managerial and professional specialty	24.1	9.5
Executive, administrative, and managerial	11.4	7.6
Professional specialty	12.7	1.9
Technical, sales, and administrative support	31.0	50.0
Technicians and related support	3.0	.3
Sales occupations	11.8	41.6
Administrative support, including clerical	16.2	8.1
Service occupations	13.5	23.3
Private household	.9	—
Protective service	1.6	.3
Service, except private household and protective	10.9	23.0
Precision production, craft, and repair	12.4	6.4
Operators, fabricators, and laborers	15.7	10.7
Machine operators, assemblers, and inspectors	7.3	.8
Transportation and material moving occupations	4.2	2.3
Handlers, equipment cleaners, helpers, and laborers	4.1	7.6
Farming, forestry, and fishing	3.2	.1

NOTE: Data were obtained from the Current Population (household) Survey.

Earnings. Pay in the retail trade industry has historically been below average, and the disparity has widened. Weekly earnings in the industry (derived from the Current Employment Statistics survey), at $175 in 1985, were 58 percent of the figure for all private nonagricultural wage and salary workers; this ratio was down from 66 percent in 1973. Within retail trade, weekly earnings ranged from a high of $273 in automotive dealerships and service stations to $112 in eating and drinking places in 1985. (See table 4.)

A study of earnings in the industry is complicated, however, by the many varied pay arrangements. Commissions and tips supplement, to varying degrees, earnings within

Table 4. Average weekly earnings of private nonagricultural production or nonsupervisory workers in the retail trade industry, 1973–85 annual averages

Year	Total private nonagricultural employees	Total retail trade	Building materials and garden supplies	General merchandise stores	Food stores	Automotive dealers and service stations	Apparel and accessory stores	Furniture and home furnishings stores	Eating and drinking places	Miscellaneous retail trade
1973	$145.39	$96.32	$128.82	$86.94	$111.20	$133.17	$80.74	$131.38	$65.18	$101.51
1974	154.76	102.68	136.64	92.68	121.55	143.05	86.88	137.23	69.92	106.57
1975	163.53	108.86	142.88	99.19	131.38	149.76	91.81	144.84	74.21	113.22
1976	175.45	114.60	152.86	104.01	144.21	158.56	98.45	151.92	76.67	118.86
1977	189.00	121.66	163.78	110.93	155.03	170.62	102.81	158.73	81.75	123.55
1978	203.70	130.20	175.68	118.67	167.36	184.88	110.11	169.31	87.26	132.93
1979	219.91	138.62	186.38	129.21	179.74	200.72	117.09	182.34	90.74	143.81
1980	235.10	147.38	195.94	139.76	194.69	212.25	122.12	192.44	96.31	152.29
1981	255.20	158.03	209.76	150.38	212.35	228.23	132.99	205.52	103.10	160.97
1982	267.26	163.85	215.04	157.39	221.65	235.99	136.77	212.72	107.16	167.94
1983	280.70	171.05	221.17	165.50	229.81	249.44	141.06	227.41	112.30	174.89
1984	292.86	174.33	232.32	163.56	233.78	263.81	143.08	235.63	112.04	180.38
1985	299.09	174.64	239.58	169.60	221.97	272.69	143.33	239.57	111.71	182.03

NOTE: Data were obtained from the Current Employment Statistics (establishment) survey.

several component industries. Earnings received on a commission basis, which are included in the Current Employment Statistics survey, occur in industries with a heavy proportion of salesworkers, and vary according to product sold. Big ticket items, such as automobiles, major appliances, and jewelry offer the best chance for commission-type arrangements. Presumably, tips, which are excluded from the survey, are the most common type of compensation over and above regular pay in eating and drinking places. As a result, the payroll data somewhat understate the average earnings of workers in this industry.

Many jobs in retail trade offer no such supplement to regular wages, and therefore it is useful to look at the earnings of workers paid at an hourly rate. Data from the Current Population Survey indicate that the median hourly earnings for retail trade workers paid at an hourly rate in 1985 were $4.15. About two-thirds of those workers paid at hourly rates made less than $5 an hour. About one-fourth earned the prevailing minimum wage of $3.35 or less—a much larger proportion than in any other industry. In fact, half of all minimum wage and subminimum wage workers were employed in retail trade.[18]

There are several characteristics of the retail trade work force which can be associated with the generally low earnings in the industry division. These include, among others, an occupational structure heavily biased toward sales and service positions, employment disproportionately composed of young workers, and industry operations that are tailored for part-time positions. Because these groups and job characteristics are associated with lower pay in general, it follows that earnings in retail trade would be affected negatively. Indeed, the increasing proportionate sizes of these groups in retail trade over time may be related to the widening earnings gap between the industry and the all-industry average.

Self-employed and unpaid family workers. While wage and salary employment in retail trade grew markedly between 1973 and 1985, the number of self-employed workers in the industry changed very little. As a result, their proportion of total employment declined from 10 to 8 percent over the period. The number of unpaid family workers in the retail industry actually fell over the period, and by 1985, they represented less than 1 percent of the employed total in the sector. Both of these developments suggest a decline in the role of self-owned retail businesses in the industry.

THE RELATIVELY STRONG employment growth in the retail trade division over the 1973–85 period can mostly be attributed to extraordinary growth in eating and drinking places and food stores. Although a few other retail industries exhibited substantial employment growth over the period, several factors, including the increased importance of spare time and convenience to consumers, augmented demand for eating and drinking places and food stores to a much larger extent than that for retail trade in general. BLS projections indicate that employment growth in eating and drinking places and in food stores will continue strongly through 1995, albeit at a slightly slower pace than in the past. This, combined with projected declines in the rate of employment growth among other retail industries, seems to suggest that in contrast to past performance, overall retail trade employment growth over the 1984–95 period will be only slightly stronger than that for all industries.[19] ☐

FOOTNOTES

[1] The business cycle expansion and contraction periods are determined by the National Bureau of Economic Research, a private, nonprofit research organization located in Cambridge, MA.

[2] Because the two sources differ in definition, coverage, methods of collection, and estimating procedures, estimates of employment are not identical. For a detailed comparison of the two surveys, see the "Explanatory Notes" section of the BLS monthly publication, *Employment and Earnings*.

[3] The following industry groups comprise the major "two-digit" retail industries in the sector:

SIC 52—Building materials, hardware, garden supply, and mobile home dealers
SIC 53—General merchandise stores
SIC 54—Food stores
SIC 55—Automotive dealers and gasoline service stations
SIC 56—Apparel and accessory stores
SIC 57—Furniture, home furnishings, and equipment stores
SIC 58—Eating and drinking places
SIC 59—Miscellaneous retail

These groups are further broken down into more detailed three- and four-digit industries. See the U.S. Office of Management and Budget's *Standard Industrial Classification Manual, 1972*, for further information and a more detailed explanation of the codes.

[4] See *1982 Census of Retail Trade* (Bureau of the Census, Nov. 1984), p. 2.

[5] One characteristic common to both of these industries that substantially insulates them from cyclical downturns, and thus the associated employment losses, is that food and related products represent a "need" rather than a "want." Consequently, potential employment declines in these industries are mitigated. However, the fact that employment in these industries actually grew significantly during the three recessions reflects considerable consumer demand for their products.

[6] Jagdish N. Sheth, "Emerging Trends for the Retailing Industry," *Journal of Retailing*, Fall 1983, p. 6.

[7] For further information, see Raymond Gieseman and John Rogers, "Consumer expenditures: results from the Diary and Interview surveys," *Monthly Labor Review*, June 1986, pp. 14–18.

[8] William Dunn, "The Meat and Potatoes of Eating Out," *American Demographics*, January 1985, p. 35.

[9] See Sheth, p. 7.

[10] See *Progressive Grocer Magazine*, selected "Annual Reports of the Grocery Industry."

[11] See Michael A. Gallo and Robert B. Nenno, *Computers and Society* (Boston, Prindle, Weber and Schmidt, 1985), pp. 182–86.

[12] Data were obtained from both published and unpublished matrices from the BLS Office of Productivity and Technology. The productivity figures represent output per hour of all persons. Average annual productivity rates of change over the 1973–84 period for the total business sector,

retail trade, and available detailed retail industries are:

Total business sector	.8
Retail trade	1.0
SIC 54—Food stores	−.7
SIC 5511—Franchised new car dealers	.8
SIC 5541—Gasoline service stations	3.1
SIC 56—Apparel and accessory stores	3.7
SIC 58—Eating and drinking places	−.7
SIC 5912—Drugstores	1.3

[13] For information on the characteristics of workers in the retail trade industry over the 1968–78 period, see Barbara Cottman Job, "Employment and pay trends in the retail trade industry," *Monthly Labor Review*, March 1980, pp. 40–43.

[14] These data are based on a new definition of part-time employment recently developed by BLS. For a discussion of the new definition, see Thomas Nardone, "Part-time workers: who are they?" *Monthly Labor Review*, February 1986, pp. 13–19.

[15] For information on the demand for part-time labor in retailing, see Roy Thurik and Nico Van Der Wijst, "Part-Time Labor in Retailing," *Journal of Retailing*, Fall 1984, pp. 62–68.

[16] Persons of Hispanic origin are included in both the black and white population groups.

[17] Beginning with data for 1983, occupational data are classified according to the system used in the 1980 census, which was redesigned to reflect the occupational structure of the changing economy. This system is radically different from the 1970 census-based system which was adopted in 1972 and used through 1982. Therefore, data for 1985 are not comparable with pre-1983 estimates, and for this reason, occupational data for 1985 only are discussed in the text. Occupational data used in this report are representative of all workers in the retail trade industry, including the self-employed, private household workers, and unpaid family workers. Although these components are relatively small, it should be noted that these figures differ from the data used in the discussion of part-time, women, and young workers, which represent only nonagricultural wage and salary workers excluding private household workers.

[18] It should be noted, once again, that many of these hourly paid workers receive wages that are supplemented in varying degrees by tips and commissions. Furthermore, the existence of a substantial group of retail workers earning below the minimum wage does not necessarily indicate violations of the Fair Labor Standards Act but in fact may reflect exemptions to the Act, many of which pertain to the retail trade industry. For further information, and a more complete list of full and partial exemptions, see *Report of the Minimum Wage Study Commission*, vol. I, pp. 107–38.

[19] See Valerie A. Personick, "A second look at industry output and employment trends to 1995," *Monthly Labor Review*, November 1985, pp. 26–41.

Employment in health services: long-term trends and projections

Demand for health services is expected to grow in response to the increasing number of elderly people; but growth prospects to 1995 for the industry's wage and salary workers are uncertain because of changes in both the financing and delivery of health care

ANNE KAHL AND DONALD E. CLARK

Health care has aptly been described as a system in flux.[1] Throughout much of the post-World War II period, U.S. health policy encouraged expansion of the delivery system and of patients' access to it. There was a perceived need for more physicians and hospitals, and strategies were developed to increase the supply. The number of beds in hospitals and nursing homes rose, and the supply of physicians, nurses, and allied health professionals grew very rapidly. Now that cost control has emerged as a dominant concern, this has changed: evolving methods of payment for health services are based on incentives intended to discourage use of costly resources and to foster price competition. Greater emphasis on providing care in the most cost-effective setting is one of the principal trends reshaping this large and important industry.[2] This article explores the potential impact on demand for health services workers of the sweeping changes in industry structure currently underway.

Health care is still delivered in doctors' and dentists' offices, hospitals, and nursing homes, for the most part, but the structure of the industry is changing as financial incentives for providing (and using) health services are transformed. Health maintenance organizations (HMO's) are flourishing and new organizational entities such as urgent care centers, birthing centers, and hospices are taking hold.

The boundary between financing and delivery of health care is becoming less distinct, and vertically integrated systems of care are emerging as providers affiliate with one another, or with hospitals, HMO's, and insurance companies. Additional changes in organizational structure lie ahead, inasmuch as financing is in ferment. The prospective payment system launched by medicare in October 1983 may be modified as evidence of its impact accumulates and other payers are experimenting with cost containment programs of their own.

Yet even as the delivery system changes, equally dramatic shifts are occurring in the composition of the U.S. population. Americans are growing older, creating a need for suitable health, housing, and social services. Moreover, the segment age 85 and above is recording much faster growth than any other age group in the population. In the decade ahead, the increasing number of elderly people, especially those of very advanced age, is expected to heighten demand for hospital, medical, and surgical care; for long-term care services; and for new services, including geriatric assessment, case management, adult day care, and respite care. The effort to provide adequate and appropriate health care for an aging population within the constraints imposed by cost containment is stimulating innovative approaches to

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Anne Kahl is an economist in the Office of Economic Growth and Employment Projections, Bureau of Labor Statistics. Donald E. Clark is an economist formerly in the same office.

program design, organization, and financing. With both the scope and structure of health care services delivery in flux, however, it is very difficult to anticipate the future pattern of health services.

Given the growth and aging of the population, advances in medical technology, and public support for high-quality care, there is little doubt that the health services industry will continue to grow over the 1984–95 period that is the focus of this article. However, there is considerable uncertainty as to how rapid future growth will be, and what the employment implications are likely to be. This article, undertaken in connection with the Bureau of Labor Statistics' expanding coverage of the service sector, illustrates the wide range of possibilities. It sets up a series of alternative scenarios based on qualitative judgments about the possible course of events affecting the health services industry and provides projections of industry and occupational employment consistent with those assumptions.

The Bureau has for several decades developed medium-term projections of the U.S. economy under alternative sets of assumptions. The latest set of 1995 projections is presented in four articles in the November 1985 issue of the *Review*.[3] The low-growth, moderate-growth, and high-growth alternatives presented there for all industries reflect alternative fiscal and monetary assumptions, rates of growth of productivity, unemployment rates, or what may be thought of as macro alternatives. This article explores the prospects for a single industry sector, the health services industry, under micro alternatives outlined in exhibit 1.

No attempt was made to quantify the effects of specific assumptions in exhibit 1; rather, they portray service delivery patterns and interrelationships that might reasonably be expected to generate varying levels of demand for health services. The base case projections presented here were taken directly from the moderate-growth projections for the health services industry, while the low- and high-scenario projections were derived from analytical judgment. Projections tied to all three alternative scenarios thus represent a qualitative assessment of the likely effect on industry output and employment of alternative courses of events in the health services industry.

This analysis pertains to wage and salary workers in the health services industry only. Excluded are self-employed and unpaid family workers, on the one hand, and workers employed outside the health sector, on the other. Examples of health professionals excluded from the analysis are (1) physicians, dentists, podiatrists, chiropractors, pharmacists, nurses, physical therapists, speech pathologists and audiologists, and other practitioners who are self-employed; and (2) nurses, nursing aides, dietitians, dental hygienists, social workers, psychologists, occupational therapists, physicians, dentists, and others employed in schools, prisons, residential care facilities, temporary help agencies, and other industry sectors outside health. These exclusions have different effects on the validity of the analysis, depending on the occupation or industry of interest. Only about 1 physician in 4 is self-employed and, as such, excluded from the scope of this study. However, most chiropractors, and many dentists, podiatrists, and optometrists are self-employed, which diminishes the relevance of this analysis for those occupations. Note, however, that self-employed practitioners generally work in one or another of the health services industry sectors, and are subject to many of the same trends as wage and salary workers in those sectors. Confining the analysis to the health services industry limits the ability to generalize the findings, too. Because of differences in industry distribution, the projections cover virtually all radiologic technologists, for example; about 4 of 5 registered nurses; 3 of 5 occupational therapists; but only about 1 of 5 speech pathologists and audiologists, social workers, or psychologists.

Projection highlights

The health services industry is defined according to the 1972 Standard Industrial Classification (SIC), and includes the following:

SIC	
801	Offices of physicians
802	Offices of dentists
803	Offices of osteopathic physicians
804	Offices of other health practitioners
805	Nursing and personal care facilities
806	Hospitals
807	Medical and dental laboratories
808	Outpatient care facilities
809	Health and allied services, not elsewhere classified

In 1995, the number of wage and salary jobs in the health services industry is projected to vary from 7.3 to 10.5 million, compared with nearly 7.2 million in 1984. (See table 1.) The low scenario shows a barely perceptible 2-percent increase in employment over the 1984–95 period, stagnation that represents a radical departure from past trends. The base case yields a projected employment increase of 26 percent. This is faster than average growth compared with the economy as a whole, but a significant slowdown by health industry standards. Even the high scenario, a 46-percent increase over 11 years, implies a slower rate of job growth than in the past.

The 1995 alternatives have a more pronounced effect on some health industry sectors than on others. At one extreme, hospital employment is projected to decline by 17 percent under the assumptions of the low scenario, from 4.1 million jobs in 1984 to 3.4 million in 1995. Alternatively, under the assumptions of the high scenario, hospital employment would exceed 5 million in 1995, an increase of 24 percent. Underlying the three projection alternatives are significantly different assumptions about hospitals' response to cost pressures and the keenly competitive health care environment. (See exhibit 1.)

Job growth in offices of physicians is projected to outpace the industry as a whole. Nonetheless, under the low scenario, extensive market penetration by health maintenance organizations (HMO's) and imposition of stringent fee restraints are assumed to produce a marked slowdown in growth in this major industry. Wage and salary employment in offices of physicians is projected to vary from 1.2 to nearly 1.5 million jobs in 1995, compared with 908,000 in 1984.

Projected 1995 employment in nursing and personal care facilities varies from 1.3 to nearly 2.1 million wage and salary jobs, up from 1.1 million in 1984. Markedly different assumptions about future directions in long-term care help explain the wide variation in nursing home growth between the low and high scenarios. Strong demand for home health care, a key assumption of all three scenarios, is the principal reason for projected employment growth in health and allied services, not elsewhere classified.

Occupations concentrated in industries that have widely differing growth prospects exhibit the greatest variation under the alternatives. This is particularly true of occupations located for the most part in hospitals and nursing homes. Employment in hospital-based occupations such as respiratory therapist and surgical technician is projected to decline in the low scenario, but grow at a faster than average rate under assumptions of the high scenario. In the case of nursing aides, projected patterns of industry growth are largely responsible for a decline in employment in the low scenario for 1995, compared with much faster than average growth in the high scenario.

Historical trends

Health care has enjoyed a long period of expansion, with continuous growth in funding of services and programs from both the public and private sectors. National health expenditures have grown rapidly, consuming an increasing proportion of the Nation's resources. The growing share of gross national product (GNP) allocated to health, up from 4.4 percent of current dollar GNP in 1950 to 10.6 percent in 1984, is reflected by many indicators of economic activity—personal consumption expenditures on health care, employment, and payroll expenses.

Before turning to an analysis of possible future trends, we should take a careful look at the past. A number of interrelated factors are responsible for the escalation of spending and the expansion of employment in the industry, but incentives built into the health care financing system itself are singularly important. Increases in private health insurance coverage and the introduction of major public programs, including medicare and medicaid, have encouraged greater use of hospital and nursing home care by making such services affordable to segments of the population previously shut out of the health market by price considerations. Methods of financing have shifted as a result of efforts to broaden access to health care. In 1966, the consumer paid directly for half of all personal health care spending, according to estimates by the Health Care Financing Administration. The other half was financed about equally by insurance and public programs. By 1984, public programs accounted for almost 40 percent of all spending; insurance, 31 percent; and the consumer, 28 percent.[4]

The shift of payment responsibility from the consumer to "third parties" such as government and insurance companies is thought to have made patients and providers alike insensitive to the true cost of treatment and care. Both perceive the price of services to be lower than it really is. New programs, new technologies, and new types of personnel have been added because of perceived clinical benefits, with little concern for the cost implications. However, the prevalence of health insurance, as well as the cost of premiums and extent of coverage, differ greatly by sector. Health insurance and public programs currently provide about 90 percent of all spending for hospital care; 72 percent for physicians' services; and 50 percent for nursing home care.

Methods of financing health care have helped shape medical practice patterns and spurred the rapid diffusion of medical technology.[5] For many years, health insurance has given providers an incentive to apply medical technology,

Table 1. Wage and salary employment in the health services industry, 1984 and three projected 1995 alternatives
[Employment in thousands]

Industry	Actual 1984 employment	Projected 1995 employment			Average annual rate of change						
					Historical				Projected 1984–95		
		Low	Base	High	1972–77	1977–84	1982–84	1972–84	Low	Base	High
Total, health services industry	7,188.7	7,325	9,054	10,535	5.3	3.6	1.8	4.3	0.2	2.1	3.5
Offices of physicians	907.5	1,206	1,313	1,450	7.6	5.0	4.9	6.1	2.6	3.4	4.4
Offices of dentists	425.7	533	551	562	8.8	5.8	5.3	7.0	2.1	2.4	2.6
Offices of osteopathic physicians	[1]29.8	39	44	49	8.1	6.0	5.6	6.9	2.5	3.6	4.6
Offices of other health practitioners	[1]148.1	227	290	356	9.7	11.1	10.6	10.5	4.0	6.3	8.3
Nursing and personal care facilities	1,144.6	1,271	1,650	2,057	7.8	4.2	3.6	5.7	1.0	3.4	5.5
Hospitals	4,078.1	3,401	4,368	5,045	3.8	2.2	−0.8	2.9	−1.7	0.6	2.0
Medical and dental laboratories	113.2	126	135	140	6.1	2.8	1.7	4.1	1.0	1.6	1.9
Outpatient care facilities	190.7	284	390	450	12.7	11.5	9.0	12.0	3.7	6.7	8.1
Health and allied services, not elsewhere classified	[1]151.0	238	315	426	13.9	16.0	20.7	15.1	4.3	7.0	9.9

[1] Unpublished BLS data.

NOTE: "Unpublished data" do not meet publication standards for accuracy and reliability and therefore are not official Bureau estimates.

Exhibit 1. Assumptions underlying various projection scenarios

Factor	Assumptions		
	Low scenario	Base case	High scenario
Level and distribution of health sector output in 1995	3.0 percent of total private output: $169 billion in 1977 dollars Distribution by sector Sector 140: 47 percent Sector 141: 32 percent Sector 142: 20 percent	3.5 percent of total private output: $200 billion in 1977 dollars Distribution by sector Sector 140: 42 percent Sector 141: 36 percent Sector 142: 22 percent	4.0 percent of total private output: $226 billion in 1977 dollars Distribution by sector Sector 140: 40 percent Sector 141: 36 percent Sector 142: 24 percent
Technology	Same as base case.	Advances that permit complex procedures to be performed on an outpatient basis continue, facilitating shift in delivery of services to nonhospital settings.	Same as base case.
	Technology applied more selectively than in base case.	Advances in diagnostic and treatment techniques continue, fostering greater service intensity (more tests and procedures per patient).	Service intensity somewhat greater than in base case.
	Diffusion of high-cost technologies constrained by restrictive reimbursement policies and hospitals' difficulty in raising capital. Widespread application of technologies that reduce resource utilization.	Rapid diffusion of high-cost technologies continues. Greater effort to develop technologies that reduce resource utilization.	Diffusion of high-cost technologies more rapid than in base case.
Reimbursement	Stringent reimbursement policies established for physician services.	Some tightening of reimbursement for physician services.	Less tightening of reimbursement for physician services than in the base case.
	Stringent constraints imposed on reimbursement for hospital services. Together with HMO expansion, these contribute to reduced demand for inpatient hospital care.	Continued constraints on reimbursement for hospital services, whether through prospective payment or other methods.	Fewer constraints on reimbursement for hospital services than in the base case.
	Stringent constraints on medicare, medicaid, and other third-party reimbursement for nursing home and home health services.	Some added constraints on medicare, medicaid, and other third-party reimbursement for nursing home and home health services.	Fewer constraints on third-party reimbursement for nursing home and home health services than in the base case.
Delivery system:			
Systemwide	Same as base case.	Shift from inpatient to outpatient care continues.	Same as base case.
	Substantial shift away from fee-for-service medicine. HMO's and nonphysician providers account for larger share of office visits for primary care than in the base case.	Moderate shift from fee-for-service medicine to managed care, chiefly because of HMO growth.	Limited shift from fee-for-service medicine to managed care, reflecting slower HMO growth than in base case.

Exhibit 1. Continued—Assumptions underlying various projection scenarios

Factor	Assumptions		
	Low scenario	Base case	High scenario
Delivery system: —continued			
Systemwide	Same as base case.	Some shift in demand for primary care from physicians to other practitioners because of consumer cost sharing and decision making. Contributing factors include wellness and fitness movement; acceptance of nonphysician providers including nurse practitioners, podiatrists, and chiropractors; greater personal responsibility for health, including treatment options.	Same as base case.
	Less increase in demand for elective or nonemergency health services than in the base case.	Moderate increase in demand for health services of an elective or nonemergency nature, such as dental, vision, mental health, counseling, and nutritional services.	Much greater demand for elective or nonemergency services than in the base case because of consumer preference plus changes in insurance coverage and out-of-pocket spending.
	Same as base case.	Nusing home remains principal site for formal long-term care, despite strong growth of home health and community-based programs.	Same as base case.
Hospitals	Occupancy declines sharply, largely because of widespread HMO enrollments and practice patterns that limit hospitalization of HMO subscribers.	Occupancy continues to trend down moderately, then levels out.	Occupancy rises, reflecting less stringent controls on admissions and lengths of stay by HMO's, insurance plans, employers, and other payers.
	Hospitals emphasize inpatient care. Diversification and expansion into outpatient and community-based services and programs inhibited by severe problems in capital formation. Inability to compensate for reduced demand for inpatient care forces some hospitals to cut back or close altogether.	Hospitals provide mix of inpatient and outpatient care. Diversify and expand into nontraditional areas including home health, hospice, nursing home, rehabilitation, alcohol treatment, occupational health and employee assistance, health promotion and wellness, birthing centers, and outpatient surgery. Addition of new services enables hospitals to compensate in part for reduced demand for inpatient care.	Hospitals provide mix of inpatient and outpatient care, and many offer such amenities as luxury suites and gourmet meals. Diversify and expand into nontraditional areas of patient care. Acceleration of trend toward specialization, joint ventures, multihospital networks. Hospitals compete effectively with other providers for outpatients and new sources of revenue.
	Same as base case.	Techniques for managing patient flow, monitoring physician practice patterns, and achieving staffing efficiences are implemented.	Same as base case.
Nursing homes	Bed supply severely constrained by certificate-of-need regulations and investor uncertainties about the nursing home market.	Bed supply increases as certificate-of-need constraints are lifted and investors take a more favorable view of industry profitability.	Bed supply increases substantially as investors take a favorable view of private pay patients' ability to support such expansion.

Exhibit 1. Continued—Assumptions underlying various projection scenarios

Factor	Assumptions		
	Low scenario	Base case	High scenario
Delivery system: —continued			
Physicians	Fee-for-service medicine diminishes in importance. Greater standardization of medical practice as physician services predominantly provided through formal organizations or managed care systems such as HMO's, which establish guidelines for ordering of tests, procedures, and hospital stays.	Fee-for-service medicine continues to predominate despite HMO expansion and growth in preferred provider arrangements.	Fee-for-service medicine flourishes. HMO expansion and growth in preferred provider arrangements is less than in the base case.
Staffing:			
Offices of physicians	Same as base case.	Trends toward group practice, advances in technology, and increased case-mix complexity assumed to produce larger and more diverse medical office staffs. As more nurses, clinical laboratory personnel, radiologic technologists, medical assistants, and others hired to assist with tests and procedures, job growth for clinical support staff expected to outpace that for physicians, and for the industry as a whole.	Same as base case.
	Same as base case.	Office automation, plus availability of software tailored for medical office use, assumed to generate productivity gains and somewhat slower job growth for secretaries, typists, and other clerical staff than for the industry as a whole.	Same as base case.
Offices of dentists	Same as base case.	Little change in use of hygienists, assistants, auxiliary personnel. Trend toward group practice and retail dentistry helps sustain widespread utilization of dental auxiliaries.	Same as base case.
Offices of other health practitioners	Same as base case.	Staffing patterns remain relatively stable because establishment size is assumed to stay small. Among practitioners, job growth assumed to be very rapid in fields where public and professional acceptance of private practice, and lifting of legal and reimbursement restrictions, is most recent. More moderate growth among established practitioners including chiropractors, optometrists, and podiatrists.	Same as base case.

Exhibit 1. Continued—Assumptions underlying various projection scenarios

Factor	Assumptions		
	Low scenario	Base case	High scenario
Staffing: —continued			
Nursing homes	Same as base case.	Efforts to streamline operations assumed to result in joint purchasing and other shared services; more use of computers in clinical, financial, and administrative areas; and smaller proportion of staff in clerical, food service, and housekeeping jobs.	Same as base case.
	Same as base case.	Case-mix assumed to include larger proportion of severely impaired patients, notably Alzheimer's and other chronic "heavy-care" patients, necessitating larger nursing staff.	Same as base case.
	Same as base case.	Increased number of posthospital patients requiring nasogastric feeding, ventilator support, and other advanced nursing skills assumed to produce somewhat greater use of licensed nurses.	Same as base case.
			Greater reliance on private pay patients than in the base case assumed to produce staff changes aimed at extending range of services and improving quality of care; more professionals on staff, notably RN's and LPN's, therapists, physicians, pharmacists, social workers, and activity directors.
Hospitals	Same as base case.	Emphasis on management techniques to schedule patients, procedures, and staff; automated systems to handle clinical, financial, and administrative records; contract services in areas including food service, housekeeping, and clinical laboratory; shared service arrangements in purchasing, laundry, materials warehousing, and computer support.	Same as base case.
	Same as base case.	Larger proportion of hospital staff in professional, managerial, and clinical jobs; fewer in clerical, cleaning and housekeeping, protective service, and other support occupations.	Same as base case.

Exhibit 1. Continued—Assumptions underlying various projection scenarios

Factor	Assumptions		
	Low scenario	Base case	High scenario
Hospitals —continued		Emphasis on identifying new markets and adding new programs and services assumed to contribute to larger proportion of social workers, registered nurses, and therapists; more marketing and public relations specialists as well.	Same as base case.
	Same as base case.	Changes in mix of nursing staff: substantially greater use of RN's, less reliance on licensed practical nurses and aides.	Same as base case.

whether in the form of "little ticket items" such as laboratory tests and X-rays, or costly high-tech procedures such as coronary bypass surgery or magnetic resonance scans. Despite recent changes, fee schedules continue to reward physicians more generously for performing tests and procedures than for providing "cognitive services" such as asking questions, listening, and counseling. Extensive ordering of tests and procedures has traditionally been covered by health insurance, contributing to the increasing diffusion of both old and new technologies.[6]

In addition to the role of insurance, other elements have contributed to health sector expansion. Among them are population growth; rising personal and family incomes; public policies designed to support medical research and expand the supply of health care facilities and personnel; advances in scientific knowledge that result in medical intervention for conditions previously undiagnosed or regarded as untreatable; technological developments that foster the use of sophisticated and expensive medical equipment; and practice patterns that encourage referral to medical specialists and extensive use of costly, high-tech procedures.

Historically, only a small share of total increases in health care outlays can be attributed directly to population aging. But in the future, upward shifts in the age structure are expected to have an effect on health care outlays, particularly those for inpatient hospital and nursing home care.[7] Potential implications of projected growth in the elderly population for health services demand are discussed later, in the section on alternative scenarios.

Output trends. Historical data on the real value of industry output underscore the dramatic expansion of the health sector over the past 25 years. Table 2 documents year-to-year changes since 1960 in the real value of industry output for the total private economy and for the health sector as defined in the BLS economic growth model.[8] In the economic growth system, output is measured as gross domestic output or duplicated output. Health sector output includes total expenditures for products and services of physicians, dentists, and other practitioners such as chiropractors and podiatrists; expenditures for care in private hospitals and nursing homes; purchases of medical and dental laboratory services; premiums paid to health maintenance organizations; and expenditures for services delivered by home health agencies and outpatient care facilities.[9]

Since 1960, growth in health sector output has been sizable and relatively stable compared with total output growth. Despite price increases that have been much higher than the average for the economy as a whole, the health

Table 2. Output, health sector and total private economy, 1960–84

Year	Output				Health sector output as a percent of total output
	Total private economy		Health sector[1]		
	Millions of 1977 dollars	Annual percent change	Millions of 1977 dollars	Annual percent change	
1960	$1,910,951	–	$ 38,021	–	2.0
1961	1,948,379	1.96	39,365	3.5	2.0
1962	2,051,418	5.29	41,893	6.4	2.0
1963	2,150,199	4.82	44,067	5.2	2.1
1964	2,251,433	4.71	49,083	11.3	2.2
1965	2,238,384	5.91	51,133	4.2	2.1
1966	2,510,818	5.30	53,390	4.4	2.1
1967	2,570,789	2.39	57,528	7.8	2.2
1968	2,693,748	4.74	62,113	8.0	2.3
1969	2,776,735	3.08	66,931	7.8	2.4
1970	2,753,283	−0.84	72,427	8.2	2.6
1971	2,847,304	3.41	77,767	7.4	2.7
1972	3,037,923	6.69	82,794	6.5	2.7
1973	3,204,583	5.49	89,058	7.6	2.8
1974	3,161,930	−1.33	91,542	2.8	2.9
1975	3,051,044	−3.51	98,573	7.7	3.2
1976	3,281,891	7.57	102,839	4.3	3.1
1977	3,455,167	5.31	108,136	5.2	3.1
1978	3,620,496	4.78	112,865	4.4	3.1
1979	3,733,089	3.11	116,825	3.6	3.1
1980	3,640,248	−2.49	121,843	4.2	3.3
1981	3,698,255	1.59	126,304	3.7	3.5
1982	3,574,329	−3.35	130,462	3.3	3.6
1983	3,748,177	4.86	134,826	3.3	3.6
1984	4,085,312	8.99	141,174	4.7	3.5

[1] Economic growth sectors 140 (Doctors' and dentists' offices), 141 (Hospitals), and 142 (Medical services, not elsewhere classified). Data include veterinary services, exclude offices of optometrists.

sector averaged a 5.6-percent annual gain in real output during 1960–84, compared with a 3.3-percent rise in real GNP. Increases in health sector output were greatest in the decade following the 1965 enactment of medicare and medicaid, averaging 7.2 percent a year from 1965 to 1973.

Faster growth in health output than in total private output is responsible for the increasing ratio depicted in chart 1. From 2.0 percent in 1960, the health sector's share of total real output climbed to 3.6 percent in 1982. The drop to 3.5 percent in 1984 shows the effect on this statistic of a vigorously rebounding economy.

Employment trends. Along with a rise in demand for the output of the health sector, employment has grown at a very rapid pace. Health sector employment averaged 5.9-percent annual growth during 1960–84—nearly three times the rate of job growth for the private economy as a whole. Almost 32 million new wage and salary jobs were created in the private economy and of these, nearly 4.6 million or 14 percent, were health sector jobs. Health sector employment has exhibited a remarkably stable pattern of growth for more than two decades, as table 3 shows, and annual gains have consistently outstripped those posted for the total economy. Only twice in the 25 years has job growth in health failed to outpace economywide growth—in 1978 and again in 1984. The health sector's share of wage and salary employment in the private economy has more than doubled as a result, rising from 3.1 to 7.4 percent between 1960 and 1984.

Hospitals have dominated the health care system for decades. From a technological perspective, inpatient hospital care is the cornerstone of our system for delivering complex, acute care services. The hospital is the "workshop" for most physicians and the place where most health professionals receive their clinical training. From an employment perspective, hospitals hire the majority of health industry workers (4.1 of 7.2 million in 1984) and provided more than 40 percent of the 2.8 million new jobs created in the industry between 1972 and 1984. (See table 4.)[10]

From 1972–1982, hospitals posted an average annual job gain of 3.6 percent. During this period, outpatient and clinic care grew—restraining demand for inpatient services—and "service intensity" replaced bed capacity as the driving force behind industry expansion. Service intensity refers to the quantity and complexity of services provided per admission. For example, a cancer patient may require 19 lab tests, 18 pharmacy prescriptions, 3 radiology procedures, and 1 surgical procedure per admission. Contributing to the growth in hospital service intensity throughout the 1970's were the quickening pace of technological advance, changes in treatment approach, and comprehensive insurance coverage coupled with widespread use of cost-based reimbursement.

Gains in the number of tests and procedures per admission more than offset the slowdown in inpatient days during the 1970's, a slowdown caused by shorter hospital stays and growing substitution of outpatient for inpatient services. Outpatient visits to community hospitals rose by 21 percent between 1973 and 1983, compared with a 14-percent increase in inpatient admissions.[11] Hospital employment grew 38 percent over the same period, largely because of significant growth in laboratory, diagnostic, surgical, and other services rendered per patient day.

Table 3. Employment, health sector and total private economy, 1960–84

Year	Wage and salary employment				Health sector employment as a percent of total private employment
	Total private economy		Health sectors[1]		
	Employment in thousands	Annual percent change	Employment in thousands	Annual percent change	
1960	50,785	–	1,568	–	3.1
1961	50,410	−0.74	1,660	5.9	3.3
1962	51,410	2.19	1,760	6.0	3.4
1963	52,318	1.56	1,857	5.5	3.5
1964	53,534	2.32	1,983	6.8	3.7
1965	55,390	3.47	2,100	5.9	3.8
1966	57,677	4.13	2,225	6.0	3.9
1967	58,939	2.19	2,454	10.3	4.2
1968	60,550	2.73	2,659	8.4	4.4
1969	62,513	3.24	2,883	8.4	4.6
1970	62,583	0.11	3,071	6.6	4.9
1971	62,539	−0.07	3,254	6.0	5.2
1972	64,507	3.15	3,417	5.0	5.3
1973	67,160	4.14	3,648	6.8	5.4
1974	68,235	1.57	3,896	6.8	5.7
1975	66,317	−2.81	4,144	6.4	6.2
1976	68,587	3.42	4,364	5.3	6.4
1977	71,438	4.16	4,599	5.4	6.4
1978	75,207	5.28	4,808	4.5	6.4
1979	77,971	3.68	5,013	4.3	6.4
1980	78,176	0.26	5,302	5.8	6.8
1981	79,173	1.28	5,596	5.5	7.1
1982	77,849	−1.67	5,846	4.5	7.5
1983	78,500	0.84	6,025	3.1	7.7
1984	82,593	5.21	6,141	1.9	7.4

[1] Economic growth sectors 140 (Doctors' and dentists' offices), 141 (Hospitals), and 142 (Medical services, not elsewhere classified). Data include veterinary services, exclude offices of optometrists.

Employment in offices of physicians and osteopathic physicians rose more than twice as fast as hospital employment during 1972–84. Among the factors contributing to rapid growth over the entire period were substantial increases in the supply of practitioners, widespread insurance coverage for medical and surgical care, greater service intensity, technological developments that permitted substitution of ambulatory services for inpatient hospital care, and emphasis on the use of nurses, medical assistants, and other support staff to extend the physician's productivity. The aging of the population also contributed to job growth inasmuch as both the number of physician visits per capita and intensity of services per visit are relatively higher for the elderly. Some of the growth registered in offices of physicians and osteopathic physicians is a statistical artifact, a consequence of practitioners' increasing propensity to incorporate for tax and other business reasons. The resultant shift in class-of-worker status (from self-employed practitioners, who are not included in these employment estimates, to wage and salary workers, who are) affects the trend data displayed in table 4. However, it is impossible to quantify the impact of this factor on industry growth. Physicians currently account for approximately 19 percent of wage and salary employment in offices of physicians and a somewhat smaller percentage of employment in offices of osteopathic physicians.

Historically, employment has risen much faster in nursing and personal care homes than in hospitals. Increased medicaid coverage for nursing home care, State policies of transferring patients from mental hospitals to nursing homes, growth in real incomes, and an aging population help explain the very rapid rise in the industry's employment during the early 1970's.[12] Nursing home employment increased at an average annual rate of 7.8 percent from 1972 to 1977, then slowed as numerous States imposed controls on nursing home construction and otherwise sought to limit medicaid outlays. Additions to nursing home capacity have not kept up with population growth in recent years, and the disparity may grow, according to industry observers. Together with low medicaid reimbursement rates in many States, changes in tax laws have made nursing home construction less attractive to investors.

There has been little change in recent years in the way nursing home care is financed: about half of the money comes from patients and their families, and the rest comes from public programs, of which medicaid is by far the most important. Because additional nursing home beds may generate higher levels of medicaid spending, States have an interest in curtailing growth. Some have done so by cutting reimbursement, implementing stringent certificate-of-need policies, and instituting moratoria on new nursing home construction.[13]

Changes in the industry's structure have occurred since Federal subsidies for nursing home care began in 1956, under the Old Age Assistance program. Changes include an increasingly sophisticated medical orientation in nursing home care, a shift from government-owned to proprietary homes, and, more recently, a growing concentration of ownership in multifacility chains. The more sophisticated medical orientation reflects medicaid requirements for covered care, and State as well as Federal efforts to improve quality by enforcing staffing standards. Both skilled and intermediate levels of medicaid-covered care require more nursing involvement than the small old-age homes from which the industry evolved.[14]

The increasing professionalism of nursing home care, over the decade of the 1970's, produced an increase in staff-patient ratios. These ratios interact with the bed supply (that is, number of residents) to determine the rate of employment growth. According to the National Center for Health Statistics, the number of full-time equivalent employees in facilities with 25 beds or more increased 98 percent from 1969 to 1980, while the number of nursing

Chart 1. Health sector output as a percentage of total private output, 1960-1984, and projected 1985

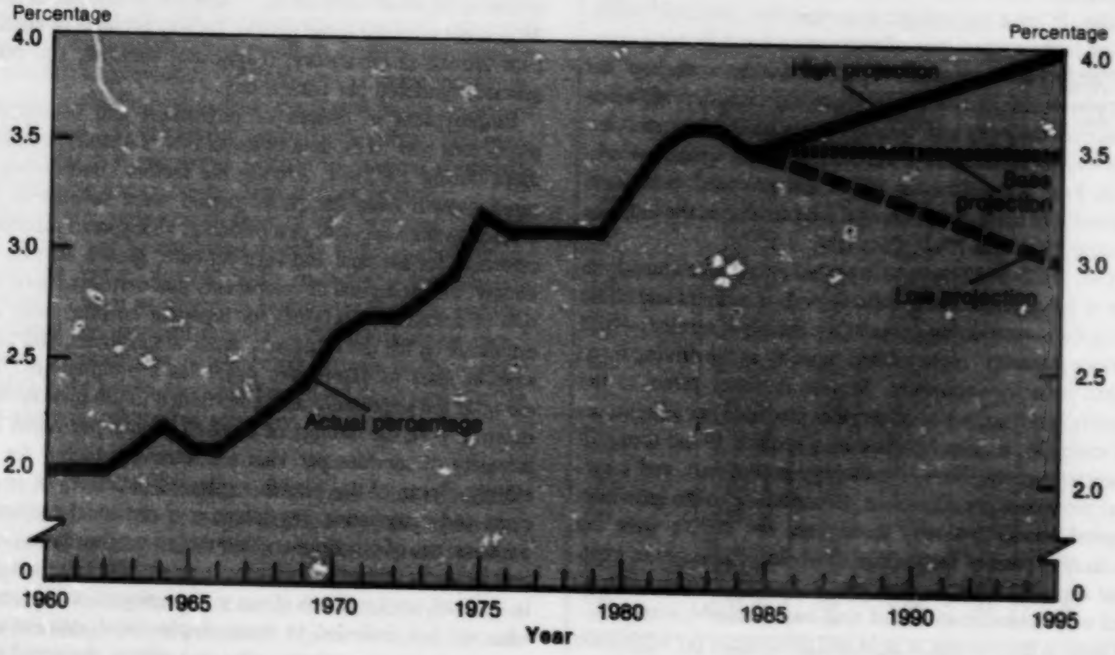


Table 4. Wage and salary employment in the health services industry, 1972–84

[Employment in thousands]

Year	Total, all health industries	Offices of physicians	Offices of dentists	Offices of osteopaths[2]	Offices of other practitioners[2]	Nursing and personal care facilities	Hospitals[1]	Medical and dental laboratories	Outpatient care facilities	Health and allied services, not elsewhere classified[2]
1972	4,338.1	448.1	189.3	13.4	44.6	591.2	2,906.4	69.6	48.8	27.6
1973	4,580.3	497.5	208.3	14.9	50.5	659.0	3,000.8	75.4	54.6	31.4
1974	4,883.0	543.3	227.4	15.9	56.0	706.1	3,126.4	79.5	61.0	35.4
1975	5,125.5	580.5	247.4	16.7	60.2	759.3	3,265.4	84.2	70.4	41.3
1976	5,380.5	613.7	268.2	18.1	64.6	809.1	3,373.3	89.9	78.9	46.7
1977	5,615.7	645.9	286.6	19.8	70.9	860.0	3,497.0	93.5	88.9	53.2
1978	5,867.1	680.6	302.3	21.2	78.5	910.6	3,613.7	98.1	100.4	60.8
1979	6,101.1	716.8	322.0	22.8	88.0	950.6	3,716.7	102.2	113.0	69.0
1980	6,411.5	750.0	341.3	24.1	96.4	986.6	3,883.7	104.7	132.7	81.8
1981	6,699.2	786.8	358.9	25.1	108.9	1,028.9	4,041.2	107.5	149.2	91.7
1982	6,941.1	825.0	383.9	26.7	121.0	1,067.1	4,143.8	109.5	160.4	103.7
1983	7,103.8	867.2	408.7	28.0	134.6	1,106.6	4,151.5	111.6	171.9	125.1
1984	7,188.7	907.5	425.7	29.8	148.1	1,144.6	4,078.1	113.2	190.7	151.0
	Average annual rate of change (in percent)									
1972–77	6.7	7.6	8.6	8.1	9.7	7.8	3.8	6.1	12.7	13.9
1977–82	4.3	5.0	8.2	6.2	11.3	4.4	3.5	3.2	12.5	14.3
1982–84	1.8	4.9	5.3	5.6	10.6	3.6	−0.1	1.7	9.0	20.7
1972–84	4.3	6.	7.0	6.9	10.5	5.7	2.9	4.1	12.0	15.1

[1] SIC 806 plus State and local government hospitals. Data exclude Federal Government hospitals.

[2] Unpublished BLS data.

NOTE: "Unpublished data" do not meet publication standards for accuracy and reliability and therefore are not official BLS estimates.

home residents rose by 75 percent. The number of full-time equivalent employees per 100 beds rose from 55.0 in 1969 to 62.9 in 1980.[15] However, the overall increase in the staff-to-bed ratio masks significant variation among facilities. Staffing ratios vary according to such factors as degree of illness, payment source, facility size, certification, ownership, and commitment to quality care.

Three industries experienced exceptionally rapid job growth over the 1972–84 period. The industries and their average annual employment gains are as follows: offices of other health practitioners (10 percent), outpatient care facilities (12 percent), and health and allied services, not elsewhere classified (15 percent).

Offices of other health practitioners is a diverse industry that includes a wide variety of health professionals in solo or group practice: chiropractors, optometrists, podiatrists, nurse practitioners, midwives, physical therapists, occupational therapists, speech pathologists and audiologists, dietitians and nutritionists, social workers, and psychologists. No less diverse is the outpatient care facilities industry, which includes HMO's, community mental health centers, family planning clinics, urgent care centers, outpatient surgical centers, birthing centers, and freestanding hospices. Health and allied services, not elsewhere classified, is a relatively homogeneous industry, comprising home health agencies and blood banks.

Job growth in these settings is consistent with steadily increasing acceptance of nonphysician providers, together with the gradual shift away from the hospital as the exclusive site of complex health care. Throughout the decade of the 1970's, ambulatory care alternatives became more important. Technological developments made it possible to provide increasingly sophisticated care on an outpatient basis, while changes in insurance coverage and benefits made such care financially attractive to health care consumers. The pace of the shift from inpatient to outpatient care has accelerated dramatically in recent years because of the emphasis on providing cost-effective health services.

Recent developments

Increased public and private sector emphasis on health care cost containment is the most important development in recent years. Health economists and policymakers had long been concerned about rapidly rising health care expenditures, but it was not until the early 1980's that the combined impact of inflation, recession, soaring outlays for employee health benefits, threatened medicare insolvency, and State fiscal crises produced significant action by business, labor, and government. The hospital payment system mandated by the Social Security Amendments of 1983, medicare's prospective payment legislation, is the leading example of such action.

Medicare's system links payment for hospital inpatient services to rates for each of 467 diagnosis-related groups (DRG's). Hospitals know in advance how much medicare will pay for the treatment of a patient with a particular diagnosis. Under the previous cost-based retrospective system, hospitals were reimbursed for whatever they spent. Because hospitals now bear the loss if the cost of treatment exceeds the fixed medicare payment, it is in their interest to be selective about the patients they admit, scrutinize tests and procedures, discharge patients as soon as possible, and encourage greater use of outpatient services. Not surprisingly, hospitals have responded to the new system with programs for managing admissions and patient flow, monitoring physician practice patterns, and controlling operating costs.

Cost containment initiatives figure prominently among the reasons for a recent decline in hospital employment. Average annual employment in private, State, and local government hospitals stood at 4,040,900 in 1985, 110,600 fewer jobs than in the peak year of 1983. More than 73,000 hospital jobs disappeared in 1984, and 37,000 more in 1985. While no single factor can fully explain the loss of hospital jobs, management initiatives to reduce labor costs (about 50 percent of community hospitals' operating budgets) through such belt-tightening measures as staff cuts, hiring freezes, greater use of part-time and on-call staff, and a shift to contract services are partly responsible. However, a drop in hospital utilization—notably inpatient admissions, staffed beds, and length of stay—is the underlying factor.

Data from the American Hospital Association indicate a shift in utilization since the beginning of 1983: shorter hospital stays by elderly patients and a sharp decline in admissions of patients under age 65.[16] The average length-of-stay of patients age 65 and above fell from 11.1 to 10.1 days between 1977 and 1982, then dropped to 8.8 days at the end of 1984. Shorter hospital stays for elderly patients appear to be the direct result of incentives to hospitals in the DRG system, although technology and changing medical practices may be responsible as well. The use of lasers, for example, has reduced recovery periods and lengths-of-stay for certain types of eye surgery. The availability of advanced techniques for delivering antibiotic and nutrition therapy at home may also speed discharge.

The reasons for falling admissions of patients under age 65 are not well understood.[17] The most likely causes are utilization review and the expanded use of consumer cost-sharing features built into employee benefit plans, improved health insurance coverage for ambulatory care and the growth of alternative care settings, increased public awareness of the importance of avoiding hospitalization when possible, plus reduced access to care for the poor. Limitations on medicaid program eligibility and increased financial barriers to serving the uninsured may be holding down hospital use by these groups.[18] In addition, economic weakness in regions with heavy concentrations of industries experiencing poor recovery may be an element.[19]

Hospitals confronted with reduced demand for inpatient services have begun to develop a business strategy[20] that emphasizes joint ventures, mergers, specialization, and introduction of new programs and services. Home health care is the alternative service offered by more hospitals than any other, according to several recent surveys.[21] Other services being implemented by hospital administrators include hospice care, nursing home units, rehabilitation, alcohol treatment, occupational health and employee assistance, birthing centers, outpatient surgery, cancer screening, and geriatric assessment. A number of hospitals have set up wellness and fitness centers that offer medical and physiological testing, assessment of lifestyle-related health risks, health education, and sports medicine.

Other changes, too, are occurring in the health care environment. One of the most striking is the rise in HMO enrollments, up from 10 to 21 million subscribers between 1981 and 1985.[22] Industry observers expect continued rapid growth. There is a wide range of opinion on the extent to which HMO's will penetrate traditional health care markets (many analysts expect HMO enrollment to peak at 30 to 35 million by 1995, but some estimates are considerably higher).

HMO's are prepaid health insurance plans designed to deliver affordable and comprehensive medical services to enrolled members. Starting from the premise that physicians govern a substantial portion of total health spending by virtue of their authority to hospitalize, order batteries of tests, and so forth, HMO's and other systems of "managed care" seek to control utilization by influencing physicians' ordering behavior. Comparative studies have found that HMO enrollees pay 10 to 40 percent less than those enrolled in fee-for-service health insurance plans. In addition, the hospitalization rate for people enrolled in HMO's is considerably below the rate for those enrolled in traditional fee-for-service plans. This is attributed to HMO emphasis on preventive health care, broad ambulatory coverage, multispecialty staff, and risk-sharing by HMO physicians, who are offered incentives to reduce unnecessary hospitalization.

There are three types of HMO's. The first, called a "staff model" HMO, delivers medical services at one location or more, using physicians directly employed by the organization. The second kind, known as an "individual practice association" (IPA), makes contractual arrangements with doctors in private practice who treat HMO members in their own offices. The third, the "group" or "network" HMO, involves contractual arrangements between the HMO and two group medical practices or more.

Long-term care constitutes the third major area of change in recent years. Heightened awareness of the "greying" of America has focused attention on the distinctive needs of individuals who are disabled, chronically ill, or functionally impaired. By no means are all of these people elderly. Nonetheless, the need for long-term care services is strongly associated with age. Elderly persons, by virtue of their high risk of disabling conditions, are the primary recipients of long-term care services, whether formal or informal. In recent years, both the number and proportion of the population 65 and older have increased significantly (table 5), a demographic trend of major proportions that will continue well into the next century. Within the 1984–95 timeframe that is the focus of this article, projected growth in the number of persons 85 and above merits special attention because of the implications for long-term care, in general, and for the nursing home sector in particular.

At advanced ages, there is a high risk of chronic disease, limitations in mobility and ability to perform everyday activities, and the loss of spouse or other family helpers. The following tabulation, based on 1977 data,[23] reveals the sharp increase in nursing home use after age 85:

	Percent of age group residing in nursing homes	
	Men	*Women*
All age groups	0.4	0.8
Under 65 years	0.1	0.1
65 years and over	3.0	5.9
65 to 74 years	1.3	1.6
75 to 84 years	4.0	7.6
85 and over	17.8	26.2

Utilization rates that take marital status into account underscore the role of informal social supports in precipitating institutionalization, on the one hand, or delaying it, on the other. Elderly people with serious health problems are more likely to enter a nursing home if they are widowed or single than if they are married. Further, it appears that substantially greater use of nursing homes by women than by men is not simply because of women's greater longevity, but also reflects their greater likelihood of becoming widowed.

Traditional health and social service providers have begun to modify their programs to respond more effectively to the service needs of the elderly. Many hospitals, for example, regard the elderly as a market opportunity and are expanding their home health and community outreach programs accordingly.[24] Family service agencies, too, are revamping their offerings as clients' needs change. A broad range of long-term care initiatives has been launched in recent years, many with foundation support or on a demonstration basis. Most of these seek to improve community-based services, strengthening the network of formal and informal care givers whose services permit people with disabilities to remain at home. Community-based long-term care is likely to play a more prominent role in 1995 than it does today, because of consumer preference and provider flexibility. However, the potential impact on the nursing home industry is difficult to assess, for it is unclear to what extent community-based care complements, rather than substitutes for, institutional care.

Table 5. Growth of the older population, actual and projected, 1950–95

[In thousands]

Age group	1950	1960	1970	1980	1984	1990	1995
All ages	150,697	179,323	203,302	226,505	236,416	249,657	259,559
Under 65	138,427	162,763	183,322	200,960	208,431	217,960	225,672
65 years and over	12,270	16,560	19,980	25,545	27,985	31,697	33,887
65–74 years	8,415	10,997	12,447	15,578	16,596	18,035	18,503
75–84 years	3,278	4,633	6,124	7,727	8,793	10,349	11,311
85 years and over	577	929	1,409	2,240	2,596	3,313	4,073
	Percent distribution						
All ages	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 65	91.9	90.8	90.2	88.7	88.2	87.3	86.9
65 years and over	8.1	9.2	9.8	11.3	11.3	12.7	13.1
65–74 years	5.6	6.1	6.1	6.9	7.0	7.2	7.1
75–84 years	2.2	2.6	3.0	3.4	3.7	4.1	4.4
85 years and over	.4	.5	.7	1.0	1.1	1.3	1.6

NOTE: 1950–80 are decennial census data; 1984–95 are middle-series estimates and projections as of July 1.

SOURCE: U.S. Bureau of the Census.

Alternative scenarios

The size and structure of the health industry in 1995 will be shaped by events that are still unfolding. Despite considerable uncertainty about the future, a number of relevant factors can be identified and assessed. This section begins with a discussion of three such factors: the impact on overall demand for health services of HMO expansion and changes in physician reimbursement; prospects for hospital utilization; and directions in long-term care financing. Qualitative assumptions consistent with each of three growth scenarios (low, base, and high) are presented in exhibit 1. The section then explains how the growth scenarios were translated into alternative projections of health industry employment in 1995.

A shift from traditional, fee-for-service medicine to systems of managed care is underway. Indicative of this trend are the emergence and very rapid growth of such organizations as HMO's, IPA's, preferred provider arrangements, and medicaid "gatekeeping" schemes in which primary-care physicians control referral to specialists. Systems such as these limit consumer choice and set guidelines for physicians and other practitioners in order to gain greater control over service utilization—for example, lab tests, X-rays, and hospital admissions. According to one estimate, patient use of traditional fee-for-service medicine, an estimated 94 percent in 1982, could drop to 70 percent by 1987.[25] Depending on the extent to which managed care systems replace fee-for-service medicine by 1995, practice patterns, establishment size, and staffing in offices of physicians could change. Furthermore, the shift to managed care may reduce future demand for hospital care. It is generally agreed that the fee-for-service method of paying physicians encourages more hospitalization and greater use of tests and procedures.

Much will depend on future developments in health care financing, including changes in reimbursement patterns and regulation of physicians' fees. Reform of the medicare payment system for physician services lies ahead, with extension of prospective payment to physicians being one of a number of options under consideration. Each of the three growth scenarios embodies a different set of assumptions about the future role of fee-for-service medicine, on the one hand, and constraints on physician reimbursement, on the other. (See exhibit 1.)

As noted, hospital utilization is down sharply, according to such standard measures as admissions, inpatient days, and average length of stay. Recent reductions in hospital use are attributed to rising HMO enrollments, greater consumer cost sharing, and stricter utilization review procedures, as well as to medicare's prospective payment system. However, whether the decline will continue over the long run is questionable.[26] For one thing, technological progress could lead to greater—rather than less—hospitalization as medical possibilities are enhanced.

The aging of the population will put pressure on demand for hospital care during the next 10 years unless health status, practice patterns, or both, change a great deal. Hospital use is significantly greater for the elderly than for persons under 65; elderly people are hospitalized more frequently and stay there longer. In addition, the rapidly growing population 85 years and above uses twice as many hospital days per capita as persons aged 65 to 74 years. One reason for this is the presence of multiple health problems in the very old, which produce much longer hospital stays. Another is a dramatic increase in the number of surgical procedures performed on elderly patients, as technological advances continue to make surgery less risky. The growing importance of outpatient surgery could have a dampening effect on demand for inpatient hospital care, depending on future patterns in outpatient surgery on the elderly.

Also contributing to uncertainty about future trends in hospital use is the issue of length of stay. Recent decreases have been dramatic, but will they continue? We may be approaching the limit for shortening the hospital stays of elderly patients, who account for approximately 40 percent of all hospital days of care. Among patients under 65, the proportion in HMO's—together with hospitalization guidelines adopted by HMO's—will play a significant role in future length-of-stay trends. Because so many factors are at work, the three growth scenarios reflect widely varying assumptions about the level and nature of future demand for hospital care. (See exhibit 1.)

What has been termed the "nursing home dilemma" centers on the conflict between the demographics of population aging, on the one hand, and the economics of the nursing home industry, on the other.[27] The number of people seeking admission to nursing homes can be expected to continue to rise for a number of reasons, but very rapid growth in the population over the age of 85 is the key factor. Americans age 85 or above are projected to number 4.1 million in 1995, up from 2.6 million in 1984, as table 5 shows. This represents a 57-percent gain, markedly faster growth than that projected for any other age group.

The prospect of explosive growth in the population needing long-term care is widely acknowledged, but future directions in financing and service delivery are cloudy. All payers—Federal, State, and private—are reluctant to expand benefits or push for significant improvements in long-term care financing because of concern about "uncontrollable" costs. Uncertainty about the potential costs of community-based long-term care programs, together with concern about increasing expenditures under medicaid and other public programs that currently finance much institutional long-term care, have shifted attention to private sector initiatives that might relieve fiscal pressures on public programs and, at the same time, improve the elderly's ability to finance long-term care. Some of the options that have emerged in recent years as feasible alternatives for financing long-term care include private health insurance, health care Individual Retirement Accounts, life care communities, and home equity conversion.[28]

Interest in private long-term care insurance appears to be mounting.[29] This method of financing long-term care is backed by the American Health Care Association and the American Association of Retired Persons, among others, and many States—faced with mounting medicaid expenditures for nursing home care—are expressing interest in it. Private insurance for long-term care has been suggested not only because of growing fiscal constraints on public program expenditures, but more basically because private insurance coverage is currently available for a wide variety of health care services, but it is generally not available for long-term care services or for the costs associated with chronic illnesses such as Alzheimer's disease. Tremendous growth would be necessary before private long-term care insurance covered a substantial portion of nursing home costs; currently, such insurance pays about 1 percent. However, if significant developments occur in this area it could dramatically alter the long-term care picture in the future.

Underlying the base case, as exhibit 1 shows, is the assumption that demographic pressures will force some resolution of the financing, reimbursement, and certificate-of-need issues that have slowed nursing home growth in recent years. The low scenario assumes that uncertainty will continue to prevail, discouraging investment and putting a brake on industry expansion despite very rapid growth in the elderly population. The high scenario makes relatively optimistic assumptions about public and private spending for institutional long-term care.

Moving from the qualitative assumptions summarized in exhibit 1 to alternative projections of industry and occupational employment was a procedure that encompassed several steps. As the first step, data points above and below the base case level were selected to represent projected output under high and low scenario conditions. The output projections were then used, first in conjunction with the Bureau's input-output model and then with its industry-occupational matrix, to generate alternative projections of wage and salary employment by detailed health industry and occupation. The five steps that make up the projections process are summarized below.

1. Set alternative levels of projected output for the private health sector by projecting the ratio of health sector to total private sector output. The moderate-growth projection (3.5 percent in 1995) was chosen for the base case; data points above (4.0 percent) and below (3.0 percent) the base case were selected to represent the high and low scenarios. This determined the total dollar value

of goods and services that would be produced by practitioners and establishments in the economic growth sectors (doctors' and dentists' offices, hospitals, and medical services, not elsewhere classified) under varying assumptions about health system performance in 1995.

2. Set alternative levels of projected output for each of the three economic growth health sectors by varying the distribution of total health sector output.

3. Derive estimates of projected employment for each of the detailed economic growth sectors. That is, estimate the number of wage and salary workers required to produce the projected level of output established in step 2.

4. Translate projected employment in the economic growth sectors into industries categorized by Standard Industrial Classification and adjust these data to include State and local hospitals and offices of optometrists and exclude veterinary services, so these data conform to the configuration of the National Industry-Occupational Matrix.[30]

5. Convert the industry employment data developed in step 4 into projections of occupational employment by applying staffing patterns consistent with each of the alternative scenarios.

Output and employment

In 1984, services produced by the private health sector were valued at more than $141 billion in constant dollars, or 3.5 percent of the Nation's total private sector output that year. By 1995, under the moderate-growth projections discussed in the November 1985 issue of the *Review*, output for the private economy as a whole is expected to reach $5.6 trillion. The health sector's share is projected to range from $169 billion to $226 billion.

Table 6. Health sector output and employment under alternative projection scenarios, 1984 and projected 1995

Year	Sectors 140–142	Sector 140	Sector 141	Sector 142
	Output (in millions of 1977 dollars)			
1984	$141,174	$58,882	$54,927	$27,365
Projected:				
1995 Low	169,311	79,782	54,927	34,602
1995 Base	199,705	84,591	70,826	44,288
1995 High	225,748	90,298	81,269	54,180
	Average annual rate of change (in percent)			
1984–95 Low	1.7	2.8	0.0	2.2
1984–95 Base	3.2	3.3	2.3	4.5
1984–95 High	4.4	4.0	3.6	6.4
	Employment (in thousands of wage and salary jobs)			
1984	6,141	1,396	2,994	1,751
Projected:				
1995 Low	6,473	1,842	2,441	2,190
1995 Base	8,049	1,972	3,253	2,824
1995 High	9,468	2,125	3,870	3,473
	Average annual rate of change (in percent)			
1984–95 Low	0.5	2.5	−1.9	2.1
1984–95 Base	2.5	3.2	0.8	4.4
1984–95 High	4.0	3.9	2.4	6.4

NOTE: Sector 140 — Doctors' and dentists' offices (SIC 801, 802, 803, 8041)
Sector 141 — Hospitals (SIC 806)
Sector 142 — Medical services, not elsewhere classified (SIC 8049, 805, 807, 808, 809, 074)

Base case. Efforts to constrain spending are expected to dampen rising demand for health services under the assumptions of the base case. As table 6 shows, health sector output is projected to increase at an annual rate of 3.2 percent over 1984–95. This is markedly slower growth than in the past (compound growth rates): 5.6 percent during 1960–80, 4.9 percent over 1970–84, and 3.9 percent, 1977–84. The base case assumes no change between 1984 and 1995 in the share of private sector output generated by the health sector. (See chart 1.) A departure from historical trends, this assumption seems plausible in light of intense cost containment pressures and excess hospital capacity. Wage and salary employment is projected to grow at an annual rate of 2.5 percent under the assumptions of the base case, less than half the rate attained during 1970–84. With labor costs constituting providers' largest single outlay, efforts to achieve efficiencies in a cost-conscious climate are bound to target staff.

Low scenario. The low scenario assumes cost containment measures that alter medical practice patterns; restrictive reimbursement policies, declining admissions, and problems in capital formation for hospitals; and deceleration in the rate of spending for institutional long-term care. Private health sector output is projected to grow at an annual rate of 1.7 percent, roughly one-third the rate posted during 1970–84. The output of the health sector is assumed to decline as a percentage of total private sector output. A decline in this statistic is unprecedented. Wage and salary employment in the health sector is projected to grow at an annual rate of only 0.5 percent over the 1984–95 period under the low scenario.

High scenario. Output of the private health sector is projected to grow at an annual rate of 4.4 percent under the high-scenario assumptions, about the rate attained during the latter half of the 1970's. From a 1984 level of 3.5 percent of private sector output, health sector output is projected to reach 4.0 percent by 1995, continuing the long-term upward trend, but at a slower rate than in the past.

Compared with the base and low scenarios, the high scenario offers a more optimistic picture of prospects for hospital sector expansion. In addition, it assumes exceptionally rapid growth of the nursing home and home health industries because of significantly increased spending for long-term care. (See exhibit 1.) Wage and salary employment is projected to grow at an annual rate of 4.0 percent, slightly less than the 4.2-percent rate posted during 1977–84.

Projected 1995 employment in the health industry, under the alternative sets of assumptions summarized in exhibit 1, varies from 7.3 to 10.5 million wage and salary jobs. In each alternative, projected growth is slow by historical standards, as table 1 shows. The projected increase of nearly 1.9 million health industry jobs under the assumptions of the base case represents an annual growth rate of 2.1 percent during 1984–95, less than half the rate posted for 1972–84. The high scenario, which generates approximately 3.3 million new health industry jobs, assumes a rate of growth roughly equivalent to that attained over the 1977–84 period.

Historical patterns of job growth vary greatly across the nine health industries, and this variation carries forward in the projections to 1995. Detailed industry discussions follow.

Offices of physicians (SIC 801). The annual rate of job growth in offices of physicians is projected to outpace the health industry as a whole under all three scenarios, although several other sectors are projected to experience much faster growth. In 1995, wage and salary employment in this industry is projected to range from 1.2 to nearly 1.5 million jobs, a difference of 20 percent between the low and high scenarios. Helping to explain the variation is the low scenario assumption of market penetration by HMO's and the shift to managed care, trends which are expected to dampen demand for medical services. At least partially offsetting the dampening, however, is rapid expansion of IPA and network-type HMO's, which contract with physicians in private practice to provide medical care to their members. Essentially unchanged policies regarding reimbursement for physicians' services is a key assumption of the high scenario.

Offices of dentists (SIC 802). Wage and salary employment in offices of dentists is projected to be roughly the same under all three 1995 scenarios.

Offices of osteopaths (SIC 803). Osteopathic physicians are likely to be affected similarly to other physicians by the assumptions that underlie the alternative scenarios. Employment in this small industry is projected to vary by approximately 26 percent between the low and the high scenarios. Under the base case, 1995 wage and salary employment is projected to reach 44,000, rising from a 1984 level of 30,000.

Offices of other health practitioners (SIC 804). Consumer acceptance of nonphysician providers is so well-established, and the trend toward alternative delivery systems is so strong, that continued rapid expansion is assumed under each scenario, placing offices of other health practitioners in the ranks of the fastest-growing health industries. Wage and salary employment is projected to increase at a rate nearly double that for offices of physicians and osteopaths.

The wide range in projected 1995 employment—a difference of nearly 57 percent between the low and high scenarios—is largely explained by different assumptions about third-party reimbursement. The high scenario assumes more favorable coverage for the services of nonphysician providers than is the case today, for example, more liberal mental health benefits.

Nursing and personal care facilities (SIC 805). Second only to hospitals in employment size, the nursing and personal care sector provided more than 1.1 million wage and salary jobs in 1984. Projected employment in 1995 ranges widely from 1.3 to nearly 2.1 million jobs.

Hospitals (SIC 806 plus State and local government hospitals). From a level of 4.1 million wage and salary jobs in 1984, hospital employment is projected to increase more slowly than average under the base case. Employment is projected to decline sharply in the low scenario, dropping to 3.4 million jobs in 1995. The high scenario paints an entirely different picture: faster than average growth is projected to create 1 million additional hospital jobs over the 1984–95 period.

The base case assumes a downturn in use of inpatient services as occupancy rates slide. Offsetting this is an expansion of outpatient services and diversification into nontraditional areas such as home health. The base case also assumes that hospitals' ability to restructure to take advantage of emerging market opportunities is constrained by problems in raising capital. Limited access to needed capital is an even greater constraint in the low scenario. However, the key assumption of the low scenario is the shift to managed care, which produces stringent controls on hospital utilization by HMO subscribers and others in managed care systems. These assumptions are outlined in exhibit 1.

Medical and dental laboratories (SIC 807). The alternative scenarios sketched here have a limited effect on projected employment in this small industry. The volume of laboratory work ordered by physicians may be affected by changes in reimbursement levels and guidelines, to the extent that testing has been implicated as a source of rising health care costs. However, other factors besides physicians' ordering practices determine how much laboratory work is sent to commercial laboratories for analysis.

Among these are the economics of in-house versus contracted clinical laboratory services for hospitals; advances in medical diagnostics that increase the amount of testing as new tests are developed; changes in case mix—an increase in the number of patients with illnesses that require extensive laboratory workups, for example; and the availability of portable analyzers that can be installed in the physician's office or clinic. The potential impact of further developments in laboratory automation must also be kept in mind. Automation of chemistry and hematology, two of the most labor-intensive functions in the clinical laboratory, is already well-established.[31] Microbiology, immunology, and serology are candidates for widespread automation in the coming decade. Prospects for even greater diffusion of automated systems help explain the very modest growth projected for this industry under all scenarios.

Outpatient care facilities (SIC 808). This small industry includes HMO's, outpatient surgical centers, diagnostic imaging centers, urgent care centers, alcoholism treatment centers, community mental health centers, family planning clinics, and other outpatient facilities. Employment is projected to rise much faster than average under all three scenarios. Under the base scenario, for example, employment is projected to increase at an annual rate of 6.7 percent, more than triple that projected for the health industry as a whole. Exceptionally rapid growth in the base case reflects not only the shift to outpatient care, but the success of providers in this industry sector in capturing much of the market.

Turning to the high scenario, favorable reimbursement policies (expanded coverage for mental health and alcoholism treatment, for example) and higher overall levels of health care spending are expected to contribute to very rapid projected growth. Employment in this industry might be higher still under the high scenario, were it not for the assumption that hospitals will set up a broad range of outpatient services—competing effectively in the outpatient market with freestanding outpatient facilities, on the one hand, and large group medical practices, on the other.

Health and allied services (SIC 809). This rapidly growing industry includes home health agencies and blood banks. It seems reasonable to assume that home health care—not blood banking—is responsible for recent recordbreaking growth in this industry. This assumption is carried forward in each projection scenario. On the one hand, intense pressure on the demand for services provided by home health agencies is expected to persist because of the aging of the population, consumer preference, incentives to discharge hospital patients as soon as possible, and changes in private insurance and medicare coverage that make home health more affordable for patients recovering from acute illnesses. Second, blood banking is ripe for automation. Industry observers anticipate that automated laboratory systems will be used by the early 1990's, with likely displacement of blood bank employees.

The annual rate of employment growth in this industry is projected to outstrip the rest of the health services industry under all three scenarios. According to the base case, employment is projected to double during 1984–95, rising from 151,000 to 315,000 jobs. Increased public and private spending for home health care is a key assumption of the base case. The high scenario assumes an increase in out-of-pocket spending for home health services for patients not eligible for insurance benefits, those with chronic conditions and long-term care needs, for the most part.

Occupational projections

In the National Industry-Occupational Matrix, occupational employment in the target year is determined by projected industry employment, on the one hand, and projected staffing patterns, on the other. To project staffing ratios, first, 1984 staffing patterns ("industry-occupational ratios") for each of the nine matrix health industries were analyzed. This step included comparing the 1984 data with patterns from earlier years and other sources, including the Current Population Survey and the annual American Hospital Association survey. Next, projected 1995 ratios were developed, consistent with the assumptions of the base case about future trends in health care financing and service delivery. For example, this involved judgments about the impact of technology, use of contract services and temporary employees, and trends in professional practice, case mix, and length of stay.

The procedure was repeated under staffing assumptions consistent with both the low and high scenarios. For example, staffing patterns for nursing and personal care facilities were adjusted to reflect the impact of more private-pay patients in the high scenario. Facilities serving these patients would presumably offer more amenities, as well as more intense therapy, nursing, recreational, and social services. Some of these assumptions are presented in exhibit 1.

Next, occupational staffing patterns were applied to the industry totals shown in table 1. This generated three sets of industry-occupational matrices for each of the nine health industries, plus industrywide estimates of 1984 and projected 1995 employment for 200 detailed occupations. Industrywide estimates for selected health occupations are shown in table 7.

A wide range of growth prospects appears when projected growth under each of three alternatives is compared with the average rate of job growth for the economy as a whole, 1.3 percent a year over the 1984–95 period. For example, employment of health services managers, physicians, physician assistants, and medical assistants is projected to grow faster than average even in the low alternative. Except for health services managers, who are dispersed across all nine health industries, these occupations are concentrated largely in offices of physicians and osteopathic physicians, industries that are projected to grow considerably faster than the health services industry as a whole under the low scenario assumptions. In addition, most of these occupations are projected to increase as a proportion of industry employment as HMO's, group medical practices, and other large establishments increasingly dominate medical practice.

Considerable attention has been paid to new job opportunities in ambulatory and outpatient settings including home health programs, health maintenance organizations, urgent care centers, wellness and fitness programs, and life care communities. The alternatives presented here show that in the case of registered nurses, the hospital will remain the major source of employment in 1995, despite the emergence of alternative delivery systems and the expansion of long-term care.

Because recent nursing school graduates are a major source of supply for the profession,[32] nursing education will confront vastly different challenges depending on the rate of industry growth in the decade ahead. The number of new jobs for registered nurses varies widely according to the projection scenario, as table 7 shows. As few as 72,000 additional registered nurse jobs—or as many as 650,000—might be created in the health services industry between 1984 and 1995, depending on the alternative selected. Because supply and demand are roughly in balance in the base case, realization of the high scenario could entail such measures as stepped-up recruiting of inactive nurses, wage incentives, and expansion of training opportunities for nurses. Nursing homes would face a formidable recruiting challenge. Conversely, the sluggish job growth depicted by the low scenario would mean less favorable job prospects in nursing overall, depending on replacement needs and on how rapidly nursing school enrollments responded to an oversupply.

For a number of occupations, the "shrinkage" of the hospital industry under the assumptions of the low scenario would mean an employment decline between 1984 and 1995. Such occupations include licensed practical nurses, nursing aides, psychiatric aides, clinical laboratory technologists and technicians, EKG technicians, respiratory therapists, surgical technicians, social workers, dietitians, dietetic technicians, pharmacists, and recreational therapists. Careful tracking of hospital industry trends is advisable for policy makers and planners concerned with occupations in this group.[33] For if instead of the low scenario, the high-scenario assumptions are realized, prospects are for faster-than-average job growth in many of these occupations. This would require a totally different response from vocational and higher education planners, as well as from industry officials responsible for recruitment and in-service training.

Table 8 depicts projected change in employment for health workers by broad occupational group. Employment in most groups at the lower end of the skill ladder is projected to grow more slowly than the industry average under each of the three alternatives. This continuation of a long-term trend reflects changes in case mix and patterns of patient care, use of contract and shared service arrangements, and widespread application of computers for clinical, financial, and administrative purposes.

Conclusions

Although one can imagine other ways that the next decade may unfold, the three scenarios presented here are representative possibilities. The base scenario assumes that output and employment growth will be somewhat below historical levels, in general because of increased emphasis on cost

Table 7. Wage and salary employment in the health services industry, selected occupations, 1984 and three projected 1995 alternatives

Occupation	Actual 1984 employment	Projected 1995 employment			Average annual rate of change, 1984–95 (in percent)		
		Low	Base	High	Low	Base	High
All occupations	7,188,700	7,325,000	9,054,000	10,535,000	0.2	2.1	3.5
Health services managers	336,204	396,151	482,779	559,382	1.4	3.3	4.7
Psychologists	18,022	19,447	25,060	29,764	0.7	3.0	4.7
Recreation workers	14,431	15,614	20,302	25,618	0.7	3.1	5.4
Social workers	67,187	61,006	82,726	100,819	−0.9	1.9	3.8
Chiropractors	9,371	10,398	12,433	13,989	0.9	2.6	3.7
Dentists	69,513	86,114	90,230	92,956	2.0	2.4	2.7
Dietitians and nutritionists	24,458	23,056	30,875	38,306	−0.6	2.1	4.2
Opticians, dispensing and measuring	16,192	21,364	24,984	28,148	2.6	4.0	5.2
Pharmacists	35,161	32,741	42,025	48,859	−0.7	1.8	3.0
Podiatrists	5,741	6,695	8,020	9,200	1.4	3.1	4.4
Physician assistants	22,077	27,408	31,852	35,961	2.0	3.4	4.5
Physicians	293,407	342,746	394,556	443,843	1.4	2.7	3.8
Registered nurses	1,130,997	1,201,175	1,517,820	1,782,421	0.5	2.7	4.2
Therapists	142,645	144,077	214,798	240,772	0.1	3.8	4.9
Occupational therapists	14,911	15,696	21,326	26,680	0.5	3.3	5.4
Physical therapists	40,648	45,973	61,206	77,233	1.1	3.8	6.0
Recreational therapists	11,665	10,828	14,598	18,365	−0.7	2.1	4.2
Respiratory therapists	54,892	48,639	66,311	82,224	−1.0	1.7	3.7
Speech pathologists and audiologists	11,103	12,214	15,947	19,501	0.9	3.3	5.3
All other therapists	9,426	10,725	14,084	16,769	1.2	3.7	5.4
Dental hygienists	74,037	92,265	95,843	98,088	2.0	2.4	2.6
EKG technicians	17,437	16,319	20,613	23,701	−0.6	1.5	2.8
EEG technicians	5,878	5,632	7,027	8,046	−0.4	1.6	2.9
Licensed practical nurses	485,835	441,787	557,143	673,138	−0.9	1.3	3.0
Clinical laboratory technicians and technologists	210,746	188,746	226,377	257,153	−1.0	0.7	1.8
Dietetic technicians	15,819	14,747	19,057	23,112	−0.6	1.7	3.5
Emergency medical technicians	14,564	12,582	16,122	18,582	−1.2	0.9	2.2
Medical record technicians	29,700	31,128	39,591	46,051	0.4	2.6	4.1
Radiologic technologists	111,026	116,379	138,018	156,873	0.4	2.0	3.2
Surgical technicians	36,284	35,127	41,474	47,753	−0.3	1.2	2.5
Dental assistants	164,241	204,896	213,100	218,368	2.0	2.4	2.6
Medical assistants	121,846	176,456	200,345	226,027	3.4	4.6	5.8
Nursing aides and orderlies	930,366	927,744	1,202,144	1,434,762	−0.1	2.4	4.0
Psychiatric aides	61,882	51,480	66,122	76,499	−1.4	0.6	1.9
Dental laboratory technicians	38,055	44,048	46,892	48,525	1.3	1.9	2.2
Physical, corrective therapy assistants	32,766	32,196	41,923	51,486	−0.2	2.3	4.2

Table 8. Wage and salary employment in the health services industry, by major occupational group, 1984 and three projected 1995 alternatives

Occupational group	Actual 1984 employment	Projected 1995 employment			Average annual rate of change, 1984–95 (in percent)		
		Low	Base	High	Low	Base	High
Total, all occupations	7,188,700	7,325,000	9,054,000	10,535,000	0.2	2.1	3.5
Managerial and management related occupations	397,843	462,883	565,228	654,282	1.4	3.2	4.6
Professional and technical occupations	3,032,158	3,130,002	3,867,484	4,511,088	0.3	2.2	3.7
Administrative support occupations, including clerical	1,227,084	1,189,649	1,442,470	1,642,754	−0.3	1.5	2.7
Service occupations	2,242,098	2,257,703	2,827,438	3,319,710	0.1	2.1	3.6
Cleaning and building services	318,959	287,210	358,765	421,984	−0.9	1.1	2.6
Food and beverage preparers and services	373,626	351,685	453,453	547,289	−0.5	1.8	3.5
Health services and related	1,349,213	1,426,970	1,767,586	2,068,225	0.5	2.5	3.9
Personal services	32,012	34,619	46,564	54,107	0.7	3.3	4.9
Protective services	35,680	26,368	33,849	38,344	−2.1	−0.5	0.9
All other services	133,206	130,831	168,251	198,761	−0.2	2.1	3.7
All other occupations	288,917	284,763	351,360	407,166	−0.1	1.8	3.2

containment. More explicit assumptions involve some growth and rapid diffusion of technology, but an emphasis on that which saves resources, as opposed to resource-intensive high-cost technology. Some tightening of physician reimbursement is assumed, as well as a moderate continuation of the shift from fee-for-service physician care to HMO care. Hospital occupancy is assumed to continue its recent downward trend but then to level, with a shift towards heavier employment of skilled workers relative to clerical, janitorial, and other workers. The bed supply in nursing homes is assumed to increase as regulation of that industry eases. Other assumptions generally involve a moderate continuation of present trends.

Although it lies between the low and high scenarios, the base case does not represent a midpoint. With respect to prospects for job growth, the low scenario may be more extreme on the unfavorable side than the high scenario is on the favorable side. In any event, the sharply contrasting futures depicted by the low and high scenarios make it clear that the outlook is uncertain. The health services industry is in transition, and it remains to be seen whether organizational forms and approaches that take hold over the coming decade will entail gradual and moderate changes in employment levels, staffing patterns, and educational requirements—or abrupt, even disruptive, change. For employers, educators, and policy makers who seek to plan effectively for the future, staying abreast of industry developments has never been more necessary. ☐

—FOOTNOTES—

[1] Warren Greenberg and Richard Mck. Southby, eds., *Health Care Institutions in Flux: Changing Reimbursement Patterns in the 1980's* (Arlington, VA., Information Resources Press, 1984).

[2] Ross H. Arnett, III, Carol S. Cowell, Lawrence M. Davidoff, and Mark S. Freeland, "Health spending trends in the 1980's: Adjusting to financial incentives," *Health Care Financing Review*, Spring 1985; Mark S. Freeland and Carol S. Schendler, "Health spending in the 1980's: Integration of clinical practice patterns with management," *Health Care Financing Review*, Spring 1984.

[3] Those articles, with supplementary tables and a description of the projection methodology, are reprinted in *Employment Projections for 1995: Data and Methods*, Bulletin 2253 (Bureau of Labor Statistics, 1986).

[4] Katharine R. Levit, "Personal health care expenditures, by State: 1966–82," *Health Care Financing Review*, Summer 1985; Katharine R. Levit, Helen Lazenby, Daniel R. Waldo, and Lawrence M. Davidoff, "National health expenditures, 1984," *Health Care Financing Review*, Fall 1985.

[5] Louise B. Russell, *Technology in Hospitals: Medical Advances and their Diffusion* (Washington, DC, The Brookings Institution, 1979).

[6] Marcia Angell, "Cost containment and the physician," *Journal of the American Medical Association*, Sept. 6, 1985.

[7] Louise B. Russell, "An aging population and the use of medical care," *Medical Care*, June 1981; Dorothy P. Rice and Jacob J. Feldman, "Living longer in the United States: Demographic changes and health needs of the elderly," *Milbank Memorial Fund Quarterly/Health and Society*, Summer 1983; Beth J. Soldo and Kenneth G. Manton, "Changes in the health status and service needs of the oldest old: Current patterns and future trends," *Milbank Memorial Fund Quarterly/Health and Society*, Spring 1985.

[8] Economic growth sectors 140, 141, and 142 make up the health sector. Coverage is as follows: sector 140, Doctors' and dentists' offices; sector 141, Hospitals; sector 142, Medical services, not elsewhere classified.

The industry composition of each sector, as defined by the 1972 Standard Industrial Classification (SIC) is:

Sector 140-Doctors' and dentists' offices	SIC 801-Offices of physicians SIC 802-Offices of dentists SIC 803-Offices of osteopathic physicians SIC 8041-Offices of chiropractors
Sector 141-Hospitals	SIC 806-Hospitals (excludes Federal, State, and local government hospitals)
Sector 142-Medical services, not elsewhere classified	SIC 8049-Offices of health practitioners, not elsewhere classified SIC 805-Nursing and personal care facilities SIC 807-Medical and dental laboratories SIC 808-Outpatient care facilities SIC 809-Health and allied services, not elsewhere classified SIC 074-Veterinary services

SIC 8042, Offices of optometrists, is not included in the economic growth health sectors.

[9] Output includes primary (health care) and some secondary products and services such as nonmedical testing performed in medical laboratories. This measure of industry output differs from a measure of commodity output because of these secondary products.

This measure is gross or somewhat duplicated in that some intermediate products or services may be counted more that once in the estimate. Orthodontal appliances sold first by a dental laboratory to a dentist, and subsequently sold again to the patient, illustrate duplication in the measure of output.

Historical estimates of output are converted from current year or nominal dollars to constant dollars and projections of 1995 output are based on constant 1977 prices.

[10] Data on employment by SIC category, shown in table 4, differ from those by economic growth sector shown in table 3 as follows:

Table 3:	Excludes State and local government hospitals Excludes 8042, Offices of optometrists Includes 074, Veterinary services
Table 4:	Includes State and local government hospitals Includes 8042, Offices of optometrists Excludes 074, Veterinary services

Excluded from the data shown in both tables are Federal hospital employees, as well as employees of publicly operated nursing homes, clinics, and other governmental health care facilities. These data also exclude self-employed workers.

[11] American Hospital Association, *Hospital Statistics, 1984 ed.* (Chicago, 1984).

[12] The number of nursing home users rose from about 300,000 in 1950 to 470,000 by 1960 and over 1,400,000 in 1980. A portion of this increase represented a substitution among different kinds of health care institutions. Beginning in the late 1950's after the introduction of psychotropic drugs, but predominantly in the late 1960's and early 1970's, many mental patients were transferred to nursing homes or board and care homes. The deinstitutionalization movement reflected prevailing views about the desirability of providing care in less restrictive settings, court orders, and cost savings to the States from placing patients in facilities where the Federal Government—via medicaid and Supplemental Security Income—would pay some or all of the cost. Burton David Dunlop, *The Growth of Nursing Home Care* (Lexington Books, Lexington, MA, 1979).

[13] William J. Scanlon and Judith Feder, "The long-term care marketplace: An overview," *Healthcare Financial Management*, January 1984.

[14] Ibid.

[15] National Center for Health Statistics, *Trends in Nursing and Related Care Homes and Hospitals, United States, Selected Years 1969–80* (Washington, U.S. Government Printing Office, 1984).

[16] See *Economic Trends* (Chicago, IL, Hospital Research and Educational Trust, 1985).

[17] Karen Davis, Gerard F. Anderson, Steven C. Renn, Diane Rowland, Carl J. Schramm, and Earl Steinberg, "Is Cost Containment Working?" *Health Affairs*, Fall 1985.

[18] Davis, "Is Cost Containment Working?"

[19] Hospital Research and Educational Trust, *Economic Trends*.

[20] Dean C. Coddington, Lowell E. Palmquist, and William V. Trollinger, "Strategies for survival in the hospital industry," *Harvard Business Review*, May-June 1985; Robert A. Vraciu, "Hospital strategies fo the eighties: a mid-decade look," *Health Care Management Review*, Fall 1985.

[21] Bill Jackson and Joyce Jensen, "Home care leads rising trend of new services," *Modern Healthcare*, December 1984; W. Barry Moore, "CHO's plan to expand home health, outpatient services," *Hospitals*, Jan. 1, 1985.

[22] *National HMO Census, June 1985* (Excelsior, MN, InterStudy, 1986).

[23] Based on the 1977 National Nursing Home Survey conducted by the National Center for Health Statistics. See *Demographic and Socioeconomic Aspects of Aging in the United States*, Current Population Reports, Series P-23, No. 138 (U.S. Bureau of the Census, 1984), p. 83. Until results of the 1985 National Nursing Home Survey are released, the 1977 utilization data are the most recent available.

[24] Stanley J. Brody and Nancy A. Persily, eds., *Hospitals and the Aged: The New Old Market* (Rockville, MD, Aspen Systems Corporation, 1984).

[25] *Environmental Assessment Overview 1984* (Chicago, IL, Hospital Research and Educational Trust, 1984).

[26] Davis, "Is Cost Containment Working?"

[27] Martha Farnsworth Riche, "The nursing home dilemma," *American Demographics*, October 1985; U.S. General Accounting Office, *Medicaid and Nursing Home Care: Cost Increases and the Need for Services are Creating Problems for the States and the Elderly* (Washington, 1983).

[28] Carol O'Shaughnessy, Richard Price, and Jeanne Griffith, *Financing and Delivery of Long-Term Care Services for the Elderly* (Washington, The Library of Congress, Congressional Research Service, 1985).

[29] Mark Meiners, "The case for long-term care insurance," *Health Affairs*, Summer 1983.

[30] Employment projections for the nine health industry categories of the National Industry-Occupational Matrix were derived from economic growth sectors 140–142 in a two-part procedure.

First, projected employment in SIC 074, veterinary services, was removed from projected private wage and salary employment in the economic growth sectors. Next, disaggregation to the nine matrix industries was accomplished using a time series regression analysis. The results were reviewed and adjusted according to analytical judgment.

Second, projections of State and local government hospital employment were added to the estimate of private hospital employment in SIC 806. No explicit adjustment was made for SIC 8042, Offices of optometrists.

[31] "Automated microbiology systems," *Journal of Health Care Technology*, Winter 1985.

[32] U.S. Department of Health and Human Services, *Report to the President and Congress on the Status of Health Personnel in the United States* (Washington, DC, U.S. Government Printing Office, 1986).

[33] See, for example, annual payroll data on hospital personnel by detailed occupation provided to the Bureau of Health Professions by the American Hospital Association. Survey data for *1981–83*, are summarized in *Trends in Hospital Personnel, 1981–83*, ODAM Report No. 5–85 (Rockville, MD, U.S. Department of Health and Human Services, 1985).

Hospital employment under revised medicare payment schedules

A preliminary study of the employment effects of medicare payments based on Diagnosis Related Groups suggests that cost-cutting responses by hospitals will result in smaller, more highly skilled staff and a higher proportion of clerical to health care workers

EILEEN APPELBAUM AND CHERLYN SKROMME GRANROSE

In the face of declining employment in manufacturing, service sector industries such as health services are expected to offer expanded employment opportunities in the future. More than 900,000 jobs have been added in the health services industry since 1975, making it one of the largest industries in the U.S. economy. Moreover, the number of Americans over 65, who make the greatest use of health care services, is currently approaching 29 million and continues to grow.

Recently, however, the Federal Government has attempted to limit the rise in health care costs by instituting a prospective payment system based on Diagnosis Related Groups, or DRG's. Under the former system, reimbursement for hospital treatment covered by medicare at an acute care hospital[1] was based on the prevailing rates for hospital and physician care in the locality. Hospitals typically recovered the full cost of care for each patient.

Under the new system, payment is based on the average cost of patient care, with hospitals recovering more than the actual cost in some cases, and less in others. Reimbursements are made according to a fee schedule that mandates specific payments for each of 467 Diagnosis Related Groups. Payment to hospitals for inpatient care is assigned according to four criteria: a patient's principal diagnosis or surgical procedure, whether there is an important secondary diagnosis, the patient's age, and whether or not the patient was alive upon discharge. (An example of a Diagnosis Related Group is DRG 122: Circulatory disorders with acute myocardial infarction; without cardiovascular complications; patient discharged alive.) Each hospital's payment is adjusted for local wage levels.

The payment is expected to cover all costs except those related to staff education and capital expenditures. All direct medical education costs as well as indirect costs are reimbursed separately, as are capital expenses. Moreover, services provided on an outpatient basis or outside an acute care facility are currently exempted from DRG coverage. The DRG schedule is applied to inpatient services rendered to medicare beneficiaries. Therefore, the importance of medicare as a source of hospital revenue varies according to the size and complexity of the medicare caseload. This payment system provides an incentive to reduce costs within acute care hospitals because hospitals receiving medicare payments are permitted to retain any savings but must also absorb any expenses exceeding the scheduled payment rates.

Eileen Appelbaum is an associate professor of economics at Temple University, Philadelphia. Cherlyn Skromme Granrose is an assistant professor of human resource administration at the same university.

These attempts to limit the growth of health care costs have begun to affect employment opportunities in several important ways, including the number of jobs, hours of work, skill levels, and mix of occupations. This article is a preliminary report on the way in which human resource use in the hospital sector of the health service industry is responding to current efforts to contain expenditures. The following discussion briefly outlines the economic setting and related changes affecting hospitals, and then describes the strategies that have been adopted by certain Philadelphia hospitals to cope with this environment.

The changing environment

The cost of health care in the United States has risen steadily over the last few decades, increasing from 4.4 percent of gross national product in 1950 to 10 percent in 1984. Payments to hospitals have been the largest component of such expenditures, increasing from about 28 percent of the total in 1950 to just over 40 percent in 1980.[2] Payments from medicare, a Federal program established in 1965 to meet the costs of hospital care for elderly or disabled patients, currently amount to 38 percent of all hospital revenues.[3]

In an effort to slow the growth of medical costs and hold down public expenditures for health care, Congress passed legislation in October 1983 that established a medicare payment system based on DRG's. DRG's were phased in over a 3-year period beginning the following year. Between January and August 1984, 70 percent of community hospitals came under this pricing system.

Uncertain about the eventual effects of DRG's on revenues and anticipating a need to reduce costs across the board, hospitals with large medicare caseloads attempted to reduce admissions of less acutely ill patients and shorten hospital stays before the new system was implemented. As a result, the patient census declined sharply at some hospitals, but then recovered somewhat as hospitals became more familiar with the system. In addition, as described below, DRG's and changes in private insurance approaches to health care have encouraged the establishment of nonhospital treatment facilities. Younger or healthier patients may prefer these outpatient alternatives.

The effect of these developments on hospital utilization is reflected in aggregate data. Total admissions, which had already leveled off in 1982 and 1983 for reasons largely unrelated to DRG's, fell sharply—by 4 percent—in 1984. The average length of a hospital stay declined by 2 percent in 1983 and 5.1 percent in 1984.[4] For medicare patients, it declined by about 20 percent between 1983 and 1984, from 9.6 to 7.4 days.[5]

Cost containment measures adopted at many facilities slowed the growth in cost per case. Hospital expenses rose only 4.6 percent in 1984 compared with 10.2 percent in 1983, despite the fact that inflationary pressures on hospitals were virtually unchanged.[6] Medicare payments to hospitals increased 9 percent in the fiscal year ending June 1985 compared to an average of 19 percent in each of the 3 preceding fiscal years.[7]

Labor costs are the single largest budget item for hospitals, constituting over one-half of operating expenses in most instances.[8] Many of the cost-cutting strategies which hospitals have adopted are intended to effect savings in this area through reductions in employment or changes in staffing patterns. Thus, despite continued growth in employment in the health service sector, hospital employment turned down for the first time in 1984, with all of the decline occurring in general medical and surgical hospitals.[9] These are precisely the institutions which are subject to DRG's.

While the effects of DRG's on total hospital employment are reasonably clear, their effect on the mix of occupations and skills is uncertain. There are many possible strategies that hospitals might adopt to adjust to these cost containment measures, each with somewhat different implications for trends in health care employment. Our study focused on the strategies adopted by a number of hospitals located in Philadelphia and explored their human resource implications.

Data for this study were collected in three stages. First, a short, structured questionnaire was distributed to all administrators attending a meeting of the Philadelphia Hospital Personnel Society. This questionnaire asked respondents to classify their hospital's size, type, and specialization and to indicate their own administrative position. It also asked them to indicate for each of a list of occupations whether full-time, part-time, and contract employment was declining, static, or growing in their hospital. Thirteen completed responses were obtained at this meeting. Of the hospitals responding, 10 were private and 3 were public; 10 were teaching institutions and 3 were community hospitals. They ranged in size from 82 to 600 beds with an average size of 257 beds. All of the hospitals were nonprofit.

The second stage of data collection consisted of a series of 1½- to 2-hour personal interviews of seven of the hospital administrators who filled out the initial questionnaire. These interviews, conducted in August and September of 1985, focused on the general employment strategy of the hospital, any changes in strategy in response to DRG's, and the rationale behind adoption of these policies and practices. We also requested more precise estimates of the number or proportion of employees in each employment category added, deleted, or transferred since the implementation of DRG's. Hospitals selected for interviews were chosen to provide as much variation as possible. However, no attempt was made to obtain a representative sample and caution should be exercised in generalizing from these results.

A third aspect of data gathering consisted of using archival data to identify the broader changes in patient census and employment in all Philadelphia area hospitals. This enabled us to place the responses of interviewees into a more general context.

Effects of DRG's uneven

Just as their counterparts elsewhere, Philadelphia area hospitals began preparing for the implementation of DRG's even before the authorizing legislation had been passed. In the view of some of the hospital administrators interviewed, the initial response at many institutions was an overreaction to the prospect of a fixed fee schedule. With 2 years of experience since passage of the legislation, the administrators believed that reactions had moderated, although the extent and difficulty of required adjustment varied widely among hospitals.

An overview of pertinent hospital operations in the Philadelphia area can provide useful perspective for interpreting these and other responses to our study. Admissions for the 90 Philadelphia area hospitals (including those in the New Jersey suburbs) declined nominally from 325,966 in late 1982 to 325,733 in late 1983, then rose to 326,943 by 1984.[10] Philadelphia's experience in this respect differs sharply from that of the Nation as a whole, which experienced an unprecedented decline in admissions in 1984. Reasons for this difference include the relatively high proportion of elderly people in the Philadelphia area, the substantial number of referrals from outside the area to major medical centers in Philadelphia, and the below-average enrollments of health maintenance organizations (HMO's) in the area.

While admissions remained essentially stable in Philadelphia, hospitals stays were shortened. Length of stay in acute care hospitals declined steadily from 8.8 days at the end of 1982 to 7.5 days in 1984.[11] The combination of stable admissions and declining length of stay enabled Philadelphia hospitals to earn record income while containing costs. Of the 60 hospitals in Philadelphia and its Pennsylvania suburbs, all but three were in the black for the fiscal year ending June 30, 1985. The five hospitals with the highest net income included a children's hospital, a community hospital, and three teaching hospitals. Taken together, the 60 Philadelphia hospitals had income exceeding $165 million on revenue of more than $3 billion.[12]

While DRG's provide incentives to all hospitals to decrease length of hospital stay and to compensate for the decrease in bed occupancy rates by increasing the volume of admissions, the effects are very uneven across institutions. The employment impact depends, in part, on the extent to which the hospital is affected by DRG's and the size of the hospital's medicare caseload. DRG's currently do not apply to specialty hospitals, which do not provide acute care. These include psychiatric institutions, drug and alcohol treatment centers, and physical rehabilitation facilities. Children's hospitals are also waivered under present regulations. Cost containment pressures thus are far less severe in these institutions than in acute care hospitals. Nevertheless, specialty hospitals are responding to a number of pressures for change. These include the expectation that coverage by DRG's will eventually be extended to them, incentives from private health insurers to reduce costs, greater acceptance by patients of less expensive outpatient care, and increased competition from freestanding, specialized facilities established by acute care hospitals to avoid DRG coverage.

One speciality hospital we examined had initiated a study of how it should respond to the impact of DRG's. As a result of what it had learned by the time of the interview, this hospital had taken steps to become an outpatient surgery facility. It had arranged for an acute care hospital to take its more seriously ill patients and had already converted an entire inpatient floor to day surgery. Because of these measures and the increasingly competitive environment in which the hospital operates, the inpatient census at this facility was at 40-percent occupancy in 1985, compared with 56 percent a year earlier. However, the outpatient service increased over the same period: outpatient visits increased 8.4 percent between fiscal years 1984 and 1985 while outpatient surgical procedures increased 19.7 percent over the same period.

In this hospital, the effect on employment levels had been minimal, although employees had been shifted from inpatient to outpatient care. The nursing staff remained stable between 1983 and 1985, with 82 registered nurses (of whom 76 work full time), 14 nurse's aides, and no licensed practical nurses. The number of ward clerks in patient care units decreased from 16 to 12 over that period. However, total clerical employment also remained stable at about 41, because three positions for coder-abstracters (currently filled by temporary workers) have been added in the medical records department. The number of people employed as medical technicians, secretaries, and administrators remained unchanged.

The hospital anticipated reduced labor requirements in areas such as dietary, housekeeping, and maintenance services as the shift from inpatient to outpatient care proceeds, but this had not occurred at the time of the interview. Employment in the service unit, which numbered about 125 in 1983, had been reduced by two full-time-equivalent positions, and there had been a moderate shift toward more part-time staff in this area. The only employment growth anticipated by this hospital was in the medical records department, which at the time was burdened by the increase in the number of people seen as outpatients. A systems analyst position was expected to be added and two or three clerical positions were to be made permanent when an evaluation of medical records operations was completed.

Separate reimbursement for medical education expenses under the DRG payment system has had differential effects on the revenues of teaching and nonteaching hospitals. Payments for direct education costs are based on actual cost, while those for indirect costs depend on the size of house staff, the number of beds, and the total payment from medicare. It has been estimated that adjustments for indirect teaching costs increase the payments to teaching hospitals with one or more interns or residents for every four beds by an average of 53 percent, while combined adjustments for direct and indirect medical education costs approximately double the reimbursement to a teaching hospital compared with the DRG payment per case to a nonteaching hospital.[13] In part, these increased payments are intended by medicare to compensate teaching hospitals for the greater severity of the illnesses they treat and for the free care they provide to patients with no medical coverage, although other hospitals with acutely ill patients or which provide free medical services receive no such compensation. The result of this payment system has been to encourage teaching hospitals to categorize expenditures as direct educational costs whenever possible and to shield their revenues from the effects of DRG's.

The administrator of one very large teaching hospital stated that DRG's were having negligible effects on admissions, length of stay, and occupancy. This hospital's 1984 occupancy rate exceeded 79 percent, compared with an average of 73.4 percent for other medical school hospitals and 69.3 percent for other acute care hospitals in the region.[14] Not surprisingly, DRG's had not affected employment levels at this hospital at the time of our study and were viewed by the respondent as only one among many factors affecting decisions about human resource use. However, a second medical school hospital administrator stated that his institution was already initiating changes to increase volume of admissions and reduce length of stay in anticipation of cutbacks in medicare payments for educational costs. (At the time of our interview, the Advisory Council on Medicare had already proposed to Congress that these payments be terminated by 1987.)

In general, the hospitals with revenues most adversely affected by the DRG payment system were acute care community hospitals, especially those serving an elderly or poor population. The reasons for this are implicit in the type of diagnosis-based, per-case reimbursement system which medicare has adopted. The DRG system uses limited information in assigning a patient to one of its 467 categories. In particular, it largely ignores the severity of the illness in making an assignment and it ignores socioeconomic characteristics of the patient that may affect the number of complications and thus the cost of treatment. In addition, no allowance is made under DRG's for free medical care provided to those unable to pay for services.

A study conducted at Johns Hopkins found that teaching status of a hospital did not necessarily predict the severity of illness of its patient population. Some nonteaching community hospitals have severe case mixes despite their low resident-to-bed ratio. These hospitals receive little reimbursement from medicare for educational costs to offset their higher than average treatment costs.[15] The greatest pressures for cost containment, and the greatest challenges to hospitals that want to maintain the quality of, and access to, their services, occur in this category.

The hospital in which we observed the greatest effect of DRG's was a community hospital that had responded to what it termed "the Federal mandate for quality health care" in the 1960's and 1970's by gearing up to provide care for the poor and the aged. At the time of the study, 60 percent of its patients were on medicare. The hospital had responded to the medicare revenue cuts that accompanied the implementation of DRG's with a concerted cost containment effort. Most obvious was the reduction in average length of patient stay from 10 days to 7.2 days between 1983 and 1985. In contrast, the average length of stay at acute care hospitals in the Philadelphia area had fallen from 8.8 days to 7.5 days over the same period.[16] In this hospital's view, the longer average length of stay for its patients in 1983 was due to the fact that recovery takes longer when the patient population is older and poorer, not to inefficiencies in the hospital's operations. This contrasts with medicare's underlying assumption that all cost differences in treating patients in the same Diagnosis Related Group result from differences in efficiency among hospitals. Under extreme pressure to reduce costs, this hospital had brought its average length of stay in line with the Philadelphia average. As a result, the hospital's patient census had declined more than 15 percent since 1983, yielding its 1985 occupancy rate of 62 percent.

Anticipating the implementation of DRG's, in 1983 this hospital obtained a 2-year grant to study the effects of DRG's on the lives of the elderly. Preliminary results suggested that while there had been no increase in medical risk, more than 54 percent of the 200 patients interviewed in the first year indicated a fear that they were returning home too early in their recovery. The hospital was concerned about the social and psychological stress to which these elderly patients are being exposed, the adequacy of care available to elderly people living alone, and the stress placed on relatives asked to care for these patients.

Strategies for coping with DRG's

Strategies to adjust to the changing financial environment can be divided into three categories—strategies for "beating the system," marketing strategies, and human resource strategies. Strategies in the first two categories also have consequences for human resource use, even though these practices are not adopted specifically as human resource strategies.

"Beating the system." The uneven effects of DRG's on hospitals and the complex economic incentives the payment system provides have led hospitals to adopt a variety of strategies for maximizing income under the new rules. These include such obvious tactics as identifying combinations of patient diagnoses that maximize payments and choosing the principal diagnosis or procedure carefully to achieve the same end. These practices were aggressively pursued at all of the hospitals we observed. Training was provided for personnel ranging from doctors to medical records clerks in assigning diagnoses to the DRG category that yields the most revenue for the hospital. This practice

may have contributed to the increase in recent years in the case mix index—a national measure of the severity of patient illnesses—which is rising much more rapidly than expected,[17] although acuity levels at hospitals are increasing as less ill patients are treated at outpatient, rehabilitation, or other facilities. In addition, separate payments by medicare for capital expenses favor the use of capital intensive techniques. They also encourage hospitals to experiment with equipment leasing and innovative accounting procedures to qualify for reimbursement for capital expenditures.

Partly as a result of the favored status afforded capital intensive techniques under DRG's, some hospitals have continued to add employees in high technology specialties. Four of the hospitals at which we interviewed cited recent or anticipated employment growth in radiology, ultrasound, magnetic resonance, CAT-scan, nuclear medicine, and nuclear studies in cardiology. Between 5 and 10 technician or technologist positions had been added at these hospitals in 1984 and similar employment growth was anticipated for 1985. Competition for individuals highly credentialed in these areas is keen, and some hospitals had had to offer higher starting wages in order to recruit such workers, and to renegotiate contracts in order to retain them. One hospital reported retraining existing personnel to fill some of these positions.

Employment growth in technical specialties was far outpaced by the number of new clerical and administrative positions added in medical records, billing, and related departments in response to DRG's. All of the hospitals we observed had increased employment in these areas. Administering DRG's to yield the highest payment for each patient had caused one hospital at which there were substantial cutbacks in patient care personnel to increase the numbers of medical record administrators, technicians, and clerks; to add three programmers; and to employ an additional admitting officer, financial analyst, manager of financial planning, and several accountants. Another hospital which had reduced the number of licensed practical nurses and nurse's aides by more than 30 positions between 1983 and 1985 reported large employment increases in billing, data processing, medical records, and utilization review over the same period. The billing department alone had grown from 40 to 60 people, while the number of coders in medical records rose from 17 to 25. The hospital also reported having retrained clerical employees to choose the best diagnosis financially while conforming to regulations.

Marketing strategies. Marketing strategies at the hospitals where we interviewed were two-pronged. The hospitals had made significant efforts to increase admissions. They had also developed marketing strategies that focused on procedures, populations, and services for which DRG limits are less constraining.

To increase admissions, and to target the populations they wish to admit, hospitals throughout the country are competing for patients through direct marketing and advertising activities. The hospitals we visited were making increased use of marketing consultants, and some institutions had hired or were planning to hire marketing directors.

Hospitals are also courting physicians. Four of the acute care hospitals we studied reported that they were increasing the number of attending physicians. Some were encouraging attending doctors to form health maintenance organizations. More often, hospitals today are encouraging doctors to form professional associations to provide specialized services such as radiology within the hospital on a private, for-profit contract basis. This practice appeared to be widespread in the two teaching hospitals we observed, extending beyond medical imaging and anaesthesiology to include such unlikely specialties as dermatology. Other hospitals had also developed such subcontract arrangements or were discussing them for medical specialties as diverse as biomedical services, urology, and the short procedures unit, in which outpatient surgery is conducted. In return, the hospitals expected doctors with whom they have such arrangements to admit more patients.

To escape the constraints of DRG's, and in response to private health insurance incentives for avoiding inpatient care as well, hospitals are increasing the provision of services not covered by these regulations. The most common strategy is to enlarge the short procedures unit and to shift from inpatient to outpatient services. In some of our study cases, entire floors or units had been shut down and the personnel reassigned or released. Some of these hospitals were establishing new, independent units to provide psychiatric, physical rehabilitation, or drug and alcohol treatment outside the acute care facility. Such units are exempted from DRG coverage. Home health care is another new service with which hospitals were experimenting.

Another strategy used by hospitals to increase revenues is to attract specific types of patients who will make relatively less use of the hospitals' resources than other patients within the same DRG. A recent study confirms the fact that patients with the same diagnosis may be more or less acutely ill. In a related study comparing reimbursement rates with the actual extent or severity of illness, researchers found both substantial overpayments and underpayments. Some institutions received payments that were as much as 59 percent too high and others received 25 percent too little in relation to the burden of illness and the actual costs of treating their patients.[18]

Hospitals prefer patients who are younger or are in sociodemographic groups that are likely to have fewer complications and shorter hospital stays. They also prefer patients with private insurance coverage which does not rely on DRG-type reimbursement policies. In addition, hospitals have identified those diseases which are profitable for them under the DRG system, and they seek to increase admissions of patients with these ailments. Treating the right type of patient increases the "contribution margin" to the hospital, raising the difference between what hospitals are paid for treating the patient and the actual variable cost of the care. A leading management consulting firm has prepared what it labels "a survival guide for the hospital industry," in which hospitals are advised that they must determine their "winners" and "losers"—that is, those DRG's that are most and least profitable; identify the types of patients that provide the greatest contribution margin and target them; and decide which physicians should be encouraged to use hospital resources.[19]

For persons concerned about the wide availability of quality health care, the benefits of marketing strategies are not always clear. One hospital administrator cited unproductive competition with suburban hospitals for attending physicians and patient admissions in categories where costs are below average. A respondent at a rehabilitation hospital pointed to a shift in workers and other resources from an older facility in a lower income, black community to a newer center in a middle income, white neighborhood. While the hospitals at which we interviewed, especially the community hospitals, expressed a continuing commitment to providing medical care to those who need it, the practice of using marketing strategies to attract a preferred patient population raises troubling questions about access for persons requiring hospital stays that exceed the average or for those who lack medical insurance coverage.

All of these marketing strategies have implications for human resource use. This was most evident at a speciality hospital we observed where a new administration decided last January to take steps to run the hospital more like a business. In addition to 13 positions, including 10 office and clerical jobs that had already been added in 1984, 35 new positions were approved for 1985. The new positions included a director of development, an insurance liaison person, an admissions liaison person, and a coordinator to test-market potential products.

In general, we found that the medical records department had grown at each of the hospitals we visited. Greater use of outpatient facilities and short procedures units has increased the number of patient visits, and hence the number of bills that must be sent to patients. At one medium-sized hospital, not only had there been a shift from inpatient to outpatient care but the hospital's general practice department had become part of a health maintenance organization. The resulting increase in billing requirements had led to a marked increase in employment in the billing department.

The establishment of freestanding units to provide specialized treatment outside the hospital and the subcontracting of hospital services to professional associations of doctors had affected the number of workers officially counted on hospital payrolls, although the effect on actual employment was less clear. Doctors in these situations negotiated with hospitals over the sharing of expenses and over whether the staff in their facilities would be employees of the doctors or of the hospital. We found that where hospitals were not unionized, workers were often considered employees of the doctors. The hospital would prepare the payroll and send out paychecks, but the workers were not carried on the hospital's employment rolls.

Labor force strategies. Responding to DRG's through the use of human resource strategies, Philadelphia hospitals were attempting to reduce labor costs while avoiding widespread layoffs. Layoffs had occurred at some hospitals, but most of the reported reductions in staff at the hospitals we visited had been accomplished through attrition and incentives for early retirement. One hospital, adjusting to a decline in its occupancy rate of 20 percentage points as a result of a reduction in average length of stay from 10 to 7 days, had found it necessary to reduce its staff by 111 positions. First, retirement incentives were made available at all vertical levels of the employment structure, although the hospital found that this option appealed mainly to less skilled, lower paid workers. As a result, 31 people retired early. The second stage of the reduction was accomplished by laying off workers over a 5-month period in 1985. Such workers were given preemptive rights to return—that is, they were hired back as others left voluntarily and jobs for which they were qualified opened up. By the end of 1985, only 9 people remained on the layoff list, the rest having been rehired in the course of normal turnover.

While only two hospitals had found it necessary to lay workers off, all of the hospital administrators interviewed reported having used attrition to achieve targeted reductions in staff. Selective cutbacks through attrition had been accomplished at every employment level including administration, although most reductions had occurred among less skilled nursing staff. If targets were not met by the end of the fiscal year (June 1986), some hospitals anticipated using layoffs to reach employment goals.

Attrition is a viable strategy for hospitals because of the high turnover that characterizes many of them. One large hospital we visited, with approximately 3,200 employees, reported turnover of about 17 percent in fiscal 1984 and 23 percent in fiscal 1985. This occasioned the hiring of about 950 new workers in 1984, and about 750 in 1985. Thus, there had been extensive hiring at this hospital despite a reduction in staff of more than 100 positions during fiscal 1985. Several medium-sized hospitals reported reductions in staff through attrition of up to 100 positions over the preceding 2 fiscal years.

Despite the use of retirement incentives, attrition, and occasional layoffs, hospitals were not planning across-the-board reductions in staff. Most of the hospitals we visited had conducted detailed studies of staffing needs and had set employment targets for each department, including increases in some areas and reductions in others. This had involved considerable shifting of employees among departments. The closing of entire inpatient nursing floors and the scaling down of some programs at the hospitals had been accompanied by expansion of short procedures units and other outpatient facilities.

Nurses and ward clerks had been shifted from inpatient to outpatient care. One hospital reported that about 70 percent of those displaced from inpatient care had been reabsorbed in this way. Another hospital had found that shifting nurses from the nursing floor to day surgery required a new orientation and specialized training; staff nurses had been given the option of getting the training in order to retain their jobs. The most unusual reassignment we observed occurred at a hospital where requirements for less skilled nurses were declining while the need for clerical workers was increasing. The administration had given licensed practical nurses the option of shifting to clerical work. Several nurses had taken advantage of the offer and had made the change quite successfully.

Engineering and maintenance requirements remained virtually unchanged as hospitals adjusted to DRG's, and housekeeping services experienced about a 10-percent decline in employment. However, several hospitals reported that they had not filled all of the positions in these departments lost through attrition.

Only food service requirements had consistently and markedly declined as a result of the decline in inpatient census and the increase in outpatient services. One hospital reported making shifts in the assignment of nonunion employees in this area, but not for those who were unionized.

Hospitals are also adopting a variety of human resource strategies that increase their flexibility in using their employees. One notable development, emphasized by all but one of the hospitals we observed, is increased reliance on registered nurses, especially those with Bachelor of Science in Nursing degrees, and reduced employment of nurse's aides and licensed practical nurses. Reducing the length of hospital stays during the recuperative period means that patients who are in hospitals are more acutely ill, with the result that more skilled nursing care is required.

Most of the hospital administrators we interviewed believed that it is inefficient to continue to use licensed practical nurses and nurse's aides, who are limited in the tasks they can perform. One hospital had already eliminated all licensed practical nurses. Only one community hospital administrator, sorely pressed by DRG's, took the position that registered nurses should be used to provide professional nursing services only, while auxiliary services should be provided by lower paid licensed practical nurses and aides.

The result is that many of the hospitals we visited were maintaining employment levels for registered nurses and grauduate nurses (and some were even recruiting in this area) because such nurses can provide the entire range of nursing services. At the same time, there had been cutbacks in the less skilled nursing positions. One hospital reported having laid off 17 workers in July 1984 and the same number the following October. Most of those laid off were nurse's aides. Cutbacks at other hospitals had been less extreme, but several reported no new hiring of aides or licensed practical nurses within the last 6 months of the interview, and no future plans to hire them.

Some hospitals reported having instituted, or considered establishing, internal labor pools to increase flexibility in assigning workers to departments where they are needed. Such a strategy usually is intended to avoid layoffs and increased use of part-time workers. The underlying premise, viewed as still unproven by most of the administrators we interviewed, is that one department is busy while another has down time. The argument is that down time can be reduced and productivity increased by assigning people of like educational attainment to a labor pool, rather than to a department, and cross training them to do a variety of jobs. Workers can then be assigned from the pool to a department as needed. Several hospitals had begun (or were considering) using a labor pool to staff less skilled jobs in housekeeping, grounds, maintenance, food service, and transport.

A few hospitals were coping with fluctuations in admissions and swings in patient census by establishing nursing pools. Nurses who do not want, cannot find, or are not needed by the hospital for full-time employment are carried on the rolls of the hospital's nursing pool and called in to work by the day. One medium-sized hospital with 155 registered nurses and graduate nurses on the floor, another 15 in education, administration and supervision, and about 25 licensed practical nurses and 35 aides, had a nursing pool of about 80, of whom no more than 30 were actively contacted by the hospital on an average day. The people in this pool were not reported as hospital employees in employment statistics kept by the institution. They were paid a straight wage for the days they worked and received no fringe benefits. They became eligible for a pension if they worked more than 1,000 hours in any year, so the hospital attempted to keep their employment under this level.

Another hospital, unable to fully employ all of its nurses in the face of the decline in its patient census, operated a different type of nursing pool in which everyone is a hospital employee and is guaranteed work every day but not necessarily at the hospital. The hospital operated the nursing pool as a temporary help service, sending the nurses it did not require on any given day out to nursing homes or other facilities, as needed. This pool had, in fact, become a "profit center" for the hospital.

Several hospitals had small clerical pools as well. At one, a pool of five clerical workers was treated as belonging to the employee relations department. These workers, who were viewed as permanent employees of the hospital, were called in as needed and charged to whatever department used them. The hospital treated them as part-time workers.

Several alternative strategies for reducing labor costs which we expected to find were notable by their absence. In general, the hospitals we observed had made only limited use of part-time employment to increase flexibility in work assignments. Perhaps 10 percent of employees at these hospitals work part time, usually in food service and in weekend nursing services. One hospital had gone from two full-time shifts in food service to one full-time and one part-time shift. Other hospitals reported that about a third of their food service workers were part time.

Weekend nursing services have traditionally employed part time registered nurses, licensed practical nurses, and aides who wanted those hours. Today, fewer patients remain in the hospital on weekends. But hospitals are providing additional outpatient services on weekends and evenings in order to meet increased competition from freestanding facilities. One hospital we visited had begun providing physical therapy and respiratory therapy at those hours.

In recent years, hospitals have also begun making part-time work available to physical therapists, who are currently in short supply, in order to make the jobs attractive. Apparently, a substantial number of physical therapists do not want full-time work and are able, in the current market, to command the hours they desire. The net effect of this trend on part-time employment among the hospitals we visited had been small.

None of the seven hospitals we observed had increased the responsibilities of lower paid workers in order to economize on the use of more highly skilled and higher paid staff. On the contrary, they sought to hire the most highly credentialed workers available. This was especially evident in nursing, where the proportion of registered nurses was increasing and the nurses were being asked to perform the entire spectrum of nursing services, but it applied to technicians and therapists as well. Hospital administrators reported that greater cost savings are realized as a result of the flexibility provided by a smaller staff of highly skilled workers than through an increase in the proportion and responsibilities of lower paid workers.

Hospitals do make use of temporary workers, mainly in nursing services and, to a lesser extent, in clerical work. But the hospitals we observed made only occasional use of temporary help service agencies. Instead, they preferred to contract with individuals for these services, forming their own internal pools of temporary workers. Often, the workers in these pools previously held full-time positions at the hospitals, but for personal reasons came to prefer fewer hours. Other workers in the pools may desire full-time jobs at a particular hospital and view the pool as a way of getting preferential treatment should an opening arise. Sometimes the pool was established as an alternative to laying off workers entirely.

In general, the hospitals in our survey did very little contracting out of services. None of the hospitals we visited contracted out services such as food service, housekeeping, groundskeeping, or maintenance. One hospital was contracting out electrical services at the time of the interview but planned to hire its own electrician shortly. Another hospital was contracting out food service in the employee and visitor cafeterias, but not its inpatient food service. The hospital administrators we interviewed rejected the use of temporary help agencies or of contract services because they believed there are hidden or long-run costs associated with the use of workers who are not their own employees. Because pay at these hospitals rose during the 1970's, the administrators no longer viewed their institutions as employers of last resort. Quality of employees at every level was higher by the mid 1980's than it had been 10 or 15 years earlier, and respondent hospitals thus were reluctant to surrender control over this employment to outside agencies.

Implications for employment outlook

According to our study, implementation of a prospective payment system by medicare had an immediate effect on employment in acute care community hospitals most directly affected by DRG's. Cutbacks in employment in these facilities have largely been in patient care occupations. They are associated with the reduction in length of hospital stay and with the incentives for cost containment implicit in a system which allows hospitals to retain the difference between scheduled prospective payments and the actual costs of providing health care services.

Employment growth was centered in occupations associated with hospital efforts to prosper under DRG's by increasing admissions, targeting a preferred patient population, coding patient diagnoses so they are most financially remunerative, increasing the use of capital intensive procedures for which payment is more easily obtained, and establishing or expanding treatment facilities and services that are not yet covered by the payment system. In our interviews, we observed only small changes in employment in the specialty and teaching hospitals, which are less severely constrained by DRG regulations. However, all but one of these hospitals were expecting that future regulatory changes would directly affect them. They reported that they were exploring the use of (and, in one instance, were actively utilizing) the marketing and human resource strategies that acute care community hospitals had adopted during the 2 years preceding our study.

In direct patient care occupations, the overall employment of registered nurses and graduate nurses was stable, although there had been a definite shift in location of a substantial proportion of these jobs to short procedures units, outpatient services, offsite specialty units, or freestanding facilities in more prosperous communities. The employment of licensed practical nurses and nurse's aides was declining, while a few specific technical specialties benefiting from DRG regulations were experiencing small increases. Physical therapists, who benefit from the exemption from DRG coverage of rehabilitation facilities, were also facing a high demand for their services.

In support service occupations, those concerned with the maintenance of physical facilities had experienced stable employment, though hiring was limited to replacement only and was sometimes sluggish. Support service occupations that depend on the hospital's inpatient census, such as food service, housekeeping, and patient transport, were declining. Food service occupations were the hardest hit, and some workers in this area who did retain their jobs had had their hours reduced.

The largest increases had occurred in administrative and administrative support occupations. We observed small increases in positions for upper level administrators with skills in marketing, product development, finance, and DRG administration. These had been filled through outside hiring. Larger increases were reported in clerical occupations in billing and medical records, especially in occupations related to DRG reporting requirements. These positions had sometimes been filled through outside hiring. Often, however, they had been staffed through transfers within the hospital from departments experiencing cutbacks.

Our limited data suggest that the major impact of the decline in hospital employment is being felt in the less skilled, traditionally female occupations such as licensed practical nurses, nurse's aides, and food service workers. A case study of hospitals such as this does not provide information on whether workers displaced from hospital employment are finding jobs in nursing homes, home health services, or other health service facilities. Even if this is the case, however, displaced workers are unlikely to find jobs that pay as well or provide as many hours of work as those they previously held. Hospital administrators with contracts with home health care agencies or who were developing this service themselves reported that the position of home health care aide is becoming more skilled than that of a nurse's aide in a hospital setting because there is less direct supervision. Yet the job pays about $3.35 to $5 an hour, about half the hospital pay scale for nurse's aides, and the hours, which are not dependable, may vary from 10 to 40 a week.

Our findings also suggest that while high turnover and the continued need to fill a few specialized positions precludes a hiring freeze at hospitals, very little net growth in employment in the hospital component of the health services sector can be anticipated in the next few years. This is especially true of acute care institutions. We also noted a shift in the composition of the nursing staff at hospitals toward graduate and registered nurses, whose numbers were stable or growing slightly. This appears to be the result of both the thrust within nursing for professionalization and the desire of hospitals to operate with a nursing staff that is smaller overall but more highly skilled and flexible. The preference for more highly skilled workers was apparent as well in other occupations at the hospitals we observed. These hospitals were continuing to recruit employees with training in specialized technical procedures and those with traditional business specialties such as marketing and finance.

Our method addresses the proximate effects of DRG's on hospital employment. However, it does not allow an analysis of overall employment effects in health services as full adjustment to the new payment plan is undertaken. Many questions remain. These include whether displaced licensed practical nurses and nurse's aides are finding alternative employment in nursing homes and home health care; whether the stresses on families caring for elderly patients at home are creating unrecognized increases in the demand for psychological and social work services; and what the effect will be on the demand for health services provided outside of hospital facilities. However, our case study of a small number of hospitals strongly suggests that DRG's are triggering changes in hospital employment and in the delivery of medical care that are having major spillover effects elsewhere in the health services sector and, perhaps, in the larger economy. □

——*FOOTNOTES*——

[1] For purposes of program administration, an "acute care hospital" is defined by exception; that is, a facility is considered an acute care hospital unless it falls within a category specifically excluded from the program by law, such as an alcohol rehabilitation center. However, the term may be approximated by the American Hospital Association's definition of "community hospitals": Non-Federal, short-term general and other special hospitals, excluding hospital units of institutions, whose facilities and services are available to the public. See *Hospital Statistics, 1985 Edition* (Chicago, American Hospital Association, 1985), p. xi.

[2] R. R. Arons, *The New Economics of Health Care: DRG's, Case Mix, and Length of Stay* (New York, Praeger Publishers, 1984), pp. 4 and 114.

[3] "Health Care Costs: The Fever Breaks," *Business Week*, Oct. 21, 1985, pp. 86–94.

[4] "1984 Hospital Cost and Utilization Trends," *Economic Trends* (Hospital Research and Educational Trust), Spring 1985.

[5] R. Sullivan, "Decline in Hospital Use Tied to New U.S. Policies," *The New York Times*, Apr. 16, 1985, p. A1.

[6] "1984 Hospital Cost."

[7] "Health Care Costs," p. 86.

[8] D. Kidder and D. Sullivan, "Hospital Payroll Costs, Productivity, and Employment Under Prospective Reimbursement," *Health Care Financing Review*, December 1982, pp. 89–99.

[9] *Employment and Earnings* (Bureau of Labor Statistics), various issues, table B2.

[10] Delaware Valley Hospital Council, *DVHC Semi-Annual Utilization Comparison*, for the period July 1 to Dec. 31, 1984.

[11] *Ibid.*

[12] G. M. Gaul, "Diagnosis for Hospitals: Good Financial Health," *The Philadelphia Inquirer*, Nov. 17, 1985, p. D1.

[13] R. S. Stern and A. M. Epstein, "Institutional Responses to Prospective Payment Based on Diagnosis-Related Groups," *The New England Journal of Medicine*, Mar. 7, 1985, pp. 621–27.

[14] Delaware Valley Hospital Council, *DVHC Semi-Annual Utilization Comparison*.

[15] "DRG Disbursement," *Medical World News*, July 22, 1985, pp. 50–51.

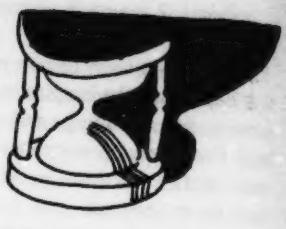
[16] Delaware Valley Hospital Council, *DVHC Semi-Annual Utilization Comparison*.

[17] Stern and Epstein, "Institutional Responses."

[18] "DRG Disbursement," p. 51.

[19] Arthur Young, *Prospective Payment Survival Guide*.

Major Agreements Expiring Next Month



This list of selected collective bargaining agreements expiring in September is based on information collected by the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more. Private industry is arranged in order of Standard Industrial Classification.

Industry or activity	Employer and location	Labor organization[1]	Number of workers
Private			
Construction	Northeastern States Boilermakers Employers (Interstate)	Boilermakers	1,500
	Western States Field Construction agreement (Interstate)	Boilermakers	5,300
	National Electrical Contractors Association, South Florida Chapter (Florida)	Electrical Workers (IBEW)	1,150
Food products	A.E. Staley Mfg. Co. (Decatur, IL)	Industrial Workers	1,300
	Fluid milk and ice cream companies (California)	Teamsters (Ind.)	1,200
Textiles	Textile dyeing, printing, and finishing companies (Interstate)	Clothing and Textile Workers	3,400
Paper	Federal Paper Board Co., Inc. (Riegelwood, NC)	Paperworkers	1,200
Chemicals	Hercules Inc. (Radford, VA)	Oil, Chemical and Atomic Workers	2,200
Primary metals	American Steel Foundries (Inierstate)	Steelworkers	1,000
	CF&I Steel Corp. (Pueblo, CO)	Steelworkers	1,600
	Weirton Steel Corp. (West Virginia)	Independent Steelworkers Union (Ind.)	8,000
	Universal-Cyclops, Specialty Steel Division (Pennsylvania)	Steelworkers	1,100
	Atlantic Steel Co. (Atlanta, GA)	Steelworkers	1,000
	Interlake Inc. (Riverdale, IL)	Steelworkers	1,200
	Al Tech Specialty Steel Corp. (New York)	Steelworkers	1,750
Machinery	Dresser Industries Inc., Dresser Clark Division (Olean, NY)	Steelworkers	1,400
	Lufkin Industries Inc. (Lufkin, TX)	Various unions	1,800
	Rheem Manufacturing Co. (Fort Smith, AR)	Steelworkers	1,200
Electrical products	Whirlpool Corp. (Fort Smith, AR)	Industrial Workers	3,500
	Amana Refrigeration, Inc. (Amana, IA)	Machinists	1,500
	Magic Chef, Inc. (Cleveland, TN)	Molders	1,000
Transportation equipment	General American Transportation Corp. (Interstate)	Steelworkers	1,000
	Borg-Warner Corp., Warner Gear Division (Muncie, IN)	Auto workers	1,600
Water transportation	New York Shipping Association (Interstate)	Longshoremen's Association	8,500
	Philadelphia Marine Trade Association (Pennsylvania)	Longshoremen's Association	2,250
	Steamship Trade Association of Baltimore (Maryland)	Longshoremen's Association	4,500
	Hampton Roads Maritime Association (Virginia)	Longshoremen's Association	2,500
	New Orleans Steamship Association (Louisiana)	Longshoremen's Association	3,200
	West Gulf Maritime Association (Texas and Louisiana)	Longshoremen's Association	5,000
	South Atlantic Employers Negotiating Committee (North Carolina and Florida)	Longshoremen's Association	3,250
	Mobile Steamship Association (Alabama)	Longshoremen's Association	1,000
	Southwest Florida Employers Association (Florida)	Longshoremen's Association	1,100
Air transportation	Republic Airlines, mechanics, related personnel, stock clerks (Interstate)	Machinists	2,500
Utilities	Consumer Power Co. (Jackson, MI)	Utility Workers	4,700
Retail trade	Waldbaum, Food-A-Rama, and three others (New York, NY)	Retail, Wholesale, and Department Store	18,000
	Giant Food Stores (Washington, DC)	Food and Commercial Workers	7,000
	Safeway Food Stores (Washington, DC)	Food and Commercial Workers	5,000
	Giant Food Stores (Baltimore, MD)	Food and Commercial Workers	3,000
	Safeway Food Stores (Baltimore, MD)	Food and Commercial Workers	1,400
Real estate	Building Managers Association (Chicago, IL)	Service Employees	6,000
	Apartment Owners Advisory Council (Westchester, NY)	Service Employees	3,500
Hotels	Hotel Association of Washington, DC (Washington, DC)	Hotel Employees and Restaurant Employees	6,000
Services	American Protective Services, Inc. (California)	International Union of Security Officers (Ind.)	2,800
Amusements	Walt Disney Productions, Disneyland (Anaheim, CA)	Various unions	1,850

See footnote at end of table.

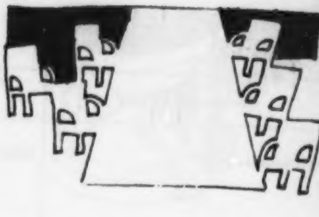
Industry or activity	Employer and location	Labor organization[1]	Number of workers
Educational services	Albert Einstein College of Medicine (New York, NY)	Retail, Wholesale, and Department Store	1,300
Public			
Education	Arkansas: Little Rock Board of Education, teachers	Education Association (Ind.)	1,100
	California: Compton Board of Education, classified employees	State Employees Association	1,400
General government	Florida: Jacksonville general unit	State, County and Municipal Employees	3,000
	St. Petersburg blue-collar unit	Firemen and Oilers	1,050
Social services	Michigan: State Mental Health Institutional unit	State, County and Municipal Employees	6,900
Fire protection	Texas: San Antonio Fire Department	Fire Fighters	1,100
Law enforcement	San Antonio Police Department	Police Association	1,050

[1] Affiliated with AFL–CIO except where noted as independent (Ind.).

A note on communications

The *Monthly Labor Review* welcomes communications that supplement, challenge, or expand on research published in its pages. To be considered for publication, communications should be factual and analytical, not polemical in tone. Communications should be addressed to the Editor-in-Chief, *Monthly Labor Review*, Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C. 20212.

Developments in Industrial Relations



More steel settlements

The third settlement in the round of bargaining in the steel industry occurred when Bethlehem Steel Corp. and the United Steelworkers agreed on a 37-month contract for 30,000 employees. Reflecting the breakup of the major companies' united bargaining front and the union's recognition of the variations in the competitive problems facing the individual companies, Bethlehem's terms varied from the leadoff LTV Steel and National Steel accords. (See *Monthly Labor Review*, June 1986, pp. 45–46.)

The Bethlehem contract, which the workers approved by a vote of 11,600 to 8,369, calls for a cut in compensation totaling $1.97 an hour. According to the union, this reduces average hourly labor costs to between $22.50 and $23. The wage portion of compensation was cut 8.1 percent, or an average of 98.6 cents an hour.

As at LTV Steel, the settlement provides for a plan under which employees' wage and benefit sacrifices will be repaid in cash or shares of a new issue of dividend-bearing stock. Retirees and employees will receive annual payments from an allocation equal to 10 percent of profits up to $100 million and 20 percent of any excess. If this is not enough to offset the employees' sacrifices, the balance will be in shares of the stock.

As in the earlier accords, the Bethlehem settlement establishes a gain-sharing approach permitting local unions and management to develop plans for distributing cash to employees based on one or more of the following:

- tons of steel shipped;
- work hours per ton;
- quality of product; and
- reductions in nonlabor costs attributable to employee efforts or initiative.

The plans may include inducements—such as improved early retirement benefits and severance payments—in exchange for negotiated reductions in the work force, but Bethlehem is not permitted to contract out any work that had been performed by departing employees.

Among the cost-reducing contract changes accepted by the union were suspension of the provision for automatic quarterly cost-of-living pay adjustments, elimination of three paid holidays, time and one-quarter premium pay for Sunday work instead of time and one-half, and exclusion of overtime, Sunday premium, and shift premiums from calculations of vacation pay (unlike LTV Steel, the duration of vacations was not reduced).

Utility contracts

In Massachusetts, members of the Utility Workers Union ended a 1-month strike against Boston Edison Co. after ratifying 4-year contracts. Terms, which were similar for the three units of workers, included pay increases of 5 percent in the first year, 4.75 percent in the second and third years, and 4.5 percent in the final year. The shift differential also was raised by 5 cents an hour in each year, bringing it to 70 cents.

The pension plan was revised to permit 30-year employees to retire at age 60 at unreduced benefit rates (previously, the age requirement was 62). The plan also was revised to permit immediate retirement for 15-year employees who become disabled and are not able to perform the duties of their job or a similar job. If the company doctor and the employee's doctor are unable to agree on the extent of the disability, the decision would be made by a specialist recommended by the American Medical Association. Previously, such rulings were made by a review board, which required 100 percent disability. In another change, if an employee with at least 10 years of service dies, the surviving spouse will be entitled to a survivorship benefit (previously, the minimum requirement was 20 years of service).

A major concern was resolved when the parties agreed to establish a joint safety committee. Its first task is to oversee installation of a fire sprinkler system and removal of asbestos from the building where about 25 percent of the 2,800 employees work.

Other contract changes included doubling of accidental death and dismemberment insurance coverage to $200,000; 5-year pay rate retention for disabled employees demoted to lower paying jobs because of inability to perform current duties; a switch to a health insurance plan containing various requirements designed to contain premium cost increases;

"Developments in Industrial Relations" is prepared by George Ruben of the Division of Developments in Labor-Management Relations, Bureau of Labor Statistics, and is largely based on information from secondary sources.

and extension to clerical employees of grievance and arbitration procedures for resolving disputes over contracting out of work.

In the Washington, DC, area, 1,800 employees were covered by a 3-year agreement between the Washington Gas Light Co. and the International Gas Workers Union and the Office and Professional Employees. The settlement ended a 3-week strike, the first since a 17-day stoppage in 1961.

Wages were raised by 4.25 percent at the beginning of the first and second years, and by 4.7 percent at the beginning of the third year. The 4.7-percent increase is subject to renegotiation if the Consumer Price Index rises 5.5 percent or more between March 1987 and March 1988.

The company responded to the workers' concern over job security by promising to make every effort to avoid layoffs during the contract period, which ends in May 1989.

Consolidated Edison Co. of New York City and the Utility Workers Union agreed on a 3-year contract for 14,500 workers. It provides for 4-percent wage increases in June of 1986, 1987, and 1988. The employees also received an immediate $100 lump-sum payment for ratifying the accord before June 22.

The contract provides for a $250 annual allowance for employees who use their cars on the job; a choice of three health insurance plans (previously, only one plan was available) and two dental plans (previously, one plan); and improved early retirement benefits.

OSHA issues new asbestos standards

The Department of Labor's Occupational Safety and Health Administration has adopted stricter standards for worker exposure to asbestos. The new standards differ for the construction industry and the general industry. Secretary of Labor William Brock said the standards will "substantially increase protections for more than 1.3 million workers and reduce their risk of cancer and other serious disease."

The new limit for exposure to asbestos is 0.2 fiber per cubic centimeter of airspace, averaged over an 8-hour day. This limit, although one-tenth the level in effect since 1976, drew criticism from organized labor. The AFL-CIO described the change as "significant progress" but said the new limit came only "after years of delay" and that workers will still be endangered.

The Associated General Contractors, comprising 8,500 construction firms, contended that the limit is too stringent. The Asbestos Information Association, an employer group, and industry in general, had backed the 0.5 fiber per cubic centimeter limit OSHA had proposed in 1984.

OSHA said the 0.2 limit will benefit 1.3 million employees above the 0.1 fiber per cubic centimeter "action level" at which employers must begin some monitoring, training, and corrective measures. The agency estimated that the 0.2 requirement will reduce the number of asbestos-caused cancer deaths from 64 of 1,000 exposed workers to 6.7, and that it expects the number of asbestosis cases to drop from 50 of 1,000 exposed workers to 5.

The standards require all employers to:

- Alert workers to the dangers of asbestos and train them in safe work practices.
- Distribute respirators to workers in situations where air quality can not be reduced to the acceptable level through engineering controls and work practices.
- Distribute respirators to maintenance employees and in emergencies.
- Post warning signs and labels.
- Keep employee medical and exposure records for at least 30 years.
- Separate change rooms, showers, and lunch rooms when the fiber content of air exceeds the limit.
- Provide medical monitoring of employees when the action level is attained for workers under the general industry standard, and when it is maintained for at least 30 days or negative pressure respirators are used for those under the construction standard.

In addition, the new standards require construction employers to:

- Provide negative pressure enclosures to prevent the escape of asbestos fibers to other areas.
- Provide employee decontamination areas.
- Select a "competent person" to identify existing hazards and take corrective action.

OSHA will continue to require employers to use engineering controls and work practices for protecting workers from excessive exposure to asbestos, which is derived from a mineral and used in textiles, insulation, and other building materials. This approach is favored by unions, which objected to the agency's original proposal, which called for use of "any feasible combination" of engineering controls, work practices, and protective equipment. □

Book Reviews

A monument to the labor movement

The Samuel Gompers Papers: Vol. I, The Making of a Union Leader, 1850–86. Edited by Stuart B. Kaufman. Champaign, IL, University of Illinois Press, 1986. 529 pp. $39.95.

This is the first of a projected 12-volume series of documentary papers of and about Sam Gompers. This first volume takes the reader from the poorest section of London (his parents' marriage certificate, 1849, and SG's birth certificate, 1850), the passenger list of the ship *London* in which the family arrived in New York in 1863, to Gompers' election as the first president of the new American Federation of Labor, 1886.

All labor history buffs have a treat in store for them as they follow through Gompers' eyes the workingman's efforts at organization in the turbulent post-Civil War industrial era. Readers will enjoy learning more about the institutions, politics, and mores of that period. Here we find the ethnic splits in Gompers' union, the Cigarmakers, the ideological split between the Knights of Labor and the trade unions, and the continuing thrusts and parries between those who put first the building of socialism and those who put first the building of trade unions. In the middle of all this strides Gompers, young and vigorous, very sure of his facts and his views, and working ceaselessly.

Two highlights are worthy of special mention. The first is Gompers' testimony, at age 33, before the U.S. Senate Education and Labor Committee, documenting wages and working conditions, explaining the reasoning behind the movement for an 8-hour day, giving details of individual strikes along with his personal philosophy of trade unionism. Sixty-six fascinating pages of testimony.

The second concerns Gompers' efforts in 1881, as an official of the Cigarmakers, to outlaw by legislation the practice of manufacturing cigars in New York City tenements. Gompers personally conducted a special investigation into the practice of employers who used tenement families to roll cigars in their two-room tenement flats, which were filled from morning to night with tobacco leaf and its attendant tobacco dust. His extensive report included case histories of individual contractors and individual tenement houses, as well as medical evidence of the deleterious effects of tobacco, expecially on pregnant women and their chances for healthy births. This, 83 years before the Su geon General's Report on cigarette smoking.

This is the work of many hands. Stuart Kaufman, alor with four associate and two contributing editors, faced herculean task inasmuch as Gompers' papers had been sca tered to the four winds (and some destroyed). Since its sta in 1973, the project has gathered speed and the next tw volumes are nearing publication. The book's format is help ful to the reader. Documents are grouped together, roughl chronologically, with introductory notes clarifying event and identifying individuals.

It's true that basic labor history can be more easily ob tained elsewhere, but the letters, newspaper articles, organi zation reports, committee minutes, and convention proceed ings endow history with the stuff of reality. You are there Don't miss it.

—PETER HENL

Arbitrato
Arlington, VA

Book notes

Employment Termination: Rights and Remedies. By William J. Holloway and Michael J. Leech. Washington, The Bureau of National Affairs, Inc., 1985. 567 pp. $70. Available from BNA Books, Distribution and Customer Service Center, 9435 Key West Avenue, Rockville, MD 20850–3397.

"This book covers a most significant area of the law which, for all practical purposes, didn't exist until only a few years ago. The black-letter rule used to be . . . that the 'at will' employee could be fired 'for any reason, for an improper reason, or for no reason at all.' The rule had been handed down and repeated virtually without question or exception from medieval times—seemingly since the beginning of time."

Employment Termination covers principal contract issues concerning the formation, performance, and termination of employment contracts; common law, statutory, and constitutional claims that often follow in the wake of an alleged wrongful discharge; preclusions, procedural issues, and preemption doctrines which may limit employee causes of action related to discharge; the rights of private voluntary associations and their decisions to admit or exclude members; legal remedies, measures of damages, and equitable remedies of reinstatement and injunction against discharge. Also included is a comprehensive State-by-State listing of employee protection statutes.

A Decade of New Opportunity: Affirmative Action in the 1970's. By Herbert Hammerman. Washington, The Potomac Institute, Inc., 1984. 100 pp. $6, paper.

In contrast to an earlier (1973) Potomac Institute study—which concluded that "more than a decade of affirmative action policy has yielded woefully inadequate results"—this study reports that women and minorities have made substantial progress in the work force in recent years, largely as a result of affirmative action programs. Hammerman says that "the gains have been uneven, and in most areas, parity is still remote. But the trend is unmistakably in the direction of equal opportunity, particularly in the higher positions that were for so long closed to the traditional victims of discrimination."

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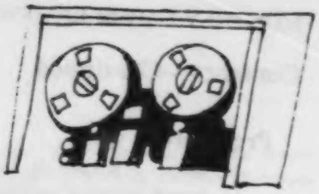

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Schedule of release dates for BLS statistical series

Series	Release date	Period coverd	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	August 1	July	September 5	August	October 3	September	1; 4-21
Producer Price Index	August 15	July	September 12	August	October 10	September	2; 33-35
Consumer Price Index	August 21	July	September 23	August	October 23	September	2; 30-32
Real earnings	August 21	July	September 23	August	October 23	September	14-17
Major collective bargaining settlements					October 27	1st 9 months	3; 25-28
Employment Cost Index					October 28	3rd quarter	1-3; 22-24
Productivity and costs:							
Nonfarm business and manufacturing					October 29	3rd quarter	2; 42-44
Nonfinancial corporations	August 27	2nd quarter					2; 42-44
U.S. Import and Export Price Indexes					October 30	3rd quarter	2; 36-41
Occupational illnesses and injuries					November 13	1985	48

NOTES ON CURRENT LABOR STATISTICS

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics: series on labor force, employment, unemployment, collective bargaining settlements, consumer, producer, and international prices, productivity, international comparisons, and injury and illness statistics. In the notes that follow, the data in each group of tables is briefly described, key definitions are given, notes on the data are set forth, and sources of additional information are cited.

General notes

The following notes apply to several tables in this section:

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect on the data of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might prevent short-term evaluation of the statistical series. Tables containing data that have been adjusted are identified as "seasonally adjusted." (All other data are not seasonally adjusted.) Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. (Seasonally adjusted data appear in tables 1–3, 4–10, 13, 14, and 18.) Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are being seasonally adjusted with a new procedure called X–11 ARIMA, which was developed at Statistics Canada as an extension of the standard X–11 method previously used by BLS. A detailed description of the procedure appears in *The X–11 ARIMA Seasonal Adjustment Method* by Estla Bee Dagum (Statistics Canada, Catalogue No. 12–564E, January 1983). The second change is that seasonal factors are now being calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year for the July-December period. However, revisions of historical data continue to be made only at the end of each calendar year.

Seasonally adjusted labor force data in tables 1 and 4–10 were revised in the February 1986 issue of the *Review*, to reflect experience through 1985.

Annual revisions of the seasonally adjusted payroll data shown in tables 13, 14, and 18 were made in July 1985 using the X–11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in table 42 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the Hourly Earnings Index in table 17—are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is $2 ($3/150 × 100 = $2). The $2 (or any other resulting values) are described as "real," "constant," or "1967" dollars.

Additional information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule preceding these general notes. More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in *Employment and Earnings*, a monthly publication of the Bureau. More data from the household survey is published in the two-volume data book—*Labor Force Statistics Derived From the Current Population Survey*, Bulletin 2096. More data from the establishment survey appears in two data books—*Employment, Hours, and Earnings, United States*, and *Employment, Hours, and Earnings, States and Areas*, and the annual supplements to these data books. More detailed information on employee compensation and collective bargaining settlements is published in the monthly periodical, *Current Wage Developments*. More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report*, and *Producer Prices and Price Indexes*. Detailed data on all of the series in this section are provided in the *Handbook of Labor Statistics*, which is published biennally by the Bureau. BLS bulletins are issued covering productivity, injury and illness, and other data in this section. Finally, the *Monthly Labor Review* carries analytical articles on annual and longer term developments in labor force, employment and unemployment; employee compensation and collective bargaining; prices; productivity; international comparisons; and injury and illness data.

Symbols

p = preliminary. To increase the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally, this revision reflects the availability of later data but may also reflect other adjustments.
n.e.c. = not elsewhere classified.
n.e.s. = not elsewhere specified.

COMPARATIVE INDICATORS

(Tables 1–3)

Comparative indicators tables provide an overview and comparison of major BLS statistical series. Consequently, although many of the included series are available monthly, all measures in these comparative tables are presented quarterly and annually.

Labor market indicators include employment measures from two major surveys and information on rates of change in compensation provided by the Employment Cost Index (ECI) program. The labor force participation rate, the employment-to-population ratio, and unemployment rates for major demographic groups based on the Current Population ("household") Survey are presented, while measures of employment and average weekly hours by major industry sector are given using nonagricultural payroll data. The Employment Cost Index (compensation), by major sector and by bargaining status, is chosen from a variety of BLS compensation and wage measures because it provides a comprehensive measure of employer costs for hiring labor, not just outlays for wages, and it is not affected by employment shifts among occupations and industries.

Data on **changes in compensation, prices, and productivity** are presented in table 2. Measures of rates of change of compensation and wages from the Employment Cost Index program are provided for all civilian

nonfarm workers (excluding Federal and household workers) and for all private nonfarm workers. Measures of changes in: consumer prices for all urban consumers; producer prices by stage of processing; and the overall export and import price indexes are given. Measures of productivity (output per hour of all persons) are provided for major sectors.

Alternative measures of wage and compensation rates of change, which reflect the overall trend in labor costs, are summarized in table 3. Differences in concepts and scope, related to the specific purposes of the series, contribute to the variation in changes among the individual measures.

Notes on the data

Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data. For detailed descriptions of each data series, see BLS *Handbook of Methods*, Volumes I and II, Bulletins 2134–1 and 2134–2 (Bureau of Labor Statistics, 1982 and 1984, respectively), as well as the additional bulletins, articles, and other publications noted in the separate sections of the *Review*'s "Current Labor Statistics Notes." Historical data for many series are provided in the *Handbook of Labor Statistics, Bulletin 2217* (Bureau of Labor Statistics, 1985). Users may also wish to consult *Major Programs, Bureau of Labor Statistics*, Report 718 (Bureau of Labor Statistics, 1985).

EMPLOYMENT DATA

(Tables 1; 4–21)

Household survey data

Description of the series

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 59,500 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons include (1) all civilians who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. Members of the Armed Forces stationed in the United States are also included in the employed total. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **overall unemployment rate** represents the number unemployed as a percent of the labor force, including the resident Armed Forces. The **civilian unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **labor force** consists of all employed or unemployed civilians plus members of the Armed Forces stationed in the United States. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons who are retired, those engaged in their own housework, those not working while attending school, those unable to work because of long-term illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy, and members of the Armed Forces stationed in the United States. The **labor force participation rate** is the proportion of the noninstitutional populaton that is in the labor force. The **employment-population ratio** is total employment (including the resident Armed Forces) as a percent of the noninstitutional population.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 4–10 are seasonally adjusted, based on the seasonal experience through December 1984.

Additional sources of information

For detailed explanations of the data, see BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 1, and for additional data, *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). A detailed description of the Current Population Survey as well as additional data are available in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*. Historical data from 1948 to 1982 are available in *Labor Force Statistics Derived from the Current Population Survey: A Databook*, Vols. I and II, Bulletin 2096 (Bureau of Labor Statistics, 1982).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

Establishment survey data

Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by more than 200,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

An **establishment** is an economic unit which produces goods or services (such as a factory or store) at a single location and is engaged in one type of economic activity.

Employed persons are all persons who received pay (including holiday

and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 12–16 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in the following industries: transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for about four-fifths of the total employment on private nonagricutural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W). The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

The Diffusion Index, introduced in the May 1983 *Review*, represents the percent of 185 nonagricultural industries in which employment was rising over the indicated period. One-half of the industries with unchanged employment are counted as rising. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. The diffusion index is useful for measuring the dispersion of economic gains or losses and is also an economic indicator.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of May 1985 data, published in the July 1985 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Unadjusted data have been revised back to April 1983; seasonally adjusted data have been revised back to January 1980. These revisions were published in the *Supplement to Employment and Earnings* (Bureau of Labor Statistics, 1985). Unadjusted data from April 1984 forward, and seasonally adjusted data from January 1981 forward are subject to revision in future benchmarks.

Additional sources of information

Detailed data from the establishment survey are published monthly in the BLS periodical, *Employment and Earnings*. Earlier comparable unadjusted and seasonally adjusted data are published in *Employment, Hours, and Earnings, United States, 1909–84*, Bulletin 1312–12 (Bureau of Labor Statistics, 1985) and its annual supplement. For a detailed discussion of the methodology of the survey, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 2. For additional data, see *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

Unemployment data by State

Description of the series

Data presented in this section are obtained from two major sources—the Current Population Survey (CPS) and the Local Area Unemployment Statistics (LAUS) program, which is conducted in cooperation with State employment security agencies.

Monthly estimates of the labor force, employment, and unemployment for States and sub-State areas are a key indicator of local economic conditions and form the basis for determining the eligibility of an area for benefits under Federal economic assistance programs such as the Job Training Partnership Act and the Public Works and Economic Development Act. Insofar as possible, the concepts and definitions underlying these data are those used in the national estimates obtained from the CPS.

Notes on the data

Data refer to State of residence. Monthly data for 11 States—California, Florida, Illinois, Massachusetts, Michigan, New York, New Jersey, North Carolina, Ohio, Pennsylvania, and Texas—are obtained directly from the CPS, because the size of the sample is large enough to meet BLS standards of reliability. Data for the remaining 39 States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates for the 11 States are revised to new population controls. For the remaining States and the District of Columbia, data are benchmarked to annual average CPS levels.

Additional sources of information

Information on the concepts, definitions, and technical procedures used to develop labor force data for States and sub-State areas as well as additional data on sub-States are provided in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*, and the annual report, *Geographic Profile of Employment and Unemployment* (Bureau of Labor Statistics). See also *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 4.

COMPENSATION AND WAGE DATA

(Tables 1–3; 22–29)

COMPENSATION AND WAGE DATA are gathered by the Bureau from business establishments, State and local governments, labor unions, collective bargaining agreements on file with the Bureau, and secondary sources.

Employment Cost Index

Description of the series

The **Employment Cost Index** (ECI) is a quarterly measure of the rate of change in compensation per hour worked and includes wages, salaries, and employer costs of employee benefits. It uses a fixed market basket of labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over time in employer costs of employing labor. The index is not seasonally adjusted.

Statistical series on total compensation costs and on wages and salaries are available for private nonfarm workers excluding proprietors, the self-employed, and household workers. Both series are also available for State and local government workers and for the civilian nonfarm economy, which consists of private industry and State and local government workers combined. Federal workers are excluded.

The Employment Cost Index probability sample consists of about 2,200 private nonfarm establishments providing about 12,000 occupational observations and 700 State and local government establishments providing

3,500 occupational observations selected to represent total employment in each sector. On average, each reporting unit provides wage and compensation information on five well-specified occupations. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Fixed employment weights from the 1970 Census of Population are used each quarter to calculate the indexes for civilian, private, and State and local governments. These fixed weights, also used to derive all of the industry and occupation series indexes, ensure that changes in these indexes reflect only changes in compensation, not employment shifts among industries or occupations with different levels of wages and compensation. For the bargaining status, region, and metropolitan/nonmetropolitan area series, however, employment data by industry and occupation are not available from the census. Instead, the 1970 employment weights are reallocated within these series each quarter based on the current sample. Therefore, these indexes are not strictly comparable to those for the aggregate, industry, and occupation series.

Definitions

Total compensation costs include wages, salaries, and the employer costs for employee benefits.

Wages and salaries consist of earnings before payroll deductions, including production bonuses, incentive earnings, commissions, and cost-of-living adjustments.

Benefits include the cost to employers for paid leave, supplemental pay (including nonproduction bonuses), insurance, retirement and savings plans, and legally required benefits (such as social security, workers' compensation, and unemployment insurance).

Excluded from wages and salaries and employee benefits are such items as payment-in-kind, free room and board, and tips.

Notes on the data

The Employment Cost Index data series began in the fourth quarter of 1975, with the quarterly percent change in wages and salaries in the private nonfarm sector. Data on employer costs for employee benefits were included in 1980 to produce, when combined with the wages and salaries series, a measure of the percent change in employer costs for employee total compensation. State and local government units were added to the ECI coverage in 1981, providing a measure of total compensation change in the *civilian* nonfarm economy (excluding Federal employees). Historical indexes (June 1981=100) of the quarterly rates of change are presented in the May issue of the BLS monthly periodical, *Current Wage Developments*.

Additional sources of information

For a more detailed discussion of the Employment Cost Index, see Chapter 11, "The Employment Cost Index," in the *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), and the following *Monthly Labor Review* articles: "Employment Cost Index: a measure of change in the 'price of labor'," July 1975; "How benefits will be incorporated into the Employment Cost Index," January 1978; "Estimation procedures for the Employment Cost Index," May 1982; and "Introducing new weights for the Employment Cost Index," June 1985.

Data on the ECI are also available in BLS quarterly press releases issued in the month following the reference months of March, June, September, and December; and from the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

Collective bargaining settlements

Description of the series

Collective bargaining settlements data provide statistical measures of negotiated adjustments (increases, decreases, and freezes) in compensation (wages and benefits costs) and wages alone, quarterly for private industry and semiannually for State and local government. Compensation measures cover all collective bargaining situations involving 5,000 workers or more and wage measures cover all situations involving 1,000 workers or more. These data, covering private nonagricultural industries and State and local governments, are calculated using information obtained from bargaining agreements on file with the Bureau, parties to the agreements, and secondary sources, such as newspaper accounts. The data are not seasonally adjusted.

Settlement data are measured in terms of future specified adjustments: those that will occur within 12 months after contract ratification—first year—and all adjustments that will occur over the life of the contract expressed as an average annual rate. Adjustments are worker weighted. Both first-year and over-the-life measures exclude wage changes that may occur under cost-of-living clauses that are triggered by future movements in the Consumer Price Index.

Effective wage adjustments measure all adjustments occurring in the reference period, regardless of the settlement date. Included are changes from settlements reached during the period, changes deferred from contracts negotiated in earlier periods, and changes under cost-of-living adjustment clauses. Each wage change is worker weighted. The changes are prorated over all workers under agreements during the reference period yielding the average adjustment.

Definitions

Wage rate changes are calculated by dividing newly negotiated wages by the average hourly earnings, excluding overtime, at the time the agreement is reached. Compensation changes are calculated by dividing the change in the value of the newly negotiated wage and benefit package by existing average hourly compensation, which includes the cost of previously negotiated benefits, legally required social insurance programs, and average hourly earnings.

Compensation changes are calculated by placing a value on the benefit portion of the settlements at the time they are reached. The cost estimates are based on the assumption that conditions existing at the time of settlement (for example, methods of financing pensions or composition of labor force) will remain constant. The data, therefore, are measures of negotiated changes and not of total changes in employer cost.

Contract duration runs from the effective date of the agreement to the expiration date or first wage reopening date, if applicable. Average annual percent changes over the contract term take account of the compounding of successive changes.

Notes on the data

Care should be exercised in comparing the size and nature of the settlements in State and local government with those in the private sector because of differences in bargaining practices and settlement characteristics. A principal difference is the incidence of cost-of-living adjustment (COLA) clauses which cover only about 2 percent of workers under a few local government settlements, but cover 50 percent of workers under private sector settlements. Agreements without COLA's tend to provide larger specified wage increases than those with COLA's. Another difference is that State and local government bargaining frequently excludes pension benefits which are often prescribed by law. In the private sector, in contrast, pensions are typically a bargaining issue.

Additional sources of information

For a more detailed discussion on the series, see of the BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 10. Comprehensive data are published in press releases issued quarterly (in January, April, July, and October) for private industry, and semi-

annually (in February and August) for State and local government. Historical data and additional detailed tabulations for the prior calendar year appear in the April issue of the BLS monthly periodical, *Current Wage Developments*.

Work stoppages

Description of the series

Data on **work stoppages** measure the number and duration of major strikes or lockouts (involving 1,000 workers or more) occurring during the month (or year), the number of workers involved, and the amount of time lost because of stoppage.

Data are largely from newspaper accounts and cover only establishments directly involved in a stoppage. They do not measure the indirect or secondary effect of stoppages on other establishments whose employees are idle owing to material shortages or lack of service.

Definitions

Number of stoppages: The number of strikes and lockouts involving 1,000 workers or more and lasting a full shift or longer.

Workers involved: The number of workers directly involved in the stoppage.

Number of days idle: The aggregate number of work days lost by workers involved in the stoppages.

Days of idleness as a percent of estimated working time: Aggregate work days lost as a percent of the aggregate number of standard work days in the period multiplied by total employment in the period.

Notes on the data

This series is not comparable with the one terminated in 1981 that covered strikes involving six workers or more.

Additional sources of information

Data for each calendar year are reported in a BLS press release issued in the first quarter of the following year. Monthly data appear in the BLS monthly periodical, *Current Wage Developments*. Historical data appear in the *BLS Handbook of Labor Statistics*.

Other compensation data

Other BLS data on pay and benefits, not included in the Current Labor Statistics section of the *Monthly Labor Review*, appear in and consist of the following:

Industry Wage Surveys provide data for specific occupations selected to represent an industry's wage structure and the types of activities performed by its workers. The Bureau collects information on weekly work schedules, shift operations and pay differentials, paid holiday and vacation practices, and information on incidence of health, insurance, and retirement plans. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Monthly Labor Review*.

Area Wage Surveys annually provide data for selected office, clerical, professional, technical, maintenance, toolroom, powerplant, material movement, and custodial occupations common to a wide variety of industries in the areas (labor markets) surveyed. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Review*.

The National Survey of Professional, Administrative, Technical, and Clerical Pay provides detailed information annually on salary levels and distributions for the types of jobs mentioned in the survey's title in private employment. Although the definitions of the jobs surveyed reflect the duties and responsibilities in private industry, they are designed to match specific pay grades of Federal white-collar employees under the General Schedule pay system. Accordingly, this survey provides the legally required information for comparing the pay of salaried employees in the Federal civil service with pay in private industry. (See Federal Pay Comparability Act of 1970, 5 U.S.C. 5305.) Data are published in a BLS news release issued in the summer and in a bulletin each fall; summaries and analytical articles also appear in the *Review*.

Employee Benefits Survey provides nationwide information on the incidence and characteristics of employee benefit plans in medium and large establishments in the United States, excluding Alaska and Hawaii. Data are published in an annual BLS news release and bulletin, as well as in special articles appearing in the *Review*.

PRICE DATA
(Tables 2; 30–41)

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Consumer Price Indexes

Description of the series

The **Consumer Price Index** (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI–W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all urban consumer index (CPI–U) introduced in 1978 is representative of the 1972–73 buying habits of about 80 percent of the noninstitutional population of the United States at that time, compared with 40 percent represented in the CPI–W. In addition to wage earners and clerical workers, the CPI–U covers professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items are kept essentially unchanged between major revisions so that only price changes will be measured. All taxes directly associated with the purchase and use of items are included in the index.

Data collected from more than 24,000 retail establishments and 24,000 tenants in 85 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 28 major urban centers are presented in table 31. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

Notes on the data

In January 1983, the Bureau changed the way in which homeownership costs are measured for the CPI–U. A rental equivalence method replaced the

asset-price approach to homeownership costs for that series. In January 1985, the same change was made in the CPI-W. The central purpose of the change was to separate shelter costs from the investment component of homeownership so that the index would reflect only the cost of shelter services provided by owner-occupied homes.

Additional sources of information

For a discussion of the general method for computing the CPI, see *BLS Handbook of Methods, Volume II, The Consumer Price Index*, Bulletin 2134–2 (Bureau of Labor Statistics, 1984). The recent change in the measurement of homeownership costs is discussed in Robert Gillingham and Walter Lane, "Changing the treatment of shelter costs for homeowners in the CPI," *Monthly Labor Review*, June 1982, pp. 9–14.

Additional detailed CPI data and regular analyses of consumer price changes are provided in the *CPI Detailed Report*, a monthly publication of the Bureau. Historical data for the overall CPI and for selected groupings may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

Producer price indexes

Description of the series

Producer Price Indexes (PPI) measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 60,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The stage of processing structure of Producer Price Indexes organizes products by class of buyer and degree of fabrication (that is, finished goods, intermediate goods, and crude materials). The traditional commodity structure of PPI organizes products by similarity of end-use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

Since January 1976, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

Notes on the data

Beginning with the January 1986 issue, the *Review* is no longer presenting tables of Producer Price Indexes for commodity groupings, special composite groups, or SIC industries. However, these data will continue to be presented in the Bureau's monthly publication *Producer Price Indexes*.

The Bureau has completed the first major stage of its comprehensive overhaul of the theory, methods, and procedures used to construct the Producer Price Indexes. Changes include the replacement of judgment sampling with probability sampling techniques; expansion to systematic coverage of the net output of virtually all industries in the mining and manufacturing sectors; a shift from a commodity to an industry orientation the exclusion of imports from, and the inclusion of exports in, the survey universe; and the respecification of commodities priced to conform to Bureau of the Census definitions. These and other changes have been phased in gradually since 1978. The result is a system of indexes that is easier to use in conjunction with data on wages, productivity, and employment and other series that are organized in terms of the Standard Industrial Classification and the Census product class designations.

Additional sources of information

For a discussion of the methodology for computing Producer Price Indexes, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 7.

Additional detailed data and analyses of price changes are provided monthly in *Producer Price Indexes*. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

International price indexes

Description of the series

The BLS **International Price Program** produces quarterly export and import price indexes for nonmilitary goods traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national income accounts: it includes corporations, businesses, and individuals but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents. With publication of an all-import index in February 1983 and an all-export index in February 1984, all U.S. merchandise imports and exports now are represented in these indexes. The reference period for the indexes is 1977 = 100, unless otherwise indicated.

The product universe for both the import and export indexes includes raw materials, agricultural products, semifinished manufactures, and finished manufactures, including both capital and consumer goods. Price data for these items are collected quarterly by mail questionnaire. In nearly all cases, the data are collected directly from the exporter or importer, although in a few cases, prices are obtained from other sources.

To the extent possible, the data gathered refer to prices at the U.S. border for exports and at either the foreign border or the U.S. border for imports. For nearly all products, the prices refer to transactions completed during the first 2 weeks of the third month of each calendar quarter—March, June, September, and December. Survey respondents are asked to indicate all discounts, allowances, and rebates applicable to the reported prices, so that the price used in the calculation of the indexes is the actual price for which the product was bought or sold.

In addition to general indexes of prices for U.S. exports and imports, indexes are also published for detailed product categories of exports and imports. These categories are defined by the 4- and 5-digit level of detail of the Standard Industrial Trade Classification System (SITC). The calculation of indexes by SITC category facilitates the comparison of U.S. price trends and sector production with similar data for other countries. Detailed indexes are also computed and published on a Standard Industrial Classification (SIC-based) basis, as well as by end-use class.

Notes on the data

The export and import price indexes are weighted indexes of the Laspeyeres type. Price relatives are assigned equal importance within each weight category and are then aggregated to the SITC level. The values assigned to each weight category are based on trade value figures compiled

by the Bureau of the Census. The trade weights currently used to compute both indexes relate to 1980.

Because a price index depends on the same items being priced from period to period, it is necessary to recognize when a product's specifications or terms of transaction have been modified. For this reason, the Bureau's quarterly questionnaire requests detailed descriptions of the physical and functional characteristics of the products being priced, as well as information on the number of units bought or sold, discounts, credit terms, packaging, class of buyer or seller, and so forth. When there are changes in either the specifications or terms of transaction of a product, the dollar value of each change is deleted from the total price change to obtain the "pure" change. Once this value is determined, a linking procedure is employed which allows for the continued repricing of the item.

For the export price indexes, the preferred pricing basis is f.a.s. (free alongside ship) U.S. port of exportation. When firms report export prices f.o.b. (free on board), production point information is collected which enables the Bureau to calculate a shipment cost to the port of exportation. An attempt is made to collect two prices for imports. The first is the import price f.o.b. at the foreign port of exportation, which is consistent with the basis for valuation of imports in the national accounts. The second is the import price c.i.f. (cost, insurance, and freight) at the U.S. port of importation, which also includes the other costs associated with bringing the product to the U.S. border. It does not, however, include duty charges.

Additional sources of information

For a discussion of the general method of computing International Price Indexes, see BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 8.

Additional detailed data and analyses of international price developments are presented in the Bureau's quarterly publication *U.S. Import and Export Price Indexes* and in occasional *Monthly Labor Review* articles prepared by BLS analysts. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

PRODUCTIVITY DATA
(Tables 2; 42–47)

U. S. productivity and related data

Description of the series

The productivity measures relate real physical output to real input. As such, they encompass a family of measures which include single factor input measures, such as output per unit of labor input (output per hour) or output per unit of capital input, as well as measures of multifactor productivity (output per unit of labor and capital inputs combined). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

Corresponding indexes of hourly compensation, unit labor costs, unit nonlabor payments, and prices are also provided.

Definitions

Output per hour of all persons (labor productivity) is the value of goods and services in constant prices produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the value of goods and services in constant dollars produced per unit of capital services input.

Multifactor productivity is the ratio output per unit of labor and capital inputs combined. Changes in this measure reflect changes in a number of factors which affect the production process such as changes in technology, shifts in the composition of the labor force, changes in capacity utilization, research and development, skill and efforts of the work force, management, and so forth. Changes in the output per hour measures reflect the impact of these factors as well as the substitution of capital for labor.

Compensation per hour is the wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, and the wages, salaries, and supplementary payments for the self-employed (except for nonfinancial corporations in which there are no self-employed)—the sum divided by hours paid for. **Real compensation per hour** is compensation per hour deflated by the change in the Consumer Price Index for All Urban Consumers.

Unit labor costs are the labor compensation costs expended in the production of a unit of output and are derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from current dollar value of output and dividing by output. **Unit nonlabor costs** contain all the components of unit nonlabor payments *except* unit profits.

Unit profits include corporate profits and the value of inventory adjustments per unit of output.

Hours of all persons are the total hours paid of payroll workers, self-employed persons, and unpaid family workers.

Capital services is the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories—weighted by rental prices for each type of asset.

Labor and capital inputs combined are derived by combining changes in labor and capital inputs with weights which represent each component's share of total output. The indexes for capital services and combined units of labor and capital are based on changing weights which are averages of the shares in the current and preceding year (the Tornquist index-number formula).

Notes on the data

Output measures for the business sector and the nonfarm businesss sector exclude the constant dollar value of owner-occupied housing, rest of world, households and institutions, and general government output from the constant dollar value of gross national product. The measures are derived from data supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are developed from data of the Bureau of Labor Statistics and the Bureau of Economic Analysis.

The productivity and associated cost measures in tables 42–44 describe the relationship between output in real terms and the labor time and capital services involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input. Although these measures relate output to hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; capital investment; level of output; utilization of capacity, energy, and materials; the organization of production; managerial skill; and the characteristics and efforts of the work force.

Additional sources of information

Descriptions of methodology underlying the measurement of output per hour and multifactor productivity are found in the BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 13. Historical data for selected industries are provided in the Bureau's *Handbook of Labor Statistics*, 1985, Bulletin 2217.

International comparisons

Description of the series

Comparative measures of labor force, employment, and unemployment (tables 45 and 46) are prepared regularly for the United States, Canada, Australia, Japan, France, Germany, Great Britain, Italy, the Netherlands, and Sweden. Unemployment rates, approximating U.S. concepts, are prepared monthly for most of the countries; the other measures, annually.

The Bureau of Labor Statistics also prepares international comparisons of manufacturing labor productivity and labor costs (table 47) that cover the United States and 11 foreign countries—those listed above plus Belgium and Norway. These measures are limited to trend comparisons; that is, intercountry series of changes over time, rather than level comparisons because reliable international comparisons of the levels of manufacturing are unavailable. The U.S. measures are described in the notes on U.S. productivity measurement; the measures for foreign countries are compiled from various national and international data sources.

Definitions

Output measures are constant value output (value added) from the national accounts of each country, except for those for Japan prior to 1970 and for the Netherlands for 1969 forward, which are indexes of industrial production. The national accounting methods for measuring real output differ considerably among the 12 countries, but the use of different procedures does not, in itself, connote lack of comparability—rather, it reflects differences among countries in the availability and reliability of underlying data series.

Hours and compensation measures refer to all employed persons including the self-employed in the United States and Canada, and to all wage and salary employees in the other countries. *Hours* refer to hours *paid* in the United States, hours *worked* in the other countries. *Compensation (labor costs)* includes not only all payments made directly to employees and employer expenditures for social insurance and private benefit plans, but changes in significant employment or payroll taxes that are not compensation to employees but are labor costs to employers (France, Sweden, and the United Kingdom). Self-employed workers are included in the U.S. and Canadian figures by assuming that their hourly compensation is equal to the average for wage and salary employees.

Notes on the data

The data for the foreign countries in tables 45 and 46 have been adjusted, where necessary, for greater comparability with U.S. definitions of employment and unemployment. The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country. Therefore, the adjusted statistics relate to the civilian population age 16 and over in the United States, France, and Sweden, and from 1973 forward, Great Britain; 15 and over in Canada, Australia, Japan, Germany, and the Netherlands; and 14 and over in Italy. Prior to 1973, the data for Great Britain related to persons age 15 and over. The institutional population is included in the denominator of the labor force participation rates and employment-population ratios for Japan and Germany.

For most of the countries in table 47, the measures refer to total manufacturing as defined by the International Standard Industrial Classification. However, the measures for France (beginning 1959), Italy (beginning 1970), and the United Kingdom (beginning 1976) refer to manufacturing and mining less energy-related products. For all countries, manufacturing includes the activities of government enterprises.

In addition, for all countries, preliminary estimates for recent years are generally based on current indicators of manufacturing output, employment and hours, and hourly compensation until national accounts and other statistics used for the long-term measures become available.

Additional sources of information

For further information, see *International Comparisons of Unemployment*, Bulletin 1979 (Bureau of Labor Statistics, 1978), Appendix B and Supplements to Appendix B. Additional detail is also found in the BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 16. Additional international comparison statistics are available in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). The most recent statistics are presented and analyzed annually in the *Monthly Labor Review*, typically in the December issue (for the previous year) and in February.

OCCUPATIONAL INJURY AND ILLNESS DATA

(Table 48)

Description of the series

The Annual Survey of Occupational Injuries and Illnesses is designed to collect data on injuries and illnesses based on records which employers in the following industries maintain under the Occupational Safety and Health Act of 1970: agriculture, forestry, and fishing; oil and gas extraction; construction; manufacturing; transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. Excluded from the survey are self-employed individuals, farmers with fewer than 11 employees, employers regulated by other Federal safety and health laws, and Federal, State, and local government agencies.

Because the survey is a Federal–State cooperative program and the data must meet the needs of participating State agencies, an independent sample is selected for each State. The sample is selected to represent all private industries in the States and territories. The sample size for the survey is dependent upon (1) the characteristics for which estimates are needed; (2) the industries for which estimates are desired; (3) the characteristics of the population being sampled; (4) the target reliability of the estimates; and (5) the survey design employed.

While there are many characteristics upon which the sample design could be based, the total recorded case incidence rate is used because it is one of the most important characteristics and the least variable; therefore, it requires the smallest sample size.

The survey is based on stratified random sampling with a Neyman allocation and a ratio estimator. The characteristics used to stratify the establishments are the Standard Industrial Classification (SIC) code and size of employment.

Definitions

Recordable occupational injuries and illnesses are: (1) occupational deaths, regardless of the time between injury and death, or the length of the illness; or (2) nonfatal occupational illnesses; or (3) nonfatal occupational injuries which involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment (other than first aid).

Occupational injury is any injury such as a cut, fracture, sprain, amputation, and so forth, which results from a work accident or from exposure involving a single incident in the work environment.

Occupational illness is an abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. It includes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion, or direct contact.

Lost workday cases are cases which involve days away from work, or days of restricted work activity, or both.

Lost workday cases involving restricted work activity are those cases which result in restricted work activity only.

Lost workdays away from work are the number of workdays (consecutive or not) on which the employee would have worked but could not because of occupational injury or illness.

Lost workdays—restricted work activity are the number of workdays (consecutive or not) on which, because of injury or illness: (1) the employee was assigned to another job on a temporary basis; or (2) the employee worked at a permanent job less than full time; or (3) the employee worked at a permanently assigned job but could not perform all duties normally connected with it.

The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked even though able to work.

Incidence rates represent the number of injuries and/or illnesses or lost workdays per 100 full-time workers.

Notes on the data

Estimates are made for industries and employment-size classes and for severity classification: fatalities, lost workday cases, and nonfatal cases without lost workdays. Lost workday cases are separated into those where the employee would have worked but could not and those in which work activity was restricted. Estimates of the number of cases and the number of days lost are made for both categories.

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses, or lost workdays, per 100 full-time employees. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Only a few of the available measures are included in the *Handbook of Labor Statistics*. Full detail is presented in the annual bulletin, *Occupational Injuries and Illnesses in the United States, by Industry*.

Comparable data for individual States are available from the BLS Office of Occupational Safety and Health Statistics.

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration, respectively. Data from these organizations are included in BLS and State publications. Federal employee experience is compiled and published by the Occupational Safety and Health Administration. Data on State and local government employees are collected by about half of the States and territories; these data are not compiled nationally.

Additional sources of information

The Supplementary Data System provides detailed information describing various factors associated with work-related injuries and illnesses. These data are obtained from information reported by *employers* to State workers' compensation agencies. The Work Injury Report program examines selected types of accidents through an employee survey which focuses on the circumstances surrounding the injury. These data are not included in the *Handbook of Labor Statistics* but are available from the BLS Office of Occupational Safety and Health Statistics.

The definitions of occupational injuries and illnesses and lost workdays are from *Recordkeeping Requirements under the Occupational Safety and Health Act of 1970*. For additional data, see *Occupational Injuries and Illnesses in the United States, by Industry*, annual Bureau of Labor Statistics bulletin; BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 17; *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985), pp. 411–14; annual reports in the *Monthly Labor Review*; and annual U.S. Department of Labor press releases.

1. Labor market indicators

Selected indicators	1984	1985	1984			1985				1986
			II	III	IV	I	II	III	IV	I
Employment data										
Employment status of the civilian noninstitutionalized population (household survey)[1]										
Labor force participation rate	64.4	64.8	64.5	64.4	64.5	64.8	64.7	64.7	64.9	65.1
Employment-population ratio	59.5	60.1	59.6	59.7	59.8	60.1	60.0	60.1	60.4	60.5
Unemployment rate	7.5	7.2	7.5	7.4	7.2	7.3	7.3	7.2	7.0	7.1
Men	7.4	7.0	7.4	7.3	7.1	7.1	7.1	7.0	6.9	6.8
16 to 24 years	14.4	14.1	14.3	14.5	13.8	14.1	14.2	14.0	14.0	13.3
25 years and over	5.7	5.3	5.7	5.5	5.4	5.4	5.4	5.3	5.2	5.3
Women	7.6	7.4	7.6	7.6	7.5	7.6	7.5	7.4	7.2	7.3
16 to 24 years	13.3	13.0	13.5	13.1	12.9	13.1	13.0	12.7	13.1	13.2
25 years and over	6.0	5.9	5.9	6.0	5.9	6.0	6.0	5.9	5.5	5.7
Unemployment rate, 15 weeks and over	2.4	2.0	2.5	2.3	2.1	2.0	2.0	2.0	1.9	1.9
Employment, nonagricultural (payroll data):[1], [2]										
Total	94,496	97,614	94,064	94,977	95,907	96,581	97,295	97,897	98,668	99,403
Private sector	78,472	81,199	78,096	78,914	79,736	80,341	80,958	81,414	82,069	82,731
Goods-producing	24,727	24,930	24,890	24,891	24,943	24,970	24,947	24,866	24,937	25,028
Manufacturing	19,378	19,314	19,381	19,489	19,486	19,430	19,323	19,241	19,261	19,284
Service-producing	69,769	72,684	69,374	70,086	70,964	71,611	72,347	73,031	73,731	74,375
Average hours:										
Private sector	35.2	34.9	35.2	35.1	35.1	35.0	34.9	34.9	34.9	34.8
Manufacturing	40.7	40.5	40.8	40.6	40.5	40.4	40.4	40.6	40.8	40.7
Overtime	3.4	3.3	3.5	3.3	3.4	3.3	3.2	3.3	3.5	3.4
Employment Cost Index										
Percent change in the ECI, compensation:[3]										
All workers (excluding farm, household, and Federal workers)	-	-	.8	1.3	1.2	1.3	.7	1.6	.6	1.1
Private industry workers	-	-	.9	.8	1.3	1.2	.6	1.3	.6	1.1
Goods-producing[4]	-	-	.9	.9	1.1	1.5	.7	.6	.6	1.1
Servicing-producing[4]	-	-	1.0	.7	1.4	1.0	1.0	1.8	.5	1.1
State and local government workers	-	-	.4	3.5	1.0	1.2	.2	3.4	.7	1.9
Workers by bargaining status (private industry)										
Union	-	-	.9	.7	1.1	.7	.6	.8	.5	1.0
Nonunion	-	-	1.0	.9	1.3	1.6	1.0	1.4	.6	1.2

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[1] Quarterly data seasonally adjusted.

[2] Data for final quarter are preliminary.

[3] Quarterly changes calculated using the last month of each quarter.

[4] Goods-producing industries include mining, construction, and manufacturing. Service-producing industries include all other private sector industries.

- Data not available.

2. Annual and quarterly percent changes in compensation, prices, and productivity

Selected measures	1984	1985	1984			1985				1986
			II	III	IV	I	II	III	IV	I
Compensation data: [1], [2]										
Employment Cost Index--Compensation (wages, salaries, benefits)										
Civilian nonfarm	-	-	0.8	1.3	1.2	1.3	0.7	1.6	0.6	1.1
Private nonfarm	-	-	.9	.8	1.3	1.2	.8	1.3	.6	1.1
Employment Cost Index--Wages and Salaries										
Civilian nonfarm	-	-	.8	1.3	1.2	1.2	.9	1.7	.6	1.0
Private nonfarm	-	-	.9	.8	1.2	1.2	1.1	1.3	.6	1.0
Price data[1]										
Consumer Price Index (All urban consumers): All items	4.0	3.8	1.1	1.2	.3	1.0	1.1	.7	.9	-.4
Producer Price Index										
Finished goods	1.7	1.8	-.2	-.5	.9	.0	.7	-1.4	2.5	-3.1
Finished consumer goods	1.6	1.5	-.3	-.5	.8	-.3	.7	-1.4	2.5	-4.0
Capital equipment	1.8	2.7	.5	-.5	1.1	1.3	.4	-1.4	2.5	.2
Intermediate materials, supplies, components	1.3	-.3	.6	-.4	-.1	-.4	.2	-.5	.4	-3.0
Crude materials	-1.6	-5.6	-1.7	-2.0	-1.2	-3.1	-2.1	-4.5	4.3	-7.7
U.S. Export Price Index	-	-	-	-	-	-	-	-	-	-
U.S. Import Price Index	-	-	-	-	-	-	-	-	-	-
Productivity data[1]										
Output per hour of all persons:										
Business sector	4.0	.2	4.5	1.0	.0	1.3	.7	2.1	-4.0	2.7
Nonfarm business sector	3.0	-.6	3.9	-.5	-.5	1.1	-.2	.5	-4.7	3.6
Nonfinancial corporations [3]	4.2	-.4	5.0	-.8	-.3	-.2	-1.1	3.2	-2.3	-.2

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[1] Annual changes are December-to-December change. Quarterly changes are calculated using the last month of each quarter. Compensation and Price data are not seasonally adjusted and the price data are not compounded. Productivity data are seasonally adjusted.

[2] Excludes Federal and private household workers.

[3] Output per hour of all employees.

- Data not available.

3. Alternative measures of wage and compensation changes

Components	Quarterly average						Four quarters ended in--					
	1984	1985				1986	1984	1985				1986
	IV	I	II	III	IV	I	IV	I	II	III	IV	I
Average hourly compensation:[1]												
All persons, business sector	3.1	4.8	4.4	4.2	3.4	1.4	3.8	3.8	4.1	4.1	4.2	3.4
All employees, nonfarm business sector	3.2	4.7	3.8	2.8	3.2	2.2	3.8	3.7	3.8	3.6	3.7	3.0
Hourly earnings index:[2]												
All private nonfarm	-	-	-	-	-	-	-	-	-	-	-	-
Employment Cost Index--compensation:												
Civilian nonfarm [3]	1.2	1.3	0.7	1.6	0.6	1.1	5.2	4.8	4.6	4.9	4.3	4.1
Private nonfarm	1.3	1.2	.8	1.3	.6	1.1	4.9	4.4	4.2	4.7	3.9	3.8
Union	1.1	.7	.6	.8	.5	1.0	4.3	3.5	3.1	3.2	2.6	2.9
Nonunion	1.3	1.6	1.0	1.4	.6	1.2	5.2	4.9	4.9	5.4	4.6	4.2
State and local governments	1.0	1.2	.2	3.4	.7	1.0	6.6	6.3	6.1	6.0	5.7	5.5
Employment Cost Index--wages and salaries:												
Civilian nonfarm[3]	1.2	1.2	.9	1.7	.6	1.0	4.5	4.4	4.5	5.0	4.4	4.2
Private nonfarm	1.2	1.2	1.1	1.3	.6	1.0	4.1	4.1	4.2	4.8	4.1	3.9
Union	.9	.7	1.1	.9	.5	.7	3.4	3.0	3.4	3.6	3.1	3.2
Nonunion	1.3	1.4	1.1	1.5	.6	1.1	4.5	4.6	4.8	5.4	4.6	4.3
State and local governments	.8	1.0	.2	3.5	.8	1.0	5.9	5.6	5.5	5.6	5.6	5.5
Total effective wage adjustments[4]	.7	.7	.8	1.2	.5	.6	3.7	3.6	3.5	3.5	3.3	3.1
From current settlements	.3	.1	.2	.2	.1	.0	.8	.7	.9	.9	.7	.6
From prior settlements	.2	.6	.5	.5	.2	.4	2.0	2.2	1.9	1.8	1.8	1.7
From cost-of-living provision	.2	.1	.1	.4	.1	.2	.9	.7	.7	.8	.7	.8
Negotiated wage adjustments from settlements[4]												
First-year adjustments	2.3	3.3	2.5	2.0	2.1	.8	2.4	2.4	2.4	2.4	2.3	2.0
Annual rate over life of contract	1.5	3.2	2.8	3.1	1.9	1.6	2.4	2.3	2.4	2.5	2.7	2.5
Negotiated wage and benefit adjustments from settlements:[5]												
First-year adjustment	3.7	3.6	3.5	2.0	2.0	.3	3.6	3.4	3.4	3.1	2.6	2.3
Annual rate over life of contract	2.0	2.7	3.4	3.0	1.4	1.2	2.8	2.6	2.7	2.7	2.7	2.6

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[1] Seasonally adjusted.

[2] Production or nonsupervisory workers.

[3] Excludes Federal and household workers.

[4] Limited to major collective bargaining units of 1,000 workers or more. The most recent data are preliminary.

[5] Limited to major collective bargaining units of 5,000 workers or more. The most recent data are preliminary.

- Data not available.

4. Employment status of the total population, by sex, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
TOTAL															
Noninstitutional population [1], [2]	178,080	179,912	179,798	179,967	180,131	180,304	180,470	180,642	180,810	181,361	181,512	181,678	181,843	181,998	182,183
Labor force[2]	115,241	117,167	116,726	116,976	117,069	117,522	117,814	117,832	117,927	118,477	118,779	118,900	118,929	119,351	119,796
Participation rate [3]	64.7	65.1	64.9	65.0	65.0	65.2	65.3	65.2	65.2	65.3	65.4	65.4	65.4	65.6	65.8
Total employed [2]	106,702	108,856	108,303	108,575	108,936	109,251	109,513	109,671	109,904	110,646	110,252	110,481	110,587	110,797	111,353
Employment-population ratio [4]	59.9	60.5	60.2	60.3	60.5	60.6	60.7	60.7	60.8	61.0	60.7	60.8	60.8	60.9	61.1
Resident Armed Forces [1]	1,697	1,706	1,702	1,704	1,726	1,732	1,700	1,702	1,698	1,691	1,691	1,693	1,695	1,687	1,680
Civilian employed	105,005	107,150	106,601	106,871	107,210	107,519	107,813	107,969	108,206	108,955	108,561	108,788	108,892	109,110	109,673
Agriculture	3,321	3,179	3,140	3,120	3,095	3,017	3,058	3,070	3,151	3,299	3,096	3,285	3,222	3,160	3,165
Nonagricultural industries	101,685	103,971	103,461	103,751	104,115	104,502	104,755	104,899	105,055	105,655	105,465	105,503	105,670	105,950	106,508
Unemployed	8,539	8,312	8,423	8,401	8,133	8,271	8,301	8,161	8,023	7,831	8,527	8,419	8,342	8,554	8,443
Unemployment rate [5]	7.4	7.1	7.2	7.2	6.9	7.0	7.0	6.9	6.8	6.6	7.2	7.1	7.0	7.2	7.0
Not in labor force	62,839	62,744	63,072	62,991	63,062	62,782	62,656	62,810	62,883	62,885	62,733	62,778	62,914	62,647	62,387
Men, 16 years and over															
Noninstitutional population [1], [2]	85,156	86,025	85,970	86,052	86,132	86,217	86,293	86,374	86,459	86,882	86,954	87,035	87,120	87,195	87,288
Labor force[2]	65,386	65,967	65,808	65,884	65,945	66,074	66,227	66,176	66,139	66,679	66,838	66,864	66,757	66,943	66,964
Participation rate [3]	76.8	76.7	76.5	76.6	76.6	76.6	76.7	76.6	76.5	76.7	76.9	76.8	76.6	76.8	76.7
Total employed [2]	60,642	61,447	61,175	61,273	61,510	61,629	61,656	61,731	61,793	62,458	62,243	62,286	62,254	62,190	62,322
Employment-population ratio [4]	71.2	71.4	71.2	71.2	71.4	71.5	71.4	71.5	71.5	71.9	71.6	71.6	71.5	71.3	71.4
Resident Armed Forces [1]	1,551	1,556	1,552	1,554	1,574	1,580	1,551	1,552	1,549	1,539	1,539	1,540	1,541	1,533	1,525
Civilian employed	59,091	59,891	59,623	59,719	59,936	60,049	60,105	60,179	60,244	60,919	60,704	60,748	60,713	60,657	60,797
Unemployed	4,744	4,521	4,633	4,611	4,435	4,445	4,571	4,445	4,346	4,221	4,595	4,577	4,503	4,754	4,642
Unemployment rate [5]	7.3	6.9	7.0	7.0	6.7	6.7	6.9	6.7	6.6	6.3	6.9	6.8	6.7	7.1	6.9
Women, 16 years and over															
Noninstitutional population [1], [2]	92,924	93,886	93,828	93,915	93,999	94,087	94,177	94,266	94,351	94,479	94,558	94,643	94,723	94,803	94,895
Labor force[2]	49,855	51,200	50,918	51,092	51,124	51,448	51,587	51,655	51,788	51,797	51,941	52,036	52,172	52,408	52,832
Participation rate [3]	53.7	54.5	54.3	54.4	54.4	54.7	54.8	54.8	54.9	54.8	54.9	55.0	55.1	55.3	55.7
Total employed[2]	46,061	47,409	47,128	47,302	47,426	47,622	47,857	47,939	48,111	48,187	48,009	48,194	48,333	48,608	49,031
Employment-population ratio [4]	49.6	50.5	50.2	50.4	50.5	50.6	50.8	50.9	51.0	51.0	50.8	50.9	51.0	51.3	51.7
Resident Armed Forces [1]	146	150	150	150	152	152	149	149	149	152	152	153	154	154	155
Civilian employed	45,915	47,259	46,978	47,152	47,274	47,470	47,708	47,790	47,962	48,035	47,857	48,041	48,179	48,454	48,876
Unemployed	3,794	3,791	3,790	3,790	3,698	3,826	3,730	3,716	3,677	3,610	3,932	3,842	3,839	3,800	3,801
Unemployment rate [5]	7.6	7.4	7.4	7.4	7.2	7.4	7.2	7.2	7.1	7.0	7.6	7.4	7.4	7.3	7.2

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[1] The population and Armed Forces figures are not adjusted for seasonal variation.

[2] Includes members of the Armed Forces stationed in the United States.

[3] Labor force as a percent of the noninstitutional population.

[4] Total employed as a percent of the noninstitutional population.

[5] Unemployment as a percent of the labor force (including the resident Armed Forces).

5. Employment status of the civilian population, by sex, age, race and Hispanic origin, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
TOTAL															
Civilian noninstitutional population[1]	176,383	178,206	178,096	178,263	178,405	178,572	178,770	178,940	179,112	179,670	179,821	179,985	180,148	180,311	180,503
Civilian labor force	113,544	115,461	115,024	115,272	115,343	115,790	116,114	116,130	116,229	116,786	117,088	117,207	117,234	117,664	118,116
Participation rate	64.4	64.8	64.6	64.7	64.7	64.8	65.0	64.9	64.9	65.0	65.1	65.1	65.1	65.3	65.4
Employed	105,005	107,150	106,601	106,871	107,210	107,519	107,813	107,969	108,206	108,955	108,561	108,788	108,892	109,110	109,673
Employment-population ratio[2]	59.5	60.1	59.9	60.0	60.1	60.2	60.3	60.3	60.4	60.6	60.4	60.4	60.4	60.5	60.8
Unemployed	8,539	8,312	8,423	8,401	8,133	8,271	8,301	8,161	8,023	7,831	8,527	8,419	8,342	8,554	8,443
Unemployment rate	7.5	7.2	7.3	7.3	7.1	7.1	7.1	7.0	6.9	6.7	7.3	7.2	7.1	7.3	7.1
Not in labor force	62,839	62,744	63,072	62,991	63,062	62,782	62,656	62,810	62,883	62,885	62,733	62,778	62,914	62,647	62,387
Men, 20 years and over															
Civilian noninstitutional population[1]	76,219	77,195	77,135	77,243	77,306	77,389	77,498	77,586	77,651	78,101	78,171	78,236	78,309	78,387	78,484
Civilian labor force	59,701	60,277	60,246	60,158	60,269	60,407	60,526	60,553	60,548	61,212	61,183	61,268	61,053	61,208	61,387
Participation rate	78.3	78.1	78.1	77.9	78.0	78.1	78.1	78.1	78.0	78.4	78.3	78.3	78.0	78.1	78.2
Employed	55,769	56,562	56,384	56,403	56,636	56,751	56,849	56,897	56,982	57,706	57,384	57,459	57,391	57,312	57,560
Employment-population ratio[2]	73.2	73.3	73.1	73.0	73.3	73.3	73.4	73.4	73.4	73.9	73.4	73.4	73.3	73.1	73.3
Agriculture	2,418	2,278	2,260	2,230	2,231	2,171	2,188	2,210	2,278	2,349	2,258	2,411	2,347	2,278	2,320
Nonagricultural industries	53,351	54,284	54,124	54,173	54,405	54,580	54,661	54,687	54,704	55,356	55,127	55,048	55,043	55,034	55,241
Unemployed	3,932	3,715	3,862	3,755	3,633	3,656	3,677	3,656	3,566	3,507	3,799	3,809	3,663	3,897	3,827
Unemployment rate	6.6	6.2	6.4	6.2	6.0	6.1	6.1	6.0	5.9	5.7	6.2	6.2	6.0	6.4	6.2
Women, 20 years and over															
Civilian noninstitutional population[1]	85,429	86,506	86,477	86,575	86,652	86,727	86,810	86,901	86,988	87,112	87,185	87,263	87,355	87,444	87,547
Civilian labor force	45,900	47,283	47,185	47,190	47,340	47,558	47,663	47,713	47,870	47,895	47,921	47,952	48,107	48,409	48,805
Participation rate	53.7	54.7	54.6	54.5	54.6	54.8	54.9	54.9	55.0	55.0	55.0	55.0	55.1	55.4	55.7
Employed	42,793	44,154	44,033	44,070	44,197	44,363	44,609	44,656	44,882	44,980	44,710	44,797	45,009	45,284	45,701
Employment-population ratio[2]	50.1	51.0	50.9	50.9	51.0	51.2	51.4	51.4	51.6	51.6	51.3	51.3	51.5	51.8	52.2
Agriculture	595	596	572	596	581	557	609	591	597	696	593	598	576	609	565
Nonagricultural industries	42,198	43,558	43,461	43,474	43,616	43,806	44,000	44,065	44,285	44,284	44,117	44,199	44,433	44,675	45,136
Unemployed	3,107	3,129	3,152	3,120	3,143	3,195	3,054	3,057	2,988	2,915	3,211	3,155	3,097	3,125	3,104
Unemployment rate	6.8	6.6	6.7	6.6	6.6	6.7	6.4	6.4	6.2	6.1	6.7	6.6	6.4	6.5	6.4
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	14,735	14,506	14,483	14,445	14,448	14,456	14,463	14,472	14,474	14,458	14,465	14,485	14,484	14,480	14,472
Civilian labor force	7,943	7,901	7,593	7,924	7,734	7,825	7,925	7,864	7,811	7,678	7,984	7,987	8,074	8,047	7,923
Participation rate	53.9	54.5	52.4	54.9	53.5	54.1	54.8	54.3	54.0	53.1	55.2	55.1	55.7	55.6	54.7
Employed	6,444	6,434	6,184	6,398	6,377	6,405	6,355	6,416	6,342	6,269	6,467	6,532	6,492	6,515	6,411
Employment-population ratio[2]	43.7	44.4	42.7	44.3	44.1	44.3	43.9	44.3	43.8	43.4	44.7	45.1	44.8	45.0	44.3
Agriculture	309	305	308	294	283	289	261	269	276	254	246	276	298	274	280
Nonagricultural industries	6,135	6,129	5,876	6,104	6,094	6,116	6,094	6,147	6,066	6,015	6,221	6,256	6,194	6,241	6,131
Unemployed	1,499	1,468	1,409	1,526	1,357	1,420	1,570	1,448	1,469	1,409	1,517	1,455	1,582	1,532	1,512
Unemployment rate	18.9	18.6	18.6	19.3	17.5	18.1	19.8	18.4	18.8	18.4	19.0	18.2	19.6	19.0	19.1
White															
Civilian noninstitutional population[1]	152,347	153,679	153,597	153,717	153,819	153,938	154,082	154,203	154,327	154,784	154,889	155,005	155,122	155,236	155,376
Civilian labor force	98,492	99,926	99,527	99,705	99,817	100,179	100,533	100,478	100,533	100,961	101,232	101,248	101,249	101,515	101,975
Participation rate	64.6	65.0	64.8	64.9	64.9	65.1	65.2	65.2	65.1	65.2	65.4	65.3	65.3	65.4	65.6
Employed	92,120	93,736	93,132	93,378	93,684	94,055	94,369	94,507	94,585	95,165	94,803	94,958	95,081	95,180	95,731
Employment-population ratio[2]	60.5	61.0	60.6	60.7	60.9	61.1	61.2	61.3	61.3	61.5	61.2	61.3	61.3	61.3	61.6
Unemployed	6,372	6,191	6,395	6,327	6,133	6,124	6,164	5,971	5,948	5,796	6,429	6,290	6,168	6,335	6,244
Unemployment rate	6.5	6.2	6.4	6.3	6.1	6.1	6.1	5.9	5.9	5.7	6.4	6.2	6.1	6.2	6.1
Black															
Civilian noninstitutional population[1]	19,348	19,664	19,646	19,675	19,700	19,728	19,761	19,790	19,819	19,837	19,863	19,889	19,916	19,943	19,974
Civilian labor force	12,033	12,364	12,317	12,354	12,289	12,378	12,412	12,457	12,522	12,548	12,545	12,656	12,740	12,781	12,754
Participation rate	62.2	62.9	62.7	62.8	62.4	62.7	62.8	62.9	63.2	63.3	63.2	63.6	64.0	64.1	63.9
Employed	10,119	10,501	10,538	10,499	10,560	10,500	10,566	10,518	10,657	10,737	10,690	10,791	10,856	10,889	10,825
Employment-population ratio[2]	52.3	53.4	53.6	53.4	53.6	53.2	53.5	53.1	53.8	54.1	53.8	54.3	54.5	54.6	54.2
Unemployed	1,914	1,864	1,779	1,855	1,729	1,878	1,846	1,939	1,865	1,810	1,855	1,865	1,884	1,892	1,929
Unemployment rate	15.9	15.1	14.4	15.0	14.1	15.2	14.9	15.6	14.9	14.4	14.8	14.7	14.8	14.8	15.1

See footnotes at end of table.

5. Continued— Employment status of the civilian population, by sex, age, race and Hispanic origin, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Hispanic origin															
Civilian noninstitutional population[1]	11,478	11,915	11,887	11,933	11,969	12,004	12,040	12,076	12,111	12,148	12,184	12,219	12,255	12,290	12,325
Civilian labor force	7,451	7,698	7,669	7,713	7,781	7,844	7,854	7,782	7,772	7,787	7,943	7,920	7,975	8,002	8,110
Participation rate	64.9	64.6	64.5	64.6	65.0	65.3	65.2	64.4	64.2	64.1	65.2	64.8	65.1	65.1	65.8
Employed	6,651	6,888	6,856	6,870	6,973	7,026	6,982	6,953	6,962	6,998	6,969	7,105	7,144	7,123	7,251
Employment-population ratio[2]	57.9	57.8	57.7	57.6	58.3	58.5	58.0	57.6	57.5	57.6	57.2	58.2	58.3	58.0	58.8
Unemployed	800	811	813	843	808	818	872	829	810	789	974	815	832	879	859
Unemployment rate	10.7	10.5	10.6	10.9	10.4	10.4	11.1	10.7	10.4	10.1	12.3	10.3	10.4	11.0	10.6

[1] The population figures are not seasonally adjusted.

[2] Civilian employment as a percent of the civilian noninstitutional population.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" groups are not presented and Hispanics are included in both the white and black population groups.

6. Selected employment indicators, monthly data seasonally adjusted

(In thousands)

Selected categories	Annual average		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
CHARACTERISTIC															
Civilian employed, 16 years and over	105,005	107,150	106,601	106,871	107,210	107,519	107,813	107,969	108,206	108,955	108,561	108,789	108,892	109,110	109,673
Men	59,091	59,891	59,623	59,719	59,936	60,049	60,105	60,179	60,244	60,919	60,704	60,748	60,713	60,657	60,797
Women	45,915	47,259	46,978	47,152	47,274	47,470	47,708	47,790	47,962	48,036	47,857	48,041	48,179	48,454	48,876
Married men, spouse present	39,056	39,248	38,986	39,096	39,142	39,100	39,272	39,314	39,276	39,615	39,382	39,365	39,556	39,614	39,628
Married women, spouse present	25,636	26,336	26,174	26,316	26,392	26,531	26,702	26,721	26,804	26,958	26,583	26,698	26,902	26,920	27,427
Women who maintain families	5,465	5,587	5,643	5,607	5,627	5,598	5,514	5,605	5,650	5,702	5,720	5,771	5,612	5,716	5,698
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,595	1,535	1,530	1,479	1,456	1,436	1,465	1,537	1,572	1,673	1,519	1,669	1,587	1,460	1,498
Self-employed workers	1,553	1,458	1,451	1,474	1,444	1,414	1,436	1,361	1,409	1,482	1,444	1,453	1,475	1,496	1,504
Unpaid family workers	213	185	159	170	176	179	172	158	164	169	156	172	180	186	154
Nonagricultural industries:															
Wage and salary workers	93,565	95,871	95,391	95,523	95,791	96,546	96,530	96,676	96,921	97,911	97,516	97,699	97,831	97,984	98,372
Government	15,770	16,031	16,000	15,949	16,075	16,145	16,213	16,157	16,194	16,418	16,104	16,095	16,187	16,325	16,387
Private industries	77,794	79,841	79,391	79,574	79,716	80,401	80,317	80,519	80,727	81,494	81,412	81,604	81,643	81,659	81,984
Private households	1,238	1,249	1,228	1,251	1,295	1,266	1,271	1,197	1,131	1,256	1,197	1,213	1,321	1,275	1,279
Other	76,556	78,592	78,163	78,323	78,421	79,135	79,046	79,322	79,596	80,238	80,216	80,390	80,322	80,384	80,705
Self-employed workers	7,785	7,811	7,728	7,724	7,874	7,846	7,981	8,013	7,900	7,855	7,880	7,644	7,571	7,757	7,807
Unpaid family workers	335	289	282	277	303	298	248	249	250	273	270	240	253	229	235
PERSONS AT WORK PART TIME[1]															
All industries:															
Part time for economic reasons	5,744	5,590	5,544	5,596	5,880	5,554	5,475	5,498	5,484	5,540	5,377	5,538	5,823	5,860	5,937
Slack work	2,430	2,430	2,524	2,414	2,480	2,433	2,251	2,306	2,300	2,364	2,389	2,330	2,603	2,659	2,434
Could only find part-time work	2,948	2,819	2,751	2,766	2,835	2,815	2,887	2,883	2,864	2,883	2,703	2,863	2,974	2,883	2,810
Voluntary part time	13,169	13,480	13,439	13,634	13,622	13,496	13,713	13,645	13,568	13,958	13,817	13,754	13,833	13,638	14,286
Nonagricultural industries:															
Part time for economic reasons	5,512	5,334	5,278	5,328	5,413	5,299	5,241	5,295	5,294	5,275	5,158	5,301	5,621	5,673	5,389
Slack work	2,291	2,273	2,334	2,251	2,319	2,292	2,115	2,198	2,195	2,309	2,224	2,159	2,430	2,525	2,309
Could only find part-time work	2,868	2,730	2,675	2,686	2,740	2,730	2,801	2,784	2,760	2,776	2,636	2,661	2,849	2,790	2,724
Voluntary part time	12,704	13,038	12,905	13,235	13,179	13,053	13,277	13,194	13,122	13,441	13,389	13,286	13,589	13,181	13,778

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

7. Selected unemployment indicators, monthly data seasonally adjusted

(Unemployment rates)

Selected categories	Annual average		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
CHARACTERISTIC															
Total, all civilian workers	7.5	7.2	7.3	7.3	7.1	7.1	7.1	7.0	6.9	6.7	7.3	7.2	7.1	7.3	7.1
Both sexes, 16 to 19 years	18.9	18.6	18.6	18.3	17.5	18.1	19.8	18.4	18.8	18.4	19.0	18.2	19.6	19.0	19.1
Men, 20 years and over	6.6	6.2	6.4	6.2	6.0	6.1	6.1	6.0	5.9	5.7	6.2	6.2	6.0	6.4	6.2
Women, 20 years and over	6.8	6.6	6.7	6.6	6.6	6.7	6.4	6.4	6.2	6.1	6.7	6.6	6.4	6.5	6.4
White, total	6.5	6.2	6.4	6.3	6.1	6.1	6.1	5.9	5.9	5.7	6.4	6.2	6.1	6.2	6.1
Both sexes, 16 to 19 years	16.0	15.7	16.0	16.1	15.2	15.3	17.0	15.5	15.9	14.9	16.2	14.5	16.4	16.0	16.2
Men, 16 to 19 years	16.8	16.5	16.7	17.1	17.2	16.2	18.5	15.8	16.2	14.7	16.5	15.3	17.2	17.3	17.8
Women, 16 to 19 years	15.2	14.8	15.2	15.0	13.0	14.4	15.3	15.1	15.5	15.1	15.8	13.7	15.6	14.7	14.4
Men, 20 years and over	5.7	5.4	5.7	5.6	5.3	5.2	5.2	5.2	5.1	5.0	5.4	5.5	5.2	5.5	5.4
Women, 20 years and over	5.8	5.7	5.8	5.7	5.7	5.7	5.5	5.4	5.4	5.3	5.9	5.8	5.5	5.5	5.4
Black, total	15.9	15.1	14.4	15.0	14.1	15.2	14.9	15.6	14.9	14.4	14.8	14.7	14.8	14.8	15.1
Both sexes, 16 to 19 years	42.7	40.2	39.5	41.2	35.3	38.0	39.7	40.8	41.6	41.9	39.1	43.7	42.6	40.8	40.2
Men, 16 to 19 years	42.7	41.0	41.0	43.1	34.9	41.1	41.0	45.2	41.0	41.3	38.7	44.1	41.4	40.8	38.5
Women, 16 to 19 years	42.6	39.2	37.8	39.0	35.9	36.1	38.2	36.0	42.3	42.4	39.5	43.4	43.7	40.8	41.9
Men, 20 years and over	14.3	13.2	12.5	12.8	11.9	13.3	13.7	13.7	13.1	12.7	13.3	12.6	12.6	12.7	13.3
Women, 20 years and over	13.5	13.1	12.7	13.1	13.1	13.5	12.1	13.6	12.6	12.0	12.5	12.2	12.5	12.8	12.8
Hispanic origin, total	10.7	10.5	10.6	10.9	10.4	10.4	11.1	10.7	10.4	10.1	12.3	10.3	10.4	11.0	10.6
Married men, spouse present	4.6	4.3	4.6	4.4	4.1	4.3	4.2	4.3	4.3	4.3	4.5	4.5	4.2	4.5	4.5
Married women, spouse present	5.7	5.6	5.8	5.7	5.4	5.6	5.3	5.5	5.3	5.1	5.5	5.6	5.3	5.4	5.2
Women who maintain families	10.3	10.4	9.9	10.3	10.8	11.3	10.4	10.0	9.4	9.9	9.9	10.1	9.4	10.2	10.1
Full-time workers	7.2	6.8	6.9	7.0	6.8	6.8	6.8	6.7	6.6	6.4	6.9	6.9	6.7	7.0	6.7
Part-time workers	9.3	9.3	9.5	9.4	9.0	9.3	9.6	8.8	9.0	8.4	9.4	9.1	9.6	9.2	9.1
Unemployed 15 weeks and over	2.4	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.8	2.0	1.9	1.8	1.9	2.0
Labor force time lost[1]	8.6	8.1	8.2	8.2	8.1	8.1	7.9	7.9	7.8	7.6	8.1	8.1	8.1	8.3	8.1
INDUSTRY															
onagricultural private wage and salary workers	7.4	7.2	7.3	7.3	7.1	7.2	7.1	7.0	6.9	6.7	7.2	7.2	7.2	7.3	7.1
Mining	10.0	9.5	10.9	9.9	8.6	8.9	7.7	7.3	10.3	10.9	9.2	10.4	12.8	13.7	17.6
Construction	14.3	13.1	13.5	13.4	13.1	13.6	13.5	13.4	12.6	12.9	13.2	13.0	12.0	13.3	12.1
Manufacturing	7.5	7.7	7.7	7.9	7.8	7.7	7.5	7.7	7.3	7.0	7.2	7.2	6.8	7.5	7.3
Durable goods	7.2	7.6	7.9	7.9	7.9	7.7	7.3	7.6	7.3	7.0	7.4	6.8	6.8	7.3	7.1
Nondurable goods	7.8	7.8	7.5	7.9	7.6	7.8	7.8	7.8	7.3	7.1	7.0	7.7	6.8	7.7	7.5
Transportation and public utilities	5.5	5.1	5.3	5.7	4.5	5.3	5.1	5.1	5.0	4.3	5.3	6.1	5.6	5.3	5.5
Wholesale and retail trade	8.0	7.6	7.7	7.8	7.7	7.8	7.7	7.5	7.6	7.2	7.8	7.6	8.1	8.1	7.7
Finance and service industries	5.9	5.6	5.7	5.6	5.5	5.5	5.4	5.4	5.3	5.2	5.9	5.7	5.9	5.5	5.4
overnment workers	4.5	3.9	3.9	4.0	3.8	3.8	3.9	3.6	3.8	3.4	3.8	4.0	3.5	3.7	3.6
gricultural wage and salary workers	13.5	13.2	12.5	14.0	14.0	13.3	12.9	12.5	10.6	10.9	14.3	11.9	13.4	15.8	13.2

[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

8. Unemployment rates by sex and age, monthly data seasonally adjusted

(Civilian workers)

Sex and age	Annual average		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Total, 16 years and over	7.5	7.2	7.3	7.3	7.1	7.1	7.1	7.0	6.9	6.7	7.3	7.2	7.1	7.3	7.1
16 to 24 years	13.9	13.6	13.6	13.9	13.0	13.3	13.9	13.5	13.3	13.0	13.6	13.2	13.9	14.2	13.5
16 to 19 years	18.9	18.6	18.6	19.3	17.5	18.1	19.8	18.4	18.8	18.4	19.0	18.2	19.6	19.0	19.1
16 to 17 years	21.2	21.0	21.6	21.7	19.1	20.3	22.7	21.4	21.1	20.9	21.8	19.4	20.9	21.1	20.6
18 to 19 years	17.4	17.0	16.4	17.3	16.8	16.7	17.8	16.9	17.5	16.4	17.2	17.1	18.9	17.5	17.9
20 to 24 years	11.5	11.1	11.2	11.2	10.8	10.9	10.9	11.0	10.6	10.4	10.8	10.6	10.9	11.7	10.7
25 years and over	5.8	5.6	5.8	5.6	5.5	5.6	5.4	5.4	5.3	5.1	5.7	5.7	5.4	5.5	5.6
25 to 54 years	6.1	5.8	6.0	5.9	5.6	5.8	5.7	5.6	5.5	5.4	5.9	5.9	5.8	5.9	5.9
55 years and over	4.5	4.1	4.3	4.4	4.1	4.1	3.9	3.8	3.9	3.9	4.4	4.3	3.9	3.6	3.7
Men, 16 years and over	7.4	7.0	7.2	7.2	6.9	6.9	7.1	6.9	6.7	6.5	7.0	7.0	6.9	7.3	7.1
16 to 24 years	14.4	14.1	14.2	14.6	13.8	13.8	14.6	13.9	13.5	12.8	13.6	13.6	14.5	15.0	14.0
16 to 19 years	19.6	19.5	19.2	20.5	19.6	19.3	21.5	19.4	19.3	18.2	19.3	18.9	20.2	20.4	20.1
16 to 17 years	21.9	21.9	23.2	22.1	21.9	20.7	24.0	20.9	21.6	20.9	23.2	20.0	21.2	21.6	19.4
18 to 19 years	18.3	17.9	16.4	18.7	18.1	18.3	19.9	18.7	18.0	16.2	16.6	17.8	19.7	19.6	20.4
20 to 24 years	11.9	11.4	11.7	11.6	10.9	11.0	11.1	11.2	10.6	10.3	10.7	11.0	11.6	12.2	11.0
25 years and over	5.7	5.3	5.6	5.4	5.3	5.3	5.3	5.2	5.1	5.0	5.5	5.5	5.2	5.4	5.5
25 to 54 years	5.9	5.6	5.8	5.6	5.6	5.5	5.5	5.4	5.4	5.3	5.7	5.7	5.5	5.8	5.8
55 years and over	4.6	4.1	4.4	4.6	3.8	4.0	4.1	4.0	3.9	3.9	4.4	4.3	3.9	3.8	4.1
Women, 16 years and over	7.6	7.4	7.5	7.4	7.3	7.5	7.3	7.2	7.1	7.0	7.6	7.4	7.4	7.3	7.2
16 to 24 years	13.3	13.0	12.9	13.1	12.2	12.9	13.1	13.1	13.2	13.2	13.6	12.7	13.2	13.3	13.0
16 to 19 years	18.0	17.6	17.8	17.9	15.3	16.9	17.9	17.4	18.3	18.5	18.6	17.5	19.0	17.6	18.0
16 to 17 years	20.4	20.0	19.9	21.2	15.8	19.8	21.2	22.0	20.6	20.8	20.2	18.7	20.5	20.5	21.9
18 to 19 years	16.6	16.0	16.4	15.7	15.3	14.9	15.5	15.1	16.9	16.5	17.7	16.3	18.1	15.3	15.1
20 to 24 years	10.9	10.7	10.6	10.7	10.7	10.9	10.7	10.8	10.6	10.5	11.0	10.1	10.0	11.1	10.4
25 years and over	6.0	5.9	6.0	5.9	5.8	6.0	5.6	5.6	5.4	5.3	5.9	5.9	5.8	5.7	5.7
25 to 54 years	6.3	6.2	6.3	6.2	6.1	6.2	5.9	5.9	5.7	5.6	6.2	6.3	6.2	6.1	6.1
55 years and over	4.2	4.1	4.1	4.2	4.5	4.2	3.7	3.6	3.9	3.8	4.4	4.4	3.8	3.4	3.1

9. Unemployed persons by reason for unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Reason for unemployment	Annual average		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Job losers	4,421	4,139	4,167	4,206	4,144	4,142	4,040	4,081	3,933	3,776	4,162	4,246	4,034	4,311	4,335
On layoff	1,171	1,157	1,135	1,134	1,112	1,167	1,161	1,175	1,132	1,163	1,152	1,164	1,028	1,133	1,066
Other job losers	3,250	2,982	3,032	3,072	3,032	2,975	2,879	2,906	2,801	2,613	3,010	3,082	3,006	3,178	3,269
Job leavers	823	877	983	894	875	852	911	806	876	996	1,001	1,002	1,110	975	1,013
Reentrants	2,184	2,256	2,233	2,184	2,191	2,335	2,237	2,226	2,225	2,066	2,292	2,197	2,191	2,217	2,084
New entrants	1,110	1,039	1,018	1,098	941	918	1,045	1,055	1,033	1,025	1,097	1,000	1,059	1,062	1,059
PERCENT OF UNEMPLOYED															
Job losers	51.8	49.8	49.6	50.2	50.8	50.2	49.1	50.0	48.8	48.0	48.7	50.3	48.1	50.3	51.2
On layoff	13.7	13.9	13.5	13.5	13.6	14.2	14.1	14.4	14.0	14.8	13.5	13.8	12.2	13.2	12.6
Other job losers	38.1	35.9	36.1	36.6	37.2	36.1	35.0	35.6	34.7	33.2	35.2	36.5	35.8	37.1	38.6
Job leavers	9.6	10.6	11.7	10.7	10.7	10.3	11.1	9.9	10.9	12.7	11.7	11.9	13.2	11.4	12.0
Reentrants	25.6	27.1	26.6	26.1	26.9	28.3	27.2	27.2	27.6	26.3	26.8	26.0	26.1	25.9	24.4
New entrants	13.0	12.5	12.1	13.1	11.5	11.1	12.7	12.9	12.8	13.0	12.8	11.8	12.6	12.4	12.5
PERCENT OF CIVILIAN LABOR FORCE															
Job losers	3.9	3.6	3.6	3.6	3.6	3.6	3.5	3.5	3.4	3.2	3.6	3.6	3.4	3.7	3.7
Job leavers	.7	.8	.9	.8	.8	.7	.8	.7	.8	.9	.9	.9	.9	.8	.9
Reentrants	1.9	2.0	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.8	2.0	1.9	1.9	1.9	1.7
New entrants	1.0	.9	.9	1.0	.8	.8	.9	.9	.9	.9	.9	.9	.9	.9	.9

10. Duration of unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Weeks of unemployment	Annual average		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Less than 5 weeks	3,350	3,498	3,466	3,525	3,422	3,484	3,430	3,465	3,374	3,311	3,562	3,589	3,628	3,705	3,384
5 to 14 weeks	2,451	2,509	2,536	2,514	2,508	2,505	2,536	2,448	2,480	2,441	2,622	2,640	2,685	2,737	2,709
15 weeks and over	2,737	2,305	2,328	2,329	2,274	2,307	2,277	2,205	2,188	2,056	2,340	2,258	2,135	2,209	2,320
15 to 26 weeks	1,104	1,025	1,033	1,078	1,047	1,035	1,057	894	973	969	1,149	1,099	1,001	1,072	1,036
27 weeks and over	1,634	1,280	1,295	1,251	1,227	1,272	1,220	1,311	1,215	1,087	1,191	1,159	1,134	1,137	1,284
Mean duration in weeks	18.2	15.6	15.5	15.5	15.5	15.5	15.4	15.7	15.4	14.9	15.3	14.4	14.3	14.4	15.2
Median duration in weeks	7.9	6.8	6.8	7.1	7.2	6.9	7.0	6.9	6.9	6.8	6.9	6.8	6.5	6.6	7.3

11. Unemployment rates of civilian workers by State, data not seasonally adjusted

State	May 1985	May 1986
Alabama	8.2	9.2
Alaska	9.4	10.7
Arizona	6.6	6.3
Arkansas	8.1	7.8
California	6.6	6.1
Colorado	5.7	6.9
Connecticut	4.8	3.5
Delaware	4.9	4.9
District of Columbia	8.2	6.7
Florida	4.9	5.3
Georgia	6.6	5.6
Hawaii	5.8	5.0
Idaho	7.7	8.1
Illinois	8.4	8.2
Indiana	7.4	6.5
Iowa	7.4	6.3
Kansas	4.7	5.2
Kentucky	8.8	9.1
Louisiana	11.4	13.0
Maine	5.3	5.2
Maryland	4.2	3.7
Massachusetts	3.4	4.0
Michigan	9.8	9.4
Minnesota	5.2	5.0
Mississippi	9.7	11.5
Missouri	5.8	5.5
Montana	7.1	7.1
Nebraska	5.2	4.7
Nevada	8.0	5.9
New Hampshire	4.0	3.2
New Jersey	5.0	5.3
New Mexico	8.8	9.0
New York	6.8	6.9
North Carolina	5.4	5.4
North Dakota	5.4	6.1
Ohio	7.5	7.5
Oklahoma	6.9	8.6
Oregon	8.6	9.2
Pennsylvania	8.4	7.7
Rhode Island	4.9	3.4
South Carolina	6.8	6.6
South Dakota	4.7	4.0
Tennessee	7.4	7.3
Texas	6.6	9.3
Utah	5.6	5.2
Vermont	4.6	4.5
Virginia	5.5	4.9
Washington	7.7	7.5
West Virginia	11.9	10.4
Wisconsin	6.5	6.5
Wyoming	7.1	9.3

- Data not available.

NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the database.

12. Employment of workers on nonagricultural payrolls by State, data not seasonally adjusted

(In thousands)

State	May 1985	Apr. 1986	May 1986^p
Alabama	1,427.7	1,443.8	1,446.2
Alaska	232.0	224.8	229.7
Arizona	1,284.0	1,343.6	1,347.1
Arkansas	803.3	820.9	824.8
California	10,963.2	11,155.5	11,205.0
Colorado	1,422.7	1,446.2	1,453.7
Connecticut	1,567.6	1,597.6	1,607.7
Delaware	292.6	293.7	297.9
District of Columbia	623.2	642.2	644.3
Florida	4,429.6	4,563.4	4,561.3
Georgia	2,563.0	2,617.9	2,629.4
Hawaii	423.6	428.9	429.7
Idaho	337.0	332.7	334.6
Illinois	4,778.9	4,767.0	4,790.2
Indiana	2,198.7	2,234.9	2,256.2
Iowa	1,091.9	1,090.0	1,098.1
Kansas	984.3	990.3	998.1
Kentucky	1,261.3	1,269.9	1,278.1
Louisiana	1,607.0	1,553.1	1,543.9
Maine	457.0	462.2	472.4
Maryland	1,882.1	1,913.7	1,932.1
Massachusetts	2,935.2	2,966.0	2,987.4
Michigan	3,512.1	3,558.7	3,591.2
Minnesota	1,862.2	1,876.5	1,907.1
Mississippi	839.6	849.9	852.7
Missouri	2,111.6	2,138.6	2,163.9
Montana	261.3	275.3	278.0
Nebraska	656.0	652.4	661.9
Nevada	447.0	456.3	462.7
New Hampshire	461.0	479.8	486.1
New Jersey	3,415.4	3,486.6	3,515.4
New Mexico	519.3	521.4	522.9
New York	7,768.3	7,839.3	7,905.7
North Carolina	2,646.5	2,709.8	2,717.3
North Dakota	254.4	247.6	251.3
Ohio	4,404.3	4,481.6	4,533.0
Oklahoma	1,191.0	1,161.2	1,162.2
Oregon	1,028.6	1,040.7	1,053.3
Pennsylvania	4,745.6	4,788.2	4,827.5
Rhode Island	428.6	424.9	430.9
South Carolina	1,304.0	1,334.5	1,345.0
South Dakota	252.3	247.0	252.1
Tennessee	1,856.4	1,916.8	1,930.9
Texas	6,699.1	6,703.1	6,688.8
Utah	621.7	634.3	635.9
Vermont	222.6	224.5	225.9
Virginia	2,449.7	2,517.8	2,540.9
Washington	1,709.4	1,746.1	1,760.5
West Virginia	602.9	594.1	611.6
Wisconsin	1,987.8	1,993.1	2,019.2
Wyoming	206.1	196.3	202.0
Puerto Rico	691.9	703.0	706.6
Virgin Islands	37.1	36.8	36.6

^{p} = preliminary

NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the database.

13. Employment of workers on nonagricultural payrolls by industry, monthly data seasonally adjusted

(In thousands)

Industry	Annual average		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May[p]	June[p]
TOTAL	94,496	97,614	97,442	97,672	97,890	98,128	98,428	98,666	98,910	99,296	99,429	99,484	99,783	99,908	99,819
PRIVATE SECTOR	78,472	81,199	81,062	81,222	81,428	81,592	81,853	82,073	82,281	82,659	82,748	82,785	83,072	83,165	83,104
GOODS PRODUCING	24,727	24,930	24,897	24,875	24,880	24,843	24,903	24,931	24,977	25,101	25,038	24,945	25,038	24,964	24,859
Mining	966	930	936	928	922	917	913	907	901	897	880	852	821	788	769
Oil and gas extraction	607	585	590	585	581	577	571	565	560	556	541	518	488	459	443
Construction	4,383	4,687	4,671	4,679	4,702	4,728	4,754	4,765	4,787	4,901	4,864	4,838	4,972	4,976	4,946
General building contractors	1,161	1,251	1,241	1,246	1,257	1,267	1,276	1,283	1,287	1,330	1,320	1,298	1,315	1,312	1,296
Manufacturing	19,378	19,314	19,290	19,268	19,256	19,198	19,236	19,259	19,289	19,303	19,294	19,255	19,245	19,200	19,144
Production workers	13,285	13,130	13,105	13,079	13,078	13,029	13,059	13,074	13,100	13,111	13,097	13,061	13,060	13,026	12,996
Durable goods	11,505	11,516	11,517	11,483	11,473	11,421	11,447	11,453	11,461	11,466	11,455	11,418	11,415	11,378	11,317
Production workers	7,739	7,680	7,654	7,621	7,619	7,572	7,584	7,584	7,595	7,596	7,579	7,545	7,547	7,522	7,479
Lumber and wood products	704	700	698	696	700	702	705	708	710	716	716	715	719	719	722
Furniture and fixtures	487	493	491	492	495	491	493	493	494	494	494	493	494	496	496
Stone, clay, and glass products	593	591	589	589	591	590	591	591	589	596	597	594	600	599	598
Primary metal industries	857	813	814	807	798	795	797	801	803	798	795	787	785	779	763
Blast furnaces and basic steel products	334	305	307	305	302	304	304	302	300	300	299	293	291	286	286
Fabricated metal products	1,463	1,458	1,466	1,465	1,463	1,459	1,460	1,459	1,456	1,455	1,452	1,450	1,451	1,447	1,442
Machinery, except electrical	2,198	2,182	2,190	2,178	2,164	2,147	2,146	2,139	2,133	2,137	2,127	2,118	2,111	2,100	2,087
Electrical and electronic equipment	2,206	2,207	2,207	2,196	2,195	2,179	2,181	2,179	2,182	2,182	2,181	2,177	2,177	2,176	2,148
Transportation equipment	1,901	1,971	1,970	1,970	1,977	1,970	1,987	1,993	1,996	1,996	1,998	1,989	1,986	1,972	1,973
Motor vehicles and equipment	862	876	879	874	876	871	873	870	872	867	864	858	854	839	837
Instruments and related products	714	723	724	724	724	723	722	723	725	724	725	726	723	721	720
Miscellaneous manufacturing industries	382	369	368	366	366	365	365	367	367	368	370	369	369	369	366
Nondurable goods	7,873	7,798	7,773	7,785	7,783	7,777	7,789	7,806	7,828	7,837	7,839	7,837	7,830	7,822	7,827
Production workers	5,546	5,470	5,451	5,458	5,459	5,457	5,465	5,480	5,505	5,516	5,518	5,516	5,513	5,504	5,517
Food and kindred products	1,612	1,608	1,611	1,604	1,608	1,607	1,610	1,612	1,623	1,623	1,631	1,632	1,630	1,639	1,650
Tobacco manufactures	64	65	65	64	64	65	64	65	64	64	63	63	63	62	62
Textile mill products	746	704	700	698	698	697	699	701	702	702	705	707	708	705	706
Apparel and other textile products	1,185	1,125	1,109	1,122	1,117	1,121	1,121	1,122	1,130	1,133	1,122	1,117	1,119	1,112	1,106
Paper and allied products	681	683	682	683	682	682	683	687	688	687	687	688	690	689	689
Printing and publishing	1,376	1,435	1,433	1,440	1,442	1,442	1,447	1,454	1,457	1,461	1,467	1,469	1,472	1,473	1,478
Chemicals and allied products	1,049	1,046	1,046	1,045	1,043	1,042	1,040	1,037	1,035	1,034	1,032	1,031	1,028	1,025	1,023
Petroleum and coal products	189	178	179	178	177	171	171	170	169	168	167	166	166	165	165
Rubber and misc. plastics products	780	790	784	784	787	785	790	794	796	802	803	804	800	797	796
Leather and leather products	189	166	164	167	165	165	164	164	164	163	162	160	157	154	152
SERVICE-PRODUCING	69,769	72,684	72,545	72,797	73,010	73,285	73,525	73,735	73,933	74,195	74,391	74,539	74,745	74,944	74,960
Transportation and public utilities	5,159	5,242	5,238	5,241	5,219	5,257	5,260	5,272	5,277	5,286	5,277	5,280	5,266	5,262	5,170
Transportation	2,917	3,006	3,001	3,006	2,983	3,023	3,026	3,040	3,046	3,056	3,048	3,053	3,040	3,036	3,039
Communication and public utilities	2,242	2,236	2,237	2,235	2,236	2,234	2,234	2,232	2,231	2,230	2,229	2,227	2,226	2,226	2,131
Wholesale trade	5,555	5,740	5,736	5,740	5,762	5,777	5,796	5,796	5,809	5,830	5,843	5,841	5,864	5,868	5,824
Durable goods	3,276	3,409	3,408	3,416	3,424	3,432	3,442	3,451	3,460	3,470	3,482	3,480	3,485	3,485	3,449
Nondurable goods	2,279	2,331	2,328	2,324	2,338	2,345	2,354	2,345	2,349	2,360	2,361	2,361	2,379	2,383	2,375
Retail trade	16,545	17,360	17,379	17,404	17,464	17,489	17,543	17,589	17,622	17,734	17,795	17,828	17,851	17,903	17,919
General merchandise stores	2,267	2,320	2,329	2,325	2,328	2,326	2,329	2,326	2,317	2,328	2,333	2,333	2,342	2,345	2,341
Food stores	2,637	2,779	2,781	2,795	2,805	2,813	2,829	2,846	2,870	2,880	2,891	2,901	2,910	2,912	2,932
Automotive dealers and service stations	1,799	1,882	1,884	1,887	1,904	1,910	1,916	1,918	1,922	1,929	1,938	1,939	1,940	1,943	1,944
Eating and drinking places	5,368	5,715	5,728	5,734	5,749	5,761	5,772	5,780	5,801	5,831	5,854	5,868	5,859	5,889	5,918
Finance, insurance, and real estate	5,689	5,953	5,939	5,964	5,988	6,014	6,038	6,070	6,095	6,123	6,157	6,184	6,229	6,256	6,275
Finance	2,854	2,979	2,970	2,985	2,998	3,011	3,024	3,039	3,053	3,066	3,082	3,095	3,120	3,134	3,149
Insurance	1,757	1,830	1,827	1,832	1,839	1,846	1,852	1,862	1,868	1,878	1,889	1,900	1,910	1,916	1,921
Real estate	1,078	1,144	1,142	1,147	1,151	1,157	1,162	1,169	1,174	1,179	1,186	1,189	1,199	1,206	1,205
Services	20,797	21,974	21,873	21,998	22,115	22,212	22,313	22,415	22,501	22,585	22,638	22,707	22,825	22,912	23,057
Business services	4,057	4,452	4,433	4,462	4,504	4,542	4,567	4,604	4,631	4,660	4,687	4,696	4,730	4,752	4,807
Health services	6,122	6,310	6,291	6,301	6,330	6,350	6,375	6,401	6,424	6,447	6,471	6,487	6,511	6,540	6,553
Government	16,024	16,415	16,380	16,450	16,462	16,536	16,575	16,593	16,629	16,637	16,681	16,699	16,711	16,743	16,715
Federal	2,807	2,875	2,872	2,879	2,886	2,899	2,895	2,904	2,913	2,918	2,918	2,923	2,914	2,923	2,931
State	3,734	3,848	3,835	3,851	3,855	3,878	3,895	3,901	3,904	3,916	3,924	3,927	3,938	3,933	3,930
Local	9,482	9,692	9,673	9,720	9,721	9,759	9,785	9,788	9,812	9,803	9,839	9,849	9,859	9,887	9,854

p = preliminary

NOTE: See notes on the data for a description of the most recent benchmark revision.

14. Average weekly hours of production or nonsupervisory workers on private nonagricultural payrolls by industry, monthly data seasonally adjusted

Industry	Annual average		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May^p	June^p
PRIVATE SECTOR	35.2	34.9	34.9	34.8	34.9	34.9	34.9	34.8	34.9	35.0	34.9	34.9	34.8	34.8	34.8
CONSTRUCTION	37.8	37.7	-	-	-	-	-	-	-	-	-	-	-	-	-
MANUFACTURING	40.7	40.5	40.5	40.4	40.6	40.7	40.7	40.7	40.9	40.8	40.7	40.7	40.7	40.7	40.6
Overtime hours	3.4	3.3	3.2	3.2	3.3	3.3	3.4	3.4	3.6	3.5	3.4	3.4	3.4	3.4	3.3
Durable goods	41.4	41.2	41.2	41.1	41.3	41.3	41.3	41.3	41.6	41.5	41.4	41.4	41.3	41.2	41.2
Overtime hours	3.6	3.5	3.4	3.4	3.4	3.5	3.5	3.6	3.7	3.6	3.5	3.6	3.6	3.4	3.4
Lumber and wood products	39.9	39.9	40.1	39.8	40.1	40.1	40.2	39.9	40.2	40.4	40.0	40.2	40.3	40.3	40.2
Furniture and fixtures	39.7	39.4	39.1	39.0	39.3	39.4	39.5	39.4	39.9	40.0	39.7	39.4	39.1	39.4	39.4
Stone, clay, and glass products	42.0	41.9	41.9	41.9	42.0	42.0	42.1	41.8	41.8	42.7	41.9	41.9	42.4	42.3	42.4
Primary metal industries	41.7	41.5	41.5	41.4	41.7	41.5	41.8	41.9	42.1	41.9	42.1	41.9	41.3	41.7	41.8
Blast furnaces and basic steel products	40.7	41.1	41.1	41.2	41.5	41.1	41.6	41.9	41.9	41.7	41.8	41.7	40.5	41.5	41.2
Fabricated metal products	41.4	41.3	41.4	41.4	41.4	41.5	41.5	41.5	41.6	41.5	41.5	41.4	41.2	41.1	41.0
Machinery except electrical	41.9	41.5	41.6	41.4	41.6	41.6	41.5	41.6	41.7	41.6	41.6	41.6	41.8	41.8	41.6
Electrical and electronic equipment	41.0	40.6	40.6	40.4	40.7	40.5	40.6	40.9	41.1	41.0	40.9	41.0	41.1	41.0	41.0
Transportation equipment	42.7	42.6	42.4	42.6	42.9	42.9	42.8	42.7	43.0	42.8	42.7	42.7	42.1	42.0	42.2
Motor vehicles and equipment	43.8	43.5	42.9	43.4	43.7	43.6	43.7	43.6	44.0	43.6	43.4	43.3	41.9	41.9	42.5
Instruments and related products	41.3	41.0	41.1	40.8	40.9	40.9	40.9	41.0	41.6	41.1	41.2	41.3	41.3	40.8	41.0
Miscellaneous manufacturing	39.4	39.4	-	-	-	-	-	-	-	-	-	-	-	-	-
Nondurable goods	39.7	39.6	39.5	39.4	39.6	39.8	39.8	39.8	40.0	39.9	39.7	39.8	39.9	39.9	39.8
Overtime hours	3.1	3.1	3.0	3.0	3.1	3.1	3.2	3.2	3.4	3.3	3.2	3.2	3.3	3.4	3.2
Food and kindred products	39.8	40.0	39.8	40.0	40.0	40.1	40.2	40.0	40.1	40.1	39.8	39.9	40.2	40.3	40.1
Tobacco manufactures	38.9	37.2	-	-	-	-	-	-	-	-	-	-	-	-	-
Textile mill products	39.9	39.7	39.5	39.2	40.0	40.5	40.7	40.8	41.0	40.8	40.6	40.7	41.3	41.1	40.5
Apparel and other textile products	36.4	36.4	36.3	36.4	36.4	36.6	36.6	36.8	36.8	36.7	36.3	36.5	36.9	36.5	36.7
Paper and allied products	43.1	43.1	42.9	42.9	43.1	43.1	43.2	43.3	43.5	43.6	43.5	43.5	43.0	43.2	43.3
Printing and publishing	37.9	37.8	37.6	37.5	37.9	37.9	37.9	37.9	38.1	38.0	38.0	38.0	38.0	38.0	38.0
Chemicals and allied products	41.9	41.9	41.9	41.8	41.9	41.7	41.8	41.9	42.0	41.9	41.8	41.9	41.9	42.0	41.8
Petroleum and coal products	43.7	43.0	42.7	43.0	43.3	43.3	44.2	43.2	43.6	43.5	43.7	43.8	43.6	43.3	43.8
Leather and leather products	36.8	37.2	-	-	-	-	-	-	-	-	-	-	-	-	-
TRANSPORTATION AND PUBLIC UTILITIES	39.4	39.5	39.5	39.3	39.5	39.5	39.5	39.4	39.5	39.4	39.5	39.6	39.2	39.1	39.1
WHOLESALE TRADE	38.5	38.4	38.5	38.4	38.4	38.4	38.4	38.4	38.4	38.5	38.4	38.5	38.5	38.4	38.3
RETAIL TRADE	29.8	29.4	29.5	29.4	29.4	29.4	29.3	29.3	29.2	29.3	29.3	29.3	29.2	29.2	29.2
SERVICES	32.6	32.5	32.5	32.4	32.5	32.4	32.5	32.4	32.5	32.6	32.6	32.5	32.5	32.5	32.5

- Data not available.
p = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark adjustment.

15. Average hourly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May^p	June^p
PRIVATE SECTOR	$8.32	$8.57	$8.54	$8.52	$8.52	$8.67	$8.64	$8.66	$8.71	$8.72	$8.74	$8.73	$8.72	$8.72	$8.72
Seasonally adjusted	-	-	8.57	8.55	8.59	8.62	8.63	8.66	8.70	8.68	8.71	8.73	8.72	8.73	8.75
MINING	11.63	11.98	12.02	11.92	11.99	12.06	12.00	12.07	12.27	12.24	12.32	12.35	12.43	12.43	12.51
CONSTRUCTION	12.13	12.31	12.17	12.21	12.29	12.46	12.42	12.28	12.47	12.34	12.35	12.22	12.29	12.34	12.31
MANUFACTURING	9.19	9.53	9.52	9.55	9.49	9.57	9.56	9.63	9.74	9.70	9.70	9.72	9.70	9.71	9.70
Durable goods	9.74	10.10	10.08	10.10	10.06	10.15	10.15	10.22	10.34	10.27	10.29	10.30	10.28	10.27	10.27
Lumber and wood products	8.03	8.22	8.26	8.22	8.27	8.33	8.30	8.29	8.35	8.30	8.36	8.33	8.32	8.36	8.45
Furniture and fixtures	6.84	7.17	7.17	7.20	7.20	7.27	7.29	7.32	7.38	7.36	7.31	7.35	7.36	7.40	7.46
Stone, clay, and glass products	9.57	9.84	9.85	9.90	9.87	9.91	9.87	9.91	9.95	9.96	9.94	9.93	10.00	10.03	10.04
Primary metal industries	11.47	11.68	11.65	11.78	11.63	11.69	11.61	11.77	11.84	11.81	11.96	11.99	12.00	12.02	11.98
Blast furnaces and basic steel products	12.98	13.34	13.28	13.49	13.36	13.43	13.32	13.43	13.44	13.48	13.81	13.80	13.82	13.83	13.94
Fabricated metal products	9.40	9.70	9.68	9.70	9.64	9.74	9.71	9.76	9.91	9.85	9.85	9.88	9.84	9.84	9.85
Machinery, except electrical	9.96	10.29	10.28	10.31	10.26	10.38	10.41	10.48	10.55	10.50	10.53	10.58	10.55	10.55	10.57
Electrical and electronic equipment	9.04	9.47	9.46	9.47	9.50	9.54	9.55	9.61	9.68	9.60	9.60	9.62	9.62	9.64	9.62
Transportation equipment	12.20	12.72	12.68	12.65	12.65	12.78	12.78	12.85	13.06	12.91	12.87	12.90	12.83	12.79	12.80
Motor vehicles and equipment	12.73	13.42	13.38	13.35	13.31	13.48	13.44	13.52	13.81	13.66	13.59	13.66	13.54	13.46	13.47
Instruments and related products	8.84	9.16	9.12	9.17	9.19	9.25	9.24	9.27	9.39	9.32	9.39	9.41	9.41	9.39	9.39
Miscellaneous manufacturing	7.05	7.30	7.30	7.32	7.28	7.33	7.32	7.37	7.48	7.46	7.50	7.51	7.50	7.52	7.56
Nondurable goods	8.38	8.71	8.69	8.75	8.70	8.73	8.72	8.79	8.87	8.86	8.86	8.88	8.88	8.91	8.90
Food and kindred products	8.39	8.57	8.56	8.57	8.50	8.53	8.51	8.61	8.71	8.72	8.71	8.74	8.75	8.78	8.75
Tobacco manufactures	11.22	11.94	12.76	12.83	12.34	11.34	11.31	11.97	11.78	11.89	12.38	12.76	12.84	13.37	13.63
Textile mill products	6.46	6.71	6.68	6.69	6.72	6.75	6.76	6.79	6.83	6.85	6.83	6.86	6.87	6.88	6.85
Apparel and other textile products	5.55	5.73	5.71	5.70	5.69	5.75	5.74	5.75	5.80	5.82	5.79	5.80	5.81	5.78	5.79
Paper and allied products	10.41	10.82	10.79	10.91	10.86	10.91	10.91	10.97	11.07	11.02	10.99	11.03	11.05	11.12	11.11
Printing and publishing	9.41	9.71	9.63	9.69	9.76	9.81	9.78	9.83	9.92	9.85	9.86	9.90	9.87	9.82	9.90
Chemicals and allied products	11.07	11.56	11.51	11.59	11.60	11.65	11.70	11.80	11.85	11.86	11.81	11.78	11.82	11.88	11.90
Petroleum and coal products	13.44	14.06	13.99	14.05	14.02	14.09	13.99	14.07	14.24	14.26	14.21	14.22	14.16	14.00	14.03
Rubber and miscellaneous plastics products	8.29	8.54	8.51	8.55	8.52	8.56	8.54	8.63	8.73	8.69	8.69	8.72	8.68	8.74	8.76
Leather and leather products	5.71	5.82	5.83	5.84	5.81	5.83	5.77	5.83	5.83	5.86	5.83	5.86	5.89	5.89	5.87
TRANSPORTATION AND PUBLIC UTILITIES	11.12	11.40	11.34	11.37	11.42	11.54	11.48	11.58	11.61	11.59	11.64	11.62	11.55	11.52	11.58
WHOLESALE TRADE	8.89	9.16	9.16	9.14	9.12	9.22	9.16	9.23	9.33	9.28	9.36	9.33	9.29	9.28	9.33
RETAIL TRADE	5.85	5.94	5.91	5.90	5.88	5.98	5.95	5.97	5.99	6.03	6.04	6.03	6.01	6.00	5.99
FINANCE, INSURANCE, AND REAL ESTATE	7.63	7.94	7.98	7.88	7.91	8.04	8.01	8.06	8.15	8.14	8.26	8.30	8.29	8.33	8.43
SERVICES	7.59	7.89	7.85	7.80	7.82	7.99	7.99	8.05	8.12	8.12	8.17	8.18	8.12	8.10	8.10

– Data not available.
p = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

16. Average weekly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May^p	June^p
PRIVATE SECTOR															
Current dollars	$292.86	$299.09	$300.61	$298.05	$299.90	$303.45	$301.54	$301.37	$306.59	$302.96	$300.86	$302.93	$301.71	$302.56	$306.20
Seasonally adjusted	-	-	299.09	297.54	299.79	300.84	301.19	301.02	303.63	303.80	303.96	304.86	303.46	303.80	304.90
Constant (1977) dollars	172.78	170.42	171.19	170.11	170.30	171.83	170.36	169.59	172.05	169.32	168.82	171.06	170.94	170.85	-
MINING	503.58	519.93	525.27	510.18	518.17	526.50	518.40	521.42	537.43	543.46	522.37	522.41	522.06	518.33	526.67
CONSTRUCTION	456.51	464.09	462.46	471.31	471.55	479.71	475.89	450.88	460.14	459.05	434.72	444.81	462.10	466.92	467.76
MANUFACTURING															
Current dollars	374.03	385.97	387.46	382.96	384.35	390.46	390.05	393.87	406.16	394.79	390.91	395.60	392.85	394.23	395.76
Constant (1977) dollars	220.67	219.93	220.65	217.84	218.26	221.10	220.37	221.85	227.92	220.92	219.49	223.38	222.58	222.60	-
Durable goods	403.24	416.12	417.31	410.06	412.46	420.21	419.20	424.13	439.45	425.16	421.89	426.42	423.54	423.12	425.16
Lumber and wood products	320.40	327.96	337.01	328.33	334.94	338.20	336.32	327.46	335.67	329.51	328.55	333.20	334.46	338.58	345.61
Furniture and fixtures	271.56	282.50	281.06	275.76	283.68	289.35	291.60	291.34	303.32	289.98	284.36	286.12	286.30	289.60	294.67
Stone, clay, and glass products	401.94	412.30	418.63	418.77	418.49	421.16	419.48	414.24	414.92	414.34	403.56	412.10	425.00	428.28	431.72
Primary metal industries	478.30	484.72	486.97	485.34	490.32	486.30	490.65	491.99	504.36	490.66	503.52	504.78	499.20	501.23	500.76
Blast furnaces and basic steel products	526.29	546.27	552.45	559.49	550.43	553.32	544.79	557.35	564.46	556.72	576.84	576.84	569.36	575.33	581.30
Fabricated metal products	389.16	400.61	402.69	395.76	397.17	405.16	403.94	408.02	422.17	407.79	403.85	409.03	403.44	404.42	405.82
Machinery, except electrical	417.32	427.04	427.65	420.65	422.71	431.81	430.97	438.06	452.60	437.85	437.00	442.24	437.83	437.83	439.71
Electrical and electronic equipment	370.64	384.48	385.02	376.91	383.80	387.32	387.73	386.89	408.50	394.56	389.76	395.38	392.50	393.31	394.42
Transportation equipment	520.94	541.87	539.32	531.30	530.04	544.43	545.71	551.27	577.25	555.13	545.69	552.12	542.71	538.46	541.44
Motor vehicles and equipment	557.57	533.77	578.49	571.38	585.68	585.03	585.98	586.12	625.59	585.58	583.01	582.84	574.10	569.01	576.52
Instruments and related products	365.09	375.96	374.83	369.55	373.11	380.16	376.07	382.85	400.01	383.05	384.99	389.57	385.81	381.23	384.99
Miscellaneous manufacturing	277.77	287.62	287.62	282.55	284.65	293.20	295.00	296.27	304.44	297.70	294.75	299.65	297.75	296.29	301.64
Nondurable goods	332.09	34[illegible].92	344.12	343.09	345.39	349.20	347.93	351.60	358.24	352.63	347.31	352.54	351.65	354.62	355.11
Food and kindred products	333.92	342.80	342.34	342.80	342.56	348.02	343.80	346.12	354.50	347.93	339.69	344.36	346.50	352.96	351.75
Tobacco manufactures	436.46	444.17	461.05	434.94	457.81	434.32	444.46	435.71	446.82	448.25	453.11	476.50	469.94	509.08	530.21
Textile mill products	257.75	266.39	266.53	258.23	270.14	275.40	276.48	279.75	283.45	276.80	274.57	278.52	278.92	282.08	280.17
Apparel and other textile products	202.02	208.57	209.56	206.34	208.25	210.45	211.23	212.75	215.16	213.01	207.28	211.70	211.46	210.97	214.81
Paper and allied products	448.67	466.34	463.97	465.96	465.89	473.49	472.40	477.20	490.40	479.37	472.57	477.60	474.05	479.27	481.08
Printing and publishing	358.64	367.04	359.20	361.44	370.88	374.74	371.64	375.51	384.90	371.35	370.74	377.19	374.07	374.98	373.23
Chemicals and allied products	463.83	484.36	484.57	482.14	482.56	486.97	486.72	485.60	503.63	495.75	492.48	494.76	495.28	498.98	499.80
Petroleum and coal products	587.33	604.58	587.37	606.96	607.07	621.37	619.76	610.64	622.29	616.03	612.46	621.41	615.96	603.40	614.51
Rubber and miscellaneous plastics products	345.69	350.99	350.61	347.13	346.76	351.82	350.99	356.42	366.66	359.77	368.29	360.14	356.75	359.21	360.04
Leather and leather products	210.13	216.50	220.96	219.00	216.71	219.21	216.95	219.21	220.96	217.41	209.89	212.72	213.81	215.57	218.96
TRANSPORTATION AND PUBLIC UTILITIES	438.13	450.30	451.33	449.12	454.52	458.14	453.46	457.81	460.92	452.01	456.29	457.83	450.45	448.13	456.25
WHOLESALE TRADE	342.27	351.74	353.58	352.80	351.12	354.97	351.74	355.36	360.14	355.42	355.66	357.34	355.81	356.35	359.21
RETAIL TRADE	174.33	174.64	176.71	177.59	176.99	175.61	173.74	173.73	178.50	173.06	172.74	174.27	173.69	174.60	177.30
FINANCE, INSURANCE, AND REAL ESTATE	278.50	289.02	292.13	296.04	287.13	293.46	290.76	291.77	298.11	298.30	304.70	304.61	301.76	302.38	309.39
SERVICES	247.43	256.43	256.70	255.64	256.50	258.88	259.68	260.02	263.90	263.09	264.71	265.03	263.09	262.44	264.87

- Data not available.

p = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

17. The Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Not seasonally adjusted				Seasonally adjusted					
	June 1985	Apr. 1986	May 1986^p	June 1986^p	June 1985	Feb. 1986	Mar. 1986	Apr. 1986	May 1986	June 1986^p
PRIVATE SECTOR (in current dollars)	164.8	168.4	168.6	169.0	165.2	168.2	168.5	168.4	168.6	169.4
Mining[1]	179.0	181.2	180.7	181.2	-	-	-	-	-	-
Construction	148.9	149.9	150.9	150.5	149.8	149.7	149.2	150.6	151.2	151.4
Manufacturing	168.5	172.2	172.5	172.5	168.7	171.3	171.8	172.0	172.4	172.7
Transportation and public utilities	165.2	169.0	168.7	169.7	166.4	168.6	170.2	169.3	169.7	170.9
Wholesale trade[1]	169.0	171.3	171.3	172.1	-	-	-	-	-	-
Retail trade	155.4	157.8	157.7	157.9	155.2	157.3	157.4	157.3	157.1	157.7
Finance, insurance, and real estate[1]	172.2	178.9	179.6	181.6	-	-	-	-	-	-
Services	167.7	173.1	173.1	173.5	168.7	173.1	174.0	173.1	173.3	174.5
PRIVATE SECTOR (in constant dollars)	93.9	95.4	95.2	-	94.2	94.4	95.1	95.4	95.4	-

[1] This series is not seasonally adjusted because the seasonal component is small relative to the trend-cycle, irregular components, or both, and consequently cannot be separated with sufficient precision.

- Data not available.

p = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

18. Indexes of diffusion: industries in which employment increased, data seasonally adjusted

(In percent)

Time span and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Over 1-month span												
1984	67.8	72.7	67.6	67.6	62.4	65.4	62.2	55.9	50.5	63.0	53.5	57.0
1985	52.4	47.8	53.8	49.2	51.6	47.0	56.2	56.8	50.8	61.9	57.6	59.5
1986	58.7	53.5	45.1	54.1	50.5	44.1	-	-	-	-	-	-
Over 3-month span												
1984	76.5	75.1	75.9	71.4	71.6	68.1	63.2	58.1	56.8	53.5	58.1	53.0
1985	51.1	49.7	46.2	46.2	45.1	51.4	49.7	51.1	55.1	55.9	61.4	60.5
1986	58.1	54.3	51.1	50.0	47.6	-	-	-	-	-	-	-
Over 6-month span												
1984	78.1	78.5	77.0	75.1	69.2	65.1	63.2	59.2	58.6	53.2	49.7	54.9
1985	49.2	47.8	43.0	45.9	44.3	44.3	48.9	50.8	54.1	57.0	57.0	56.9
1986	53.8	54.1	48.1	-	-	-	-	-	-	-	-	-
Over 12-month span												
1984	81.1	78.1	72.2	72.2	68.9	67.8	65.7	62.7	59.7	54.6	51.4	48.6
1985	46.2	45.7	46.8	43.8	44.9	47.3	47.6	48.9	47.3	49.5	49.2	47.6
1986	-	-	-	-	-	-	-	-	-	-	-	-

- Data not available.

NOTE: Figures are the percent of industries with employment rising. (Half of the unchanged components are counted as rising.) Data are centered within the span. See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

19. Annual data: Employment status of the noninstitutional population

(Numbers in thousands)

Employment status	1977	1978	1979	1980	1981	1982	1983	1984	1985
Noninstitutional population	160,689	163,541	166,460	169,349	171,775	173,939	175,891	178,080	179,912
Labor force									
Total (number)	100,665	103,882	106,559	108,544	110,315	111,872	113,226	115,241	117,167
Percent of population	62.6	63.5	64.0	64.1	64.2	64.3	64.4	64.7	65.1
Employed									
Total (number)	93,673	97,679	100,421	100,907	102,042	101,194	102,510	106,702	108,856
Percent of population	58.3	59.7	60.3	59.6	59.4	58.2	58.3	59.9	60.5
Resident Armed Forces	1,656	1,631	1,597	1,604	1,645	1,668	1,676	1,697	1,706
Civilian									
Total	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005	107,150
Agriculture	3,283	3,387	3,347	3,364	3,368	3,401	3,383	3,321	3,179
Nonagricultural industries	88,734	92,661	95,477	95,938	97,030	96,125	97,450	101,685	103,971
Unemployed									
Total (number)	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539	8,312
Percent of labor force	6.9	6.0	5.8	7.0	7.5	9.5	9.5	7.4	7.1
Not in labor force (number)	60,025	59,659	59,900	60,806	61,460	62,067	62,665	62,839	62,744

20. Annual data: Employment levels by industry

(Numbers in thousands)

Industry	1977	1978	1979	1980	1981	1982	1983	1984	1985
Total employment	82,471	86,697	89,823	90,406	91,156	89,566	90,200	94,496	97,614
Private sector	67,344	71,026	73,876	74,166	75,126	73,729	74,330	78,472	81,199
Goods-producing	24,346	25,585	26,461	25,658	25,497	23,813	23,334	24,727	24,930
Mining	813	851	958	1,027	1,139	1,128	952	966	930
Construction	3,851	4,229	4,463	4,346	4,188	3,905	3,948	4,383	4,687
Manufacturing	19,682	20,505	21,040	20,285	20,170	18,781	18,434	19,378	19,314
Service-producing	58,125	61,113	63,363	64,748	65,659	65,753	66,866	69,769	72,684
Transportation and public utilities	4,713	4,923	5,136	5,146	5,165	5,082	4,954	5,159	5,242
Wholesale trade	4,708	4,969	5,204	5,275	5,358	5,278	5,268	5,555	5,740
Retail trade	13,808	14,573	14,989	15,035	15,189	15,179	15,613	16,545	17,360
Finance, insurance, and real estate	4,467	4,724	4,975	5,160	5,298	5,341	5,468	5,689	5,953
Services	15,303	16,252	17,112	17,890	18,619	19,036	19,694	20,797	21,974
Government	15,127	15,672	15,947	16,241	16,031	15,837	15,869	16,024	16,415
Federal	2,727	2,753	2,773	2,866	2,772	2,739	2,774	2,807	2,875
State	3,377	3,474	3,541	3,610	3,640	3,640	3,662	3,734	3,848
Local	9,023	9,446	9,633	9,765	9,619	9,458	9,434	9,482	9,692

NOTE: Data include Alaska and Hawaii beginning in 1959. See "Notes on the data" for a description of the most recent benchmark revision.

21. Annual data: Average hours and earnings of production or nonsupervisory workers on nonagricultural payrolls, by industry

Industry	1977	1978	1979	1980	1981	1982	1983	1984	1985
Private sector									
Average weekly hours	36.0	35.8	35.7	35.3	35.2	34.8	35.0	35.2	34.9
Average hourly earnings	5.25	5.69	6.16	6.66	7.25	7.68	8.02	8.32	8.57
Average weekly earnings	189.00	203.70	219.91	235.10	255.20	267.26	280.70	292.86	299.09
Mining									
Average weekly hours	43.4	43.4	43.0	43.3	43.7	42.7	42.5	43.3	43.4
Average hourly earnings	6.94	7.67	8.49	9.17	10.04	10.77	11.28	11.63	11.98
Average weekly earnings	301.20	332.88	365.07	397.06	438.75	459.88	479.40	503.58	519.93
Construction									
Average weekly hours	36.5	36.8	37.0	37.0	36.9	36.7	37.1	37.8	37.7
Average hourly earnings	8.10	8.66	9.27	9.94	10.82	11.63	11.94	12.13	12.31
Average weekly earnings	295.65	318.69	342.99	367.78	399.26	426.82	442.97	458.51	464.09
Manufacturing									
Average weekly hours	40.3	40.4	40.2	39.7	39.8	38.9	40.1	40.7	40.5
Average hourly earnings	5.68	6.17	6.70	7.27	7.99	8.49	8.83	9.19	9.53
Average weekly earnings	228.90	249.27	269.34	288.62	318.00	330.26	354.08	374.03	385.97
Transportation and public utilities									
Average weekly hours	39.9	40.0	39.9	39.6	39.4	39.0	39.0	39.4	39.5
Average hourly earnings	6.99	7.57	8.16	8.87	9.70	10.32	10.79	11.12	11.40
Average weekly earnings	278.90	302.80	325.58	351.25	382.18	402.48	420.81	438.13	450.30
Wholesale trade									
Average weekly hours	38.8	38.8	38.8	38.5	38.5	38.3	38.5	38.5	38.4
Average hourly earnings	5.39	5.88	6.39	6.96	7.56	8.09	8.55	8.89	9.16
Average weekly earnings	209.13	228.14	247.93	267.96	291.06	309.85	329.18	342.27	351.74
Retail trade									
Average weekly hours	31.6	31.0	30.6	30.2	30.1	29.9	29.8	29.8	29.4
Average hourly earnings	3.85	4.20	4.53	4.88	5.25	5.48	5.74	5.85	5.94
Average weekly earnings	121.66	130.20	138.62	147.38	158.03	163.85	171.05	174.33	174.64
Finance, insurance, and real estate									
Average weekly hours	36.4	36.4	36.2	36.2	36.3	36.2	36.2	36.5	36.4
Average hourly earnings	4.54	4.89	5.27	5.79	6.31	6.78	7.29	7.63	7.94
Average weekly earnings	165.26	178.00	190.77	209.60	229.05	245.44	263.90	278.50	289.02
Services									
Average weekly hours	33.0	32.8	32.7	32.6	32.6	32.6	32.7	32.6	32.5
Average hourly earnings	4.65	4.99	5.36	5.85	6.41	6.92	7.31	7.59	7.89
Average weekly earnings	153.45	163.67	175.27	190.71	208.97	225.59	239.04	247.43	256.43

22. Employment Cost Index, compensation,[1] by occupation and industry group

(June 1981 = 100)

Series	1984				1985				1986	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1986	
Civilian workers [2]	119.8	120.8	122.4	123.9	125.5	126.4	128.4	129.2	130.6	1.1	4.1
Workers, by occupational group:											
White-collar workers	120.9	122.1	124.0	125.5	127.3	128.3	130.7	131.6	133.1	1.1	4.6
Blue-collar workers	117.7	118.6	119.6	120.9	122.2	123.1	124.4	124.9	126.2	1.0	3.3
Service workers	122.0	122.1	124.6	126.8	127.8	128.0	130.9	131.8	133.1	1.0	4.1
Workers, by industry division:											
Manufacturing	117.9	119.1	120.4	122.0	123.9	124.6	125.5	126.0	127.7	1.3	3.1
Nonmanufacturing	120.7	121.6	123.3	124.8	126.2	127.2	129.7	130.6	131.9	1.0	4.5
Services	125.0	125.5	128.8	130.9	131.9	132.6	136.4	137.1	138.8	1.2	5.2
Public administration [3]	122.9	123.7	126.9	128.6	130.1	130.3	134.2	134.8	136.8	1.5	5.1
Private industry workers	119.0	120.1	121.1	122.7	124.2	125.2	126.8	127.5	128.9	1.1	3.8
Workers, by occupational group:											
White-collar workers	119.9	121.4	122.4	123.9	125.8	127.1	128.8	129.8	131.3	1.2	4.4
Blue-collar workers	117.5	118.4	119.3	120.6	121.9	122.8	124.0	124.4	125.7	1.0	3.1
Service workers	121.5	121.2	123.2	125.7	126.3	126.5	128.8	129.5	130.9	1.1	3.6
Workers, by industry division:											
Manufacturing	117.9	119.1	120.4	122.0	123.9	124.6	125.5	126.0	127.7	1.3	3.1
Nonmanufacturing	119.6	120.7	121.6	123.1	124.4	125.6	127.6	128.4	129.7	1.0	4.3
State and local government workers	123.9	124.4	128.8	130.1	131.7	132.0	136.5	137.5	138.9	1.0	5.5
Workers, by occupational group:											
White-collar workers	124.5	125.0	129.7	131.1	132.5	132.9	137.6	138.6	140.0	1.0	5.7
Blue-collar workers	121.9	122.3	125.0	125.9	128.1	128.5	131.9	132.7	134.7	1.5	5.2
Workers, by industry division:											
Services	124.5	125.0	129.9	131.3	132.8	133.2	137.9	139.1	140.4	.9	5.7
Schools	124.5	124.7	130.6	132.0	133.4	133.7	139.1	140.3	141.5	.9	6.1
Elementary and secondary	125.4	125.7	132.1	133.5	134.4	134.6	140.9	142.0	143.0	.7	6.4
Hospitals and other services[4]	124.4	125.7	127.9	129.2	131.1	131.5	134.1	135.2	136.8	1.2	4.3
Public administration[3]	122.9	123.7	126.9	128.6	130.1	130.3	134.2	134.8	136.8	1.5	5.1

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[1] Cost (cents-per-hour worked) measured in the Employment Cost Index consists of wages, salaries, and employer cost of employee benefits.

[2] Consist of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[3] Consists of legislative, judicial, administrative, and regulatory activities.

[4] Includes, for example, library, social, and health services

23. Employment Cost Index, wages and salaries, by occupation and industry group

(June 1981 = 100)

Series	1984				1985				1986	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1986	
Civilian workers [1]	117.9	118.8	120.3	121.7	123.1	124.2	126.3	127.0	128.3	1.0	4.2
Workers, by occupational group:											
White-collar workers	119.3	120.4	122.2	123.5	125.2	126.4	128.8	129.8	131.2	1.1	4.8
Blue-collar workers	115.3	116.1	117.0	118.2	119.3	120.5	122.0	122.3	123.4	.9	3.4
Service workers	120.0	119.8	122.3	124.3	124.8	125.3	128.0	128.6	129.8	.9	4.0
Workers, by industry division											
Manufacturing	115.7	116.8	118.0	119.5	121.0	122.3	123.2	123.8	125.3	1.2	3.6
Nonmanufacturing	118.9	119.7	121.3	122.6	123.9	125.0	127.6	128.4	129.6	.9	4.6
Services	123.3	123.8	127.2	128.9	129.7	130.5	134.2	134.8	136.4	1.2	5.2
Public administration [2]	120.4	121.3	124.4	125.7	127.0	127.2	131.4	132.0	133.8	1.4	5.4
Private industry workers	117.2	118.2	119.2	120.6	122.0	123.3	124.9	125.6	126.8	1.0	3.9
Workers, by occupational group:											
White-collar workers	118.5	119.9	120.9	122.3	124.0	125.5	127.3	128.3	129.6	1.0	4.5
Professional and technical	122.2	123.8	125.2	127.3	127.7	128.7	131.2	131.5	132.7	.9	3.9
Managers and administrators	118.0	119.2	121.0	122.2	123.8	126.5	127.7	128.4	130.5	1.6	5.4
Salesworkers	110.2	111.9	110.5	111.6	116.3	117.4	119.3	122.5	122.4	-.1	5.2
Clerical workers	119.8	120.7	122.0	122.9	124.7	125.6	127.1	127.9	129.6	1.3	3.9
Blue-collar workers	115.1	115.9	116.7	118.0	119.1	120.3	121.7	122.0	123.1	.9	3.4
Craft and kindred workers	116.5	117.3	118.0	119.4	120.8	122.0	123.7	123.8	125.3	1.2	3.7
Operatives, except transport	114.9	115.8	116.6	117.9	118.9	120.1	121.1	121.6	122.6	.8	3.1
Transport equipment operatives	111.7	112.7	113.4	114.0	114.5	115.7	117.7	117.8	118.0	.2	3.1
Nonfarm laborers	112.9	114.1	114.7	115.9	116.7	118.5	118.6	119.8	120.0	.2	2.8
Service workers	119.8	119.3	121.2	123.7	123.8	124.4	126.3	126.6	128.0	1.1	3.4
Workers, by industry division:											
Manufacturing	115.7	116.8	118.0	119.5	121.0	122.3	123.2	123.8	125.3	1.2	3.6
Durables	115.7	116.6	117.7	119.1	120.6	122.0	122.7	123.4	124.8	1.1	3.5
Nondurables	115.8	117.1	118.6	120.2	121.6	122.6	124.0	124.6	126.1	1.2	3.7
Nonmanufacturing	118.0	119.0	119.9	121.2	122.6	123.9	125.9	126.6	127.7	.9	4.2
Construction	113.3	114.0	114.3	114.4	115.5	116.6	117.3	117.9	118.3	.3	2.4
Transportation and public utilities	118.5	119.3	119.9	120.7	121.7	122.8	124.8	125.2	126.3	.9	3.8
Wholesale and retail trade	114.3	116.0	116.5	118.1	118.8	121.1	122.7	123.7	124.5	.6	4.8
Wholesale trade	118.2	120.0	120.7	122.9	123.7	126.8	127.7	128.3	129.7	1.1	4.9
Retail trade	112.8	114.4	114.9	116.2	116.9	118.9	120.8	121.9	122.5	.5	4.8
Finance, insurance, and real estate	116.1	116.9	115.3	115.8	122.0	121.7	124.1	126.5	126.6	.1	3.8
Services	124.2	124.7	127.1	129.5	129.9	131.0	133.9	134.1	136.2	1.6	4.8
State and local government workers	121.6	122.0	126.1	127.1	128.4	128.7	133.2	134.2	135.5	1.0	5.5
Workers, by occupational group											
White-collar workers	122.2	122.5	127.1	128.0	129.3	129.6	134.3	135.3	136.6	1.0	5.6
Blue-collar workers	119.1	119.6	121.9	122.5	124.2	124.5	127.9	128.4	130.4	1.6	5.0
Workers, by industry division											
Services	122.2	122.5	127.2	128.1	129.4	129.7	134.5	135.6	136.8	.9	5.7
Schools	122.2	122.3	127.8	128.7	129.9	130.2	135.8	137.0	138.0	.7	6.2
Elementary and secondary	122.9	123.0	129.3	130.2	130.8	131.1	137.5	138.5	139.4	.6	6.6
Hospitals and other services [3]	121.9	123.1	125.1	125.9	127.7	128.0	130.2	130.9	132.4	1.1	3.7
Public administration [2]	120.4	121.3	124.4	125.7	127.0	127.2	131.4	132.0	133.8	1.4	5.4

[1] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[2] Consists of legislative, judicial, administrative, and regulatory activities.

[3] Includes, for example, library, social and health services.

24. Employment Cost Index, private nonfarm workers, by bargaining status, region, and area size

(June 1981 = 100)

Series	1984				1985				1986	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1986	
COMPENSATION											
Workers, by bargaining status[1]											
Union	120.6	121.7	122.6	123.9	124.8	125.5	126.5	127.1	128.4	1.0	2.9
Manufacturing	119.3	120.5	121.6	123.2	124.2	124.2	125.0	125.5	127.0	1.2	2.3
Nonmanufacturing	121.9	122.8	123.6	124.5	125.3	126.6	127.8	128.6	129.7	.9	3.5
Nonunion	118.0	119.2	120.3	121.9	123.8	125.0	126.8	127.5	129.0	1.2	4.2
Manufacturing	116.6	117.9	119.3	120.8	123.6	124.8	125.7	126.3	128.1	1.4	3.6
Nonmanufacturing	118.6	119.8	120.7	122.4	123.9	125.1	127.3	128.1	129.5	1.1	4.5
Workers, by region[1]											
Northeast	118.9	120.7	122.4	123.8	125.1	126.4	128.8	129.9	131.6	1.3	5.2
South	119.7	120.7	120.7	122.2	124.2	125.2	126.5	127.2	128.7	1.2	3.6
Midwest (formerly North Central)	117.2	117.9	119.7	120.8	122.0	122.7	124.2	124.6	125.9	1.0	3.2
West	121.0	122.2	122.5	124.9	126.8	127.9	129.1	129.8	130.8	.8	3.2
Workers, by area size[1]											
Metropolitan areas	119.4	120.6	121.5	123.2	124.7	125.7	127.3	128.1	129.5	1.1	3.8
Other areas	116.7	117.4	119.0	119.8	121.4	122.5	123.9	123.9	125.5	1.3	3.4
WAGES AND SALARIES											
Workers, by bargaining status[1]											
Union	118.1	119.0	119.8	120.9	121.7	123.0	124.1	124.7	125.6	.7	3.2
Manufacturing	116.1	117.1	118.1	119.5	120.4	121.7	122.8	123.3	124.2	.7	3.2
Nonmanufacturing	120.1	120.7	121.3	122.1	122.8	124.1	125.3	125.9	126.9	.8	3.3
Nonunion	116.7	117.8	118.8	120.4	122.1	123.4	125.2	125.9	127.3	1.1	4.3
Manufacturing	115.4	116.5	117.9	119.5	121.5	122.8	123.7	124.4	126.1	1.4	3.8
Nonmanufacturing	117.2	118.3	119.2	120.7	122.3	123.6	125.9	126.6	127.8	.9	4.5
Workers, by region[1]											
Northeast	117.4	118.9	120.5	121.9	123.0	124.6	126.8	128.1	129.2	.9	5.0
South	117.9	119.0	119.0	120.2	122.3	123.4	124.8	125.4	126.8	1.1	3.7
Midwest (formerly North Central)	115.5	116.0	117.8	118.7	119.6	121.1	122.5	122.9	124.2	1.1	3.8
West	118.8	119.6	120.0	122.5	124.0	125.1	126.6	127.1	128.1	.8	3.3
Workers, by area size[1]											
Metropolitan areas	117.6	118.6	119.5	121.0	122.4	123.8	125.5	126.3	127.4	.9	4.1
Other areas	115.1	116.0	117.5	118.3	119.6	120.6	121.9	122.0	123.6	1.3	3.3

[1] The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the *Monthly Labor Review* Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

25. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		Quarterly average							
	1984	1985	1984			1985				1986
			II	III	IV	I	II	III	IV	I^p
Specified adjustments:										
Total compensation[1] adjustments,[2] settlements covering 5,000 workers or more:										
First year of contract	3.6	2.6	3.5	2.7	3.7	3.6	3.5	2.0	2.0	0.3
Annual rate over life of contract	2.8	2.7	3.2	3.1	2.0	2.7	3.4	3.0	1.4	1.2
Wage adjustments, settlements covering 1,000 workers or more.										
First year of contract	2.4	2.3	2.6	2.1	2.3	3.3	2.5	2.0	2.1	.8
Annual rate over life of contract	2.4	2.7	2.7	2.6	1.5	3.2	2.8	3.1	1.9	1.6
Effective adjustments:										
Total effective wage adjustment[3]	3.7	3.3	.9	1.2	.7	.7	.8	1.2	.5	.6
From settlements reached in period	.8	.7	.1	.2	.3	.1	.2	.2	.1	.0
Deferred from settlements reached in earlier periods	2.0	1.6	.7	.7	.2	.6	.5	.5	.2	.4
From cost-of-living-adjustments clauses	.9	.7	.2	.3	.2	.1	.1	.4	.1	.2

[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases, and no changes in compensation or wages.

[3] Because of rounding total may not equal sum of parts.

p = preliminary.

26. Average specified compensation and wage adjustments, major collective bargaining settlements in private industry situations covering 1,000 workers or more during 4-quarter periods (in percent)

Measure	Average for four quarters ending--							
	1984			1985				1986
	II	III	IV	I	II	III	IV	I^p
Specified total compensation adjustments, settlements covering 5,000 workers or more, all industries:								
First year of contract	4.7	4.2	3.6	3.4	3.4	3.1	2.6	2.3
Annual rate over life of contract	3.5	3.2	2.8	2.6	2.7	2.7	2.7	2.6
Specified wage adjustments, settlements covering 1,000 workers or more:								
All industries								
First year of contract	3.5	3.2	2.4	2.4	2.4	2.4	2.3	2.0
Contracts with COLA clauses	4.6	4.5	2.9	2.5	2.3	1.9	1.6	1.6
Contracts without COLA clauses	2.7	2.3	2.1	2.4	2.4	2.7	2.7	2.2
Annual rate over life of contract	3.1	2.8	2.4	2.3	2.4	2.5	2.7	2.5
Contracts with COLA clauses	2.9	2.8	1.8	1.3	1.5	1.8	2.5	2.6
Contracts without COLA clauses	3.2	2.8	2.7	2.8	2.8	3.0	2.8	2.5
Manufacturing								
First year of contract	3.0	2.6	2.3	2.1	2.0	1.5	.8	.8
Contracts with COLA clauses	3.2	1.5	2.1	2.0	1.9	1.5	.8	.8
Contracts without COLA clauses	2.8	3.7	2.9	2.5	2.2	1.5	.9	.9
Annual rate over life of contract	3.1	2.8	1.5	1.4	1.5	1.6	1.9	1.8
Contracts with COLA clauses	2.8	1.8	1.0	.9	1.0	1.4	2.1	2.1
Contracts without COLA clauses	3.6	3.8	3.3	3.2	3.0	2.4	1.6	1.5
Nonmanufacturing								
First year of contract	3.7	3.3	2.5	2.6	2.7	3.2	3.3	2.8
Contracts with COLA clauses	5.2	5.4	5.5	5.1	4.3	4.0	3.6	3.5
Contracts without COLA clauses	2.6	2.1	2.0	2.4	2.5	3.0	3.3	2.7
Annual rate over life of contract	3.0	2.8	2.9	2.8	2.9	3.3	3.3	3.0
Contracts with COLA clauses	3.0	3.1	4.8	4.0	3.8	3.9	3.6	3.6
Contracts without COLA clauses	3.0	2.6	2.6	2.7	2.8	3.2	3.3	2.9
Construction								
First year of contract	.8	.9	.5	.9	1.1	1.0	1.5	1.7
Contracts with COLA clauses	-.4	4.0	4.0	4.6	9.2	(1)	(1)	(1)
Contracts without COLA clauses	.9	.9	.4	.8	1.0	(1)	(1)	(1)
Annual rate over life of contract	1.7	1.4	1.0	1.4	1.7	1.7	2.1	2.2
Contracts with COLA clauses	.9	1.4	1.4	1.7	4.6	(1)	(1)	(1)
Contracts without COLA clauses	1.8	1.4	1.0	1.4	1.7	(1)	(1)	(1)

[1] Data do not meet publication standards.

p = preliminary.

27. Average effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more during 4-quarter periods (in percent)

Effective wage adjustment	Average for four quarters ending–						
	1984		1985				1986
	III	IV	I	II	III^p	IV	I
For all workers:[1]							
Total	4.2	3.7	3.6	3.5	3.5	3.3	3.1
From settlements reached in period	1.0	.8	.7	.9	.9	.7	.6
Deferred from settlements reached in earlier period	2.1	2.0	2.2	1.9	1.8	1.8	1.7
From cost-of-living-adjustments clauses	1.2	.9	.7	.7	.8	.7	.8
For workers receiving changes:							
Total	5.0	4.4	4.5	4.2	4.3	4.1	4.0
From settlements reached in period	3.7	3.0	2.9	2.9	2.8	3.4	2.9
Deferred from settlements reached in earlier period	4.2	4.0	4.2	3.9	3.7	3.7	3.5
From cost-of-living-adjustments clauses	3.2	2.7	2.3	2.3	2.8	2.2	2.5

[1] Because of rounding total may not equal sum of parts.

28. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, State and local government collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		Second 6 months 1985^p
	1984	1985	
Specified adjustments:			
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:			
First year of contract	5.2	4.2	3.8
Annual rate over life of contract	5.4	5.1	5.3
Wage adjustments, settlements covering 1,000 workers or more:			
First year of contract	4.8	4.6	4.4
Annual rate over life of contract	5.1	5.4	5.6
Effective adjustments:			
Total effective wage adjustment [3]	5.0	5.7	4.1
From settlements reached in period	1.9	4.1	3.2
Deferred from settlements reached in earlier periods	3.1	1.6	.9
From cost-of-living-adjustment clauses	(4)	(4)	(4)

[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases, and no changes in compensation or wages.

[3] Because of rounding total may not equal sum of parts.

[4] Less than 0.05 percent.

^{p} = preliminary.

29. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.^{p}	Feb.^{p}	Mar.^{p}	Apr.^{p}	May^p	June^p
Number of stoppages:															
Beginning in period	62	54	2	9	6	11	6	3	2	4	3	3	4	6	11
In effect during period	68	61	8	13	18	20	20	13	9	7	7	8	9	11	18
Workers involved:															
Beginning in period (in thousands)	376.0	323.9	15.7	50.1	15.3	69.5	76.6	26.2	8.2	7.6	24.0	12.3	7.2	29.7	199.1
In effect during period (in thousands)	391.0	584.1	28.5	56.9	96.8	93.9	119.3	47.0	38.0	12.0	28.4	39.7	18.7	42.3	207.0
Days idle:															
Number (in thousands)	8,499.0	7,079.0	454.3	500.2	869.7	931.4	1,433.0	651.2	665.4	170.0	39.7	380.6	321.5	314.6	3,707.4
Percent of estimated working time[1]	.04	.03	.02	.02	.04	.04	.06	.04	.03	.01	.02	.02	.02	.02	.07

[1] Agricultural and government employees are included in the total employed and total working time: private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time worked is found in "'Total economy' measure of strike idleness," *Monthly Labor Review*, October 1968, pp. 54-56.

– Data not available.

^{p} = preliminary

30. Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity or service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967=100, unless otherwise indicated)

Series	Annual average		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS:															
All items	311.1	322.2	322.3	322.8	323.5	324.5	325.5	326.6	327.4	326.4	327.5	326.0	325.3	326.3	327.9
All items (1957-59=100)	361.9	374.7	374.8	375.5	376.2	377.4	378.5	379.9	380.8	381.9	380.8	379.1	378.3	379.5	381.4
Food and beverages	295.1	302.0	301.4	301.6	301.8	302.1	302.5	303.6	305.6	307.9	307.7	307.8	306.5	309.4	309.5
Food	302.9	309.8	309.3	309.5	309.7	309.9	309.8	311.0	313.2	315.6	315.3	315.4	316.1	317.0	317.1
Food at home	292.6	296.8	296.0	296.2	295.9	295.6	295.3	296.6	299.3	302.5	301.5	301.2	301.5	302.1	301.6
Cereals and bakery products	305.3	317.0	317.3	317.3	318.5	319.2	318.9	319.9	321.9	322.0	322.5	322.7	322.5	323.8	326.1
Meats, poultry, fish, and eggs	266.6	263.4	259.8	260.5	259.7	260.6	261.1	266.1	269.9	271.5	268.4	267.7	264.2	263.4	265.1
Dairy products	253.2	258.0	257.8	257.8	257.4	258.0	257.1	257.1	256.9	257.2	257.3	256.8	256.8	257.1	257.2
Fruits and vegetables	317.4	325.7	329.0	328.9	326.3	319.9	317.1	314.3	323.9	334.4	320.7	319.2	329.5	336.5	327.8
Other foods at home	352.2	361.1	360.8	360.6	361.7	362.6	363.0	362.2	361.3	385.7	375.1	375.7	376.1	374.6	374.1
Sugar and sweets	380.1	396.8	398.3	400.2	401.8	401.1	402.6	401.4	402.2	405.1	408.6	408.4	411.4	411.2	411.5
Fats and oils	286.0	294.4	296.0	297.8	297.1	294.8	291.2	292.1	290.3	292.1	291.4	290.2	288.5	287.2	287.0
Nonalcoholic beverages	443.0	451.7	451.5	448.2	449.6	452.8	454.1	451.7	448.8	459.7	485.3	488.0	487.4	481.9	480.0
Other prepared foods	284.9	294.2	293.4	294.5	295.8	296.3	296.8	296.8	297.3	298.0	299.5	299.3	300.2	301.4	301.7
Food away from home	333.4	346.6	346.9	347.3	348.4	349.9	350.3	351.3	352.1	353.1	354.2	355.5	357.0	358.8	360.2
Alcoholic beverages	222.1	229.5	227.8	227.8	228.9	229.3	236.4	236.2	236.2	237.5	238.3	238.8	239.5	239.4	240.1
Housing	336.5	349.9	350.4	351.5	352.9	353.8	354.4	355.0	355.8	356.8	356.5	357.0	358.0	358.5	361.2
Shelter	361.7	382.0	381.0	383.2	385.9	386.9	389.1	391.3	392.3	393.8	394.8	397.0	400.1	400.9	401.6
Renters' costs (12/82=100)	108.6	115.4	115.1	115.8	116.6	117.0	117.9	118.4	118.3	118.8	119.0	119.6	120.9	121.1	121.6
Rent, residential	249.3	264.6	263.6	265.0	266.6	267.7	269.9	271.7	272.4	273.4	273.7	275.0	277.9	278.4	279.4
Other renters' costs	373.4	398.4	401.6	405.1	409.9	410.7	412.5	406.7	398.1	401.1	404.1	405.5	410.8	411.3	415.2
Homeowners' costs (12/82=100)	107.3	113.1	112.8	113.5	114.3	114.6	115.1	115.8	116.3	116.7	117.0	117.9	118.7	118.9	119.0
Owners' equivalent rent (12/82=100)	107.3	113.2	112.8	113.5	114.3	114.6	115.1	115.9	116.3	116.7	117.0	117.9	118.7	118.9	119.0
Household insurance (12/82=100)	107.5	112.4	112.7	112.7	113.0	113.7	114.6	114.5	115.0	115.7	117.4	118.0	118.3	118.8	118.9
Maintenance and repairs	359.2	368.9	367.6	367.8	370.6	368.7	368.5	372.7	373.7	379.1	379.6	367.5	367.6	367.1	366.6
Maintenance and repair services	409.7	421.1	423.2	421.1	425.1	421.9	422.2	426.4	426.2	432.6	432.8	422.4	424.6	425.5	427.4
Maintenance and repair commodities	262.7	266.6	265.7	267.8	269.2	268.6	268.0	271.5	273.3	277.1	277.8	266.1	264.5	262.9	260.7
Fuel and other utilities	387.3	393.6	396.4	398.9	398.9	400.5	395.6	392.1	393.3	394.6	390.0	385.5	381.8	382.5	393.8
Fuels	485.5	488.1	497.7	497.3	494.4	496.8	488.4	481.5	483.6	484.7	476.3	467.6	459.6	460.6	477.0
Fuel oil, coal, and bottled gas	641.8	619.5	612.0	601.9	594.6	601.7	615.3	641.6	657.3	650.3	591.2	549.9	518.3	496.8	486.6
Gas (piped) and electricity	445.2	452.7	465.6	467.1	465.1	466.5	453.9	440.5	439.9	442.6	444.5	442.3	439.2	444.6	466.0
Other utilities and public services	230.2	240.7	241.1	242.8	244.2	244.6	244.7	245.9	245.8	247.3	247.9	249.0	251.3	251.5	255.2
Household furnishings and operations	242.5	247.2	247.1	246.5	247.0	247.1	248.4	248.9	248.8	248.8	249.0	249.8	249.6	249.9	250.2
Housefurnishings	199.1	200.1	200.0	198.8	199.1	199.0	200.3	200.8	200.1	199.8	199.7	201.0	200.4	200.8	200.8
Housekeeping supplies	303.2	313.6	313.6	313.1	313.5	313.9	315.7	316.4	317.7	318.3	318.6	317.9	318.5	318.3	319.6
Housekeeping services	327.5	338.9	338.3	338.8	340.7	341.5	342.2	342.7	343.2	343.9	344.5	345.1	345.4	345.8	346.1
Apparel and upkeep	200.2	206.0	204.6	202.8	205.3	209.6	211.1	211.2	209.0	205.0	204.1	206.3	207.3	206.4	204.5
Apparel commodities	187.0	191.6	190.2	188.0	190.6	195.3	196.7	196.8	194.2	189.5	188.5	190.8	191.7	190.7	188.4
Men's and boys' apparel	192.4	197.9	196.4	194.5	197.2	201.5	203.2	203.6	202.0	196.6	196.8	198.3	199.7	200.2	198.1
Women's and girls' apparel	163.6	168.5	168.5	163.4	167.7	176.1	177.9	176.5	172.6	164.4	163.4	167.6	168.0	164.9	161.3
Infants' and toddlers' apparel	287.0	298.7	300.7	294.5	300.6	302.0	302.1	307.0	304.1	313.9	311.6	313.1	316.6	318.5	319.7
Footwear	209.5	212.1	213.9	211.4	210.3	210.9	212.3	215.5	213.1	209.1	207.9	210.1	211.4	211.5	210.0
Other apparel commodities	216.4	215.5	216.3	216.7	217.5	215.2	214.9	214.9	214.6	215.5	216.1	214.6	215.3	215.4	215.8
Apparel services	305.0	320.9	319.9	321.4	322.9	324.1	325.7	326.3	326.9	329.8	330.7	331.5	332.9	333.6	334.3
Transportation	311.7	319.9	321.8	321.8	320.7	319.7	320.9	323.2	324.0	323.9	319.2	309.6	303.3	305.7	308.6
Private transportation	306.6	314.2	316.3	316.1	314.9	313.6	314.7	317.0	317.8	317.3	312.2	302.1	295.3	297.8	300.8
New vehicles	208.0	214.9	214.3	214.3	214.2	214.2	215.9	218.2	219.2	219.7	220.2	220.1	221.0	222.8	224.0
New cars	208.5	215.2	214.7	214.7	214.6	214.5	216.2	218.4	219.4	219.9	220.4	220.3	221.2	223.0	224.2
Used cars	375.7	379.7	380.3	376.7	374.0	374.3	375.3	376.4	375.6	374.1	370.7	367.2	364.8	363.6	362.5
Motor fuel	370.7	373.8	384.7	385.5	381.9	377.7	374.6	376.7	377.5	373.3	351.5	308.5	279.5	289.3	299.4
Gasoline	370.2	373.3	384.5	385.3	381.8	377.4	374.2	376.1	376.8	372.5	350.8	307.7	278.6	288.7	299.1
Maintenance and repair	341.5	351.4	350.4	351.1	351.9	353.5	355.7	355.8	357.5	357.9	358.9	359.3	360.6	361.3	362.1
Other private transportation	273.3	287.6	286.6	287.6	287.7	285.8	289.6	293.9	295.2	297.7	299.2	301.5	301.6	301.3	303.0
Other private transportation commodities	201.5	202.6	203.9	202.2	202.8	203.4	202.8	201.6	202.1	203.4	202.9	203.6	202.2	202.4	201.5
Other private transportation services	295.0	312.8	311.3	313.0	313.0	310.4	315.4	321.2	322.7	325.5	327.6	330.3	330.9	330.4	332.8
Public transportation	385.2	402.8	399.3	402.4	403.7	408.0	411.5	412.8	412.9	419.6	422.2	421.2	422.2	423.7	425.4
Medical care	379.5	403.1	401.7	404.0	406.6	408.3	410.5	413.0	414.7	418.2	422.3	425.8	428.0	429.7	432.0
Medical care commodities	239.7	256.7	257.0	257.8	259.3	260.2	261.3	262.7	262.9	264.5	267.4	269.4	271.3	272.3	273.3
Medical care services	410.3	435.1	433.0	435.8	438.6	440.5	443.0	445.8	448.0	451.9	456.2	460.1	462.3	464.2	466.8
Professional services	346.1	367.3	366.4	368.1	370.0	371.7	373.2	375.5	377.1	378.9	381.6	385.0	386.9	388.3	390.3
Other medical care services	489.0	517.0	513.6	517.6	521.6	523.9	527.4	530.8	533.6	540.3	546.4	550.8	553.5	555.9	559.2
Entertainment	255.1	265.0	264.8	265.7	265.7	266.8	268.4	269.0	268.3	270.8	272.0	271.9	272.3	272.9	273.9
Entertainment commodities	253.3	260.6	260.1	260.8	260.5	262.5	264.0	264.0	262.5	264.7	265.2	265.0	264.8	265.3	266.1
Entertainment services	258.3	271.8	272.0	273.3	273.6	273.3	275.2	276.6	277.1	279.9	282.1	282.2	283.5	284.2	285.5
Other goods and services	307.7	326.6	323.0	325.0	326.0	333.3	334.9	335.3	336.5	339.1	340.3	341.1	341.8	342.1	342.6
Tobacco products	310.0	328.5	324.8	330.0	331.5	332.8	334.4	334.7	337.4	342.7	344.7	345.6	346.5	346.5	347.1
Personal care	271.4	281.9	281.7	282.3	283.3	284.1	285.0	285.4	286.3	288.1	289.1	290.3	290.5	290.9	291.0
Toilet goods and personal care appliances	268.6	278.5	277.9	278.9	279.4	280.6	281.4	281.1	282.5	285.3	286.0	287.3	287.7	287.9	287.0
Personal care services	274.1	286.0	286.1	286.3	287.7	288.2	289.2	290.2	290.6	291.8	293.0	294.0	294.1	294.7	295.7
Personal and educational expenses	365.7	387.1	386.1	390.1	390.7	412.5	414.7	415.4	415.5	416.8	417.7	417.9	418.9	419.5	420.4
School books and supplies	322.6	350.8	344.9	345.5	346.1	362.1	364.5	364.7	364.7	371.0	373.8	374.3	374.4	374.5	375.7
Personal and educational services	375.6	407.7	398.4	400.4	401.1	423.9	426.2	426.9	427.0	427.6	428.1	428.3	429.5	430.2	431.0

See footnotes at end of table.

30. Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity or service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967=100, unless otherwise indicated)

Series	Annual average		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
All items	311.1	322.2	322.3	322.8	323.5	324.5	325.5	326.6	327.4	328.4	327.5	326.0	325.3	326.3	327.9
Commodities	280.7	286.7	286.9	286.5	286.5	287.1	287.9	289.2	289.9	290.1	287.4	283.7	281.2	282.1	282.8
Food and beverages	295.1	302.0	301.4	301.6	301.8	302.1	302.5	303.6	305.6	307.9	307.7	307.8	308.5	309.4	309.5
Commodities less food and beverages	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nondurables less food and beverages	275.7	282.1	283.5	282.9	283.1	284.6	285.3	286.8	286.8	284.9	278.6	268.9	262.0	263.3	264.7
Apparel commodities	187.0	191.6	190.2	188.0	190.6	195.3	196.7	196.8	194.2	189.5	188.5	190.8	191.7	190.7	188.4
Nondurables less food, beverages, and apparel	325.8	333.3	336.2	336.4	335.4	335.3	335.6	337.8	339.1	338.7	329.5	313.6	302.6	305.2	308.4
Durables	266.5	270.7	270.4	269.3	268.6	268.7	270.2	271.5	271.4	271.4	270.5	269.7	269.2	269.6	269.9
Services	363.0	381.5	381.3	383.3	384.9	386.5	387.7	388.7	389.5	391.7	393.3	394.9	396.8	397.9	401.0
Rent of shelter	107.7	113.9	113.6	114.3	115.1	115.4	116.1	116.7	117.0	117.4	117.7	118.5	119.4	119.7	119.9
Household services less rent of shelter	108.1	111.2	112.7	113.2	113.2	113.5	112.1	110.8	110.8	111.4	111.8	111.6	111.6	112.3	115.2
Transportation services	321.1	337.0	335.3	337.0	337.4	337.1	341.1	344.7	346.1	349.0	351.0	352.4	353.2	353.4	355.3
Medical care services	410.3	435.1	433.0	435.8	438.6	440.5	443.0	445.8	448.0	451.9	456.2	460.1	462.3	464.2	466.8
Other services	296.0	314.1	312.0	313.0	313.8	319.7	321.4	322.5	322.9	324.8	326.1	326.6	327.6	328.2	329.2
Special indexes:															
All items less food	311.3	323.3	323.6	324.2	325.0	326.2	327.4	328.5	328.9	329.5	328.5	326.6	325.7	326.7	328.6
All items less shelter	295.1	303.9	304.3	304.4	304.6	305.7	306.3	307.2	307.9	308.8	307.4	305.2	303.6	304.7	306.5
All items less homeowners' costs	106.3	109.7	109.8	109.9	110.1	110.4	110.7	111.1	111.3	111.6	111.2	110.5	110.1	110.4	111.1
All items less medical care	307.3	317.7	317.9	318.4	318.9	319.9	320.8	321.9	322.6	323.4	322.2	320.5	319.7	320.6	322.2
Commodities less food	267.0	272.5	273.1	272.4	272.3	273.1	274.4	275.7	275.7	274.7	270.9	265.2	261.2	262.1	263.0
Nondurables less food	270.8	277.2	278.4	277.9	278.1	279.6	280.7	282.0	282.0	280.4	274.5	265.6	259.2	260.5	261.8
Nondurables less food and apparel	311.9	319.2	321.7	321.9	321.1	321.0	322.0	324.0	325.1	324.9	316.8	302.7	292.9	295.2	298.1
Nondurables	286.6	293.2	293.7	293.5	293.7	294.6	295.1	296.4	297.4	297.7	294.3	289.5	286.3	287.4	288.2
Services less rent of shelter	108.5	113.5	113.7	114.2	114.5	115.0	115.1	115.2	115.4	116.2	116.8	117.1	117.4	117.8	119.2
Services less medical care	355.6	373.3	373.3	375.2	376.7	378.3	379.3	380.1	380.8	382.7	384.0	385.4	387.2	388.3	391.3
Energy	423.6	426.5	436.8	437.1	433.8	432.6	427.1	425.1	426.5	424.7	406.9	381.3	361.8	367.6	380.6
All items less energy	302.9	314.8	313.9	314.5	315.6	316.8	318.4	319.8	320.5	321.8	322.3	323.3	324.4	325.0	325.5
All items less food and energy	301.2	314.4	313.4	314.1	315.3	316.9	318.9	320.4	320.7	321.6	322.3	323.6	324.8	325.3	325.9
Commodities less food and energy	253.1	259.7	259.0	258.2	258.8	260.2	262.0	262.7	262.2	261.8	261.6	262.0	262.1	262.2	262.0
Energy commodities	409.8	409.9	418.7	418.1	414.0	411.2	410.1	415.2	417.9	413.2	386.5	343.0	313.3	319.3	327.1
Services less energy	356.4	375.9	374.6	376.6	378.6	380.2	382.5	384.8	385.8	387.9	389.4	391.5	393.8	394.5	395.9
Purchasing power of the consumer dollar:															
1967=$1.00	32.1	31.0	31.0	31.0	30.9	30.8	30.7	30.6	30.5	30.5	30.5	30.7	30.7	30.6	30.5
1957-59=$1.00	27.6	26.7	26.7	26.6	26.6	26.5	26.4	26.3	26.3	26.2	26.3	26.4	26.4	26.4	26.2
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS:															
All items	307.6	318.5	318.7	319.1	319.6	320.5	321.3	322.6	323.4	324.3	323.2	321.4	320.4	321.4	323.0
All items (1957-59=100)	357.7	370.4	370.6	371.2	371.8	372.7	373.7	375.1	376.1	377.1	375.8	373.7	372.6	373.7	375.6
Food and beverages	295.2	301.8	301.2	301.4	301.6	301.8	302.2	303.4	305.4	307.7	307.5	307.6	308.3	309.0	309.3
Food	302.7	309.3	308.8	309.0	309.1	309.3	309.3	310.6	312.8	315.1	314.9	315.0	315.6	316.4	316.6
Food at home	291.2	295.3	294.5	294.6	294.3	294.0	293.7	295.2	297.9	300.9	300.1	299.7	299.9	300.4	300.0
Cereals and bakery products	303.7	315.4	315.7	315.7	316.8	317.6	317.3	318.2	320.4	320.4	320.9	321.1	320.9	322.1	324.5
Meats, poultry, fish, and eggs	266.0	262.7	259.3	259.7	259.0	259.9	260.4	265.4	269.2	270.7	267.7	267.2	263.5	262.6	264.2
Dairy products	252.2	256.9	256.7	256.6	256.3	256.8	255.9	255.9	255.7	256.0	256.0	255.5	255.5	255.8	255.9
Fruits and vegetables	312.5	320.3	323.5	323.9	320.6	313.6	311.2	309.4	319.3	329.7	316.0	314.6	325.0	331.6	323.5
Other foods at home	352.7	361.5	361.3	361.1	362.2	362.9	363.4	362.5	361.6	366.1	375.2	375.6	376.0	374.3	373.9
Sugar and sweets	388.6	398.3	398.0	399.8	401.4	400.8	402.2	400.9	401.8	404.7	408.1	407.8	410.9	410.6	410.9
Fats and oils	287.5	293.9	295.6	297.3	296.5	294.1	290.6	291.8	289.6	291.6	290.8	289.7	287.8	286.6	286.4
Nonalcoholic beverages	444.4	453.2	453.0	449.8	451.2	454.1	455.6	453.1	450.4	461.0	485.5	487.4	487.0	481.2	479.5
Other prepared foods	286.4	295.7	295.0	296.1	297.3	297.7	298.3	298.3	298.7	299.4	300.9	300.7	301.6	302.7	303.0
Food away from home	336.7	349.7	350.1	350.4	351.5	353.0	353.4	354.4	355.2	356.2	357.3	358.6	360.2	362.0	363.5
Alcoholic beverages	225.3	232.6	231.0	231.0	232.2	232.6	239.1	238.8	239.1	240.1	240.9	241.4	242.3	242.2	242.9
Housing	329.2	343.3	344.0	345.0	346.2	347.2	347.5	348.3	349.1	350.1	349.7	350.1	351.1	351.6	354.3
Shelter	350.0	370.4	369.5	371.5	374.0	375.0	377.1	379.3	380.4	381.8	382.9	385.0	388.1	388.8	389.4
Renters' costs (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rent, residential	248.6	263.7	262.7	264.1	265.7	266.8	268.9	270.7	271.5	272.5	272.8	274.1	277.0	277.5	278.5
Other renters' costs	372.4	397.9	401.0	405.2	409.6	409.8	411.6	408.0	397.5	400.8	403.5	405.4	411.6	411.3	415.5
Homeowners' costs (12/84=100)	-	103.1	102.8	103.4	104.1	104.3	104.8	105.5	105.9	106.3	106.6	107.4	108.1	108.3	108.4
Owners' equivalent rent (12/84=100)	-	103.0	102.8	103.4	104.1	104.3	104.8	105.5	105.9	106.3	106.6	107.3	108.1	108.3	108.4
Household insurance (12/84=100)	-	103.2	103.4	103.5	103.7	104.3	105.2	105.2	105.7	106.3	107.8	108.2	108.5	109.0	109.1
Maintenance and repairs	356.3	364.1	362.9	363.4	365.6	364.4	364.6	367.7	368.5	373.2	374.0	364.7	364.6	363.8	363.2
Maintenance and repair services	403.5	415.0	417.0	415.3	419.6	416.8	417.4	420.9	420.1	426.2	426.5	416.6	419.2	420.0	422.6
Maintenance and repair commodities	257.2	261.1	258.4	260.0	260.6	260.5	260.5	262.7	264.2	267.2	268.1	261.1	259.4	258.0	255.7
Fuel and other utilities	388.6	394.7	400.9	401.2	400.1	401.9	396.3	393.2	394.3	395.6	390.9	386.3	382.6	383.0	394.9
Fuels	485.0	487.5	497.7	497.0	494.0	496.7	487.2	481.0	483.1	484.1	475.7	467.1	459.1	459.7	477.3
Fuel oil, coal, and bottled gas	644.3	622.0	614.3	604.2	596.9	604.3	618.1	644.3	659.9	652.7	593.6	552.8	521.5	499.9	489.9
Gas (piped) and electricity	444.1	451.6	465.1	466.3	464.2	465.9	452.0	439.5	438.8	441.4	443.2	441.2	438.0	443.0	465.7
Other utilities and public services	231.2	[illegible]	242.0	243.7	245.1	245.6	245.7	246.8	246.7	248.3	248.8	249.9	252.1	252.2	255.5
Household furnishings and operations	239.1	[illegible]	243.3	242.6	243.1	243.2	244.5	245.1	245.2	245.1	245.3	246.0	246.0	246.1	246.2
Housefurnishings	197.0	197.6	197.6	196.2	196.6	196.5	197.7	198.3	197.8	197.3	197.2	198.5	198.1	198.4	198.2
Housekeeping supplies	300.2	310.7	310.8	310.3	310.4	311.0	312.7	313.5	315.0	315.8	316.4	315.5	318.3	315.7	316.8
Housekeeping services	328.0	340.2	339.5	341.0	342.2	342.9	343.9	344.5	345.0	345.6	346.3	346.6	347.1	347.4	347.8
Apparel and upkeep	199.1	205.0	203.7	201.8	204.3	206.7	210.2	210.2	206.1	204.1	203.1	205.2	206.1	205.1	203.0

See footnotes at end of table.

30. Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity or service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967 = 100, unless otherwise indicated)

Series	Annual average		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Apparel commodities	186.6	191.3	190.0	187.8	190.4	195.1	196.6	196.5	194.1	189.4	188.2	190.4	191.2	190.1	187.7
Men's and boys' apparel	192.9	198.2	198.6	194.8	197.3	201.8	203.5	203.7	202.2	198.8	196.8	198.0	199.3	200.0	199.0
Women's and girls' apparel	165.0	171.3	168.4	165.5	169.9	178.2	180.0	178.3	174.5	166.1	165.2	169.0	169.3	165.9	162.0
Infants' and toddlers' apparel	297.6	311.7	313.5	308.4	311.2	314.9	314.8	320.7	317.3	332.7	328.6	329.6	331.3	334.3	335.6
Footwear	210.0	212.5	214.1	211.6	210.5	211.0	212.6	215.9	213.6	209.9	208.4	210.7	212.1	212.0	210.6
Other apparel commodities	204.5	203.1	204.0	204.5	205.2	202.5	202.4	202.5	202.4	203.5	204.2	203.5	204.1	203.8	204.5
Apparel services	302.9	318.5	317.6	319.0	320.5	321.6	323.2	323.6	324.4	327.2	328.1	329.0	330.2	330.9	331.9
Transportation	313.9	321.6	323.6	323.5	322.3	321.1	322.2	324.6	325.3	325.1	320.1	310.3	303.5	305.9	308.7
Private transportation	310.1	317.4	319.6	319.3	318.0	316.6	317.6	320.1	320.8	320.2	314.8	304.5	297.4	299.9	302.8
New vehicles	207.3	214.2	213.6	213.6	213.5	213.5	215.3	217.5	218.6	219.0	219.4	219.4	220.2	222.0	223.2
New cars	207.9	214.5	214.0	214.0	213.9	213.8	215.5	217.8	218.8	219.2	219.7	219.5	220.4	222.3	223.4
Used cars	375.7	379.7	380.3	376.7	374.0	374.3	375.3	376.4	375.6	374.1	370.7	367.2	364.8	363.6	362.5
Motor fuel	372.2	375.4	386.2	387.2	383.8	379.5	376.3	378.7	379.6	375.3	353.0	309.6	280.1	290.3	300.6
Gasoline	371.8	375.0	386.0	387.0	383.7	379.2	375.8	378.1	378.9	374.6	352.3	308.8	279.1	289.6	300.3
Maintenance and repair	342.2	352.6	351.5	352.2	352.9	354.5	356.9	357.2	359.0	359.4	360.4	360.9	362.2	362.8	363.6
Other private transportation	274.2	287.7	286.9	287.7	287.6	285.2	289.2	293.7	294.7	296.9	298.4	300.6	300.4	299.8	301.2
Other private transportation commodities	203.9	204.7	205.9	204.3	204.9	205.6	205.0	203.7	204.3	205.6	205.4	206.0	204.6	204.9	203.9
Other private transportation services	295.4	312.3	310.9	312.4	312.1	308.9	314.1	320.2	321.3	323.7	325.7	328.3	328.5	327.7	329.6
Public transportation	376.8	391.7	388.4	392.1	393.5	396.8	399.3	400.1	400.2	408.6	412.6	412.0	413.0	413.8	415.1
Medical care	377.7	401.2	399.8	402.0	404.5	406.3	408.5	410.9	412.6	416.0	420.0	423.5	425.7	427.3	429.6
Medical care commodities	239.7	256.3	256.7	257.4	259.0	259.6	260.9	262.2	262.3	264.1	267.0	268.8	270.7	271.7	272.5
Medical care services	407.9	432.7	430.7	433.3	436.1	438.1	440.6	443.2	445.4	449.2	453.5	457.3	459.5	461.3	464.0
Professional services	346.5	367.7	366.8	368.5	370.4	372.1	373.7	375.8	377.6	379.3	382.2	385.6	387.4	388.8	390.8
Other medical care services	484.7	513.9	510.5	514.4	518.4	520.7	524.4	527.5	530.4	536.9	543.0	547.3	550.0	552.3	555.8
Entertainment	251.2	260.1	260.1	260.9	260.6	261.6	263.0	263.7	263.0	265.4	266.5	266.5	266.9	267.3	268.4
Entertainment commodities	247.7	254.2	253.9	254.5	254.3	256.0	257.1	257.2	255.7	257.8	258.3	258.3	258.4	258.7	259.8
Entertainment services	258.5	271.6	272.0	273.2	273.3	272.6	274.6	276.3	276.8	280.0	282.0	282.1	283.0	283.6	284.8
Other goods and services	304.9	322.7	319.5	321.6	322.9	328.7	330.1	330.5	331.9	334.9	336.1	337.0	337.6	338.0	338.4
Tobacco products	309.7	328.1	324.4	329.7	331.1	332.4	334.0	334.3	337.1	342.4	344.4	345.2	346.0	346.0	346.7
Personal care	269.4	279.6	279.2	279.9	280.9	281.8	282.7	283.1	284.0	285.9	286.8	288.0	288.2	288.6	288.6
Toilet goods and personal care appliances	270.3	279.0	278.2	279.2	280.0	281.1	282.0	281.9	283.3	285.9	286.7	288.1	288.4	288.6	287.6
Personal care services	268.8	280.5	280.7	280.9	282.2	282.8	283.7	284.8	285.2	286.4	287.4	288.4	288.4	289.0	290.0
Personal and educational expenses	368.2	399.3	391.6	392.5	393.2	414.5	416.5	417.3	417.4	418.9	419.9	420.1	421.2	422.0	422.9
School books and supplies	327.5	355.7	349.9	350.6	351.2	366.9	369.2	369.3	369.4	375.6	378.4	379.0	379.1	379.1	380.2
Personal and educational services	378.2	410.1	401.9	402.9	403.6	426.1	428.1	428.9	429.1	429.7	430.3	430.5	431.8	432.8	433.6
All items	307.6	318.5	318.7	319.1	319.6	320.5	321.3	322.6	323.4	324.3	323.2	321.4	320.4	321.4	323.0
Commodities	280.4	286.5	286.8	286.4	286.3	286.8	287.6	288.9	289.7	289.8	287.0	283.1	280.4	281.3	282.0
Food and beverages	295.2	301.8	301.2	301.4	301.6	301.8	302.2	303.4	305.4	307.7	307.5	307.6	308.3	309.0	309.3
Commodities less food and beverages	269.3	-	277.7	-	-	-	-	-	-	-	-	-	-	-	-
Nondurables less food and beverages	277.5	283.8	285.4	285.0	285.1	286.5	287.0	288.5	288.7	286.9	280.1	269.6	262.0	263.6	265.2
Apparel commodities	186.6	191.3	190.0	187.8	190.4	195.1	196.6	196.5	194.1	189.4	188.2	190.4	191.2	190.1	187.7
Nondurables less food, beverages, and apparel	327.0	334.2	337.2	337.6	336.6	336.4	336.5	338.8	340.1	339.6	330.1	313.2	301.6	304.5	308.0
Durables	261.1	265.2	265.1	263.8	263.1	263.1	264.5	265.7	265.7	265.6	264.6	263.7	263.3	263.5	263.6
Services	358.0	377.3	377.4	379.2	380.7	382.0	383.0	384.2	385.1	387.2	388.8	390.5	392.2	393.2	396.4
Rent of shelter (12/84 = 100)	-	103.2	102.9	103.5	104.3	104.5	105.1	105.8	106.1	106.4	106.7	107.4	108.3	108.5	108.7
Household services less rent of shelter (12/84 = 100)	-	102.8	104.2	104.5	104.6	104.8	103.3	102.1	102.0	102.6	103.0	102.8	102.7	103.4	106.4
Transportation services	317.2	332.2	330.6	332.2	332.4	331.4	335.5	339.3	340.5	343.3	345.4	347.0	347.5	347.3	348.9
Medical care services	407.9	432.7	430.7	433.3	436.1	438.1	440.6	443.2	445.4	449.2	453.5	457.3	459.5	461.3	464.0
Other services	292.9	310.1	308.4	309.3	310.1	315.0	316.7	317.8	318.3	320.4	321.6	322.1	322.9	323.6	324.6
Special indexes:															
All items less food	307.5	319.4	319.8	320.3	320.9	321.9	322.9	324.2	324.6	325.1	323.8	321.5	320.2	321.2	323.2
All items less shelter	295.1	303.4	303.9	304.0	304.0	304.8	305.4	306.4	307.2	307.9	306.4	303.8	302.1	303.0	304.8
All items less homeowners' costs (12/84 = 100)	-	101.8	102.0	102.0	102.1	102.4	102.6	103.0	103.2	103.5	103.0	102.3	101.8	102.1	102.7
All items less medical care	304.0	314.3	314.6	314.9	315.3	316.1	316.9	318.1	318.9	319.6	318.3	316.2	315.2	316.1	317.7
Commodities less food	267.1	272.8	273.6	272.8	272.7	273.4	274.5	275.9	275.9	275.0	270.9	264.3	260.7	261.6	262.6
Nondurables less food	272.6	279.0	280.4	280.0	280.2	281.5	282.4	283.8	283.9	282.3	276.1	266.4	259.4	260.9	262.4
Nondurables less food and apparel	313.2	320.3	322.9	323.2	322.4	322.3	323.1	325.0	326.3	325.9	317.5	302.6	292.2	294.9	298.0
Nondurables	287.4	293.9	294.4	294.3	294.5	295.2	295.7	297.1	298.2	298.4	295.0	289.8	286.3	287.5	288.4
Services less rent of shelter (12/84 = 100)	-	102.6	102.8	103.3	103.5	103.8	103.9	103.9	104.2	104.9	105.5	105.7	105.9	106.2	107.6
Services less medical care	350.5	369.0	369.3	371.1	372.5	373.6	374.5	375.5	376.2	378.2	379.5	381.0	382.7	383.6	386.8
Energy	423.3	426.3	436.9	437.2	433.9	432.5	426.6	425.4	426.8	424.7	408.1	379.0	358.4	364.6	378.1
All items less energy	298.3	309.9	309.1	309.5	310.4	311.5	313.0	314.5	315.3	316.5	316.9	317.8	318.6	319.2	319.7
All items less food and energy	295.8	308.7	307.8	308.3	309.4	310.7	312.7	314.2	314.6	315.4	316.1	317.2	318.3	318.6	319.1
Commodities less food and energy	250.5	256.8	256.2	255.3	255.8	257.2	258.8	259.5	259.2	258.8	258.5	258.7	258.8	258.8	258.5
Energy commodities	410.5	410.9	419.9	419.6	415.7	412.6	411.2	416.3	418.9	414.1	387.3	343.3	312.9	319.8	326.1
Services less energy	350.8	371.1	369.9	371.9	373.7	374.9	377.3	379.8	380.8	382.9	384.5	386.5	388.8	389.4	390.8
Purchasing power of the consumer dollar:															
1967 = $1.00	32.5	31.4	31.4	31.3	31.3	31.2	31.1	31.0	30.9	30.8	30.9	31.1	31.2	31.1	31.0
1957-59 = $1.00	28.0	27.0	27.0	26.9	26.9	26.8	26.8	26.7	26.6	26.5	26.6	26.8	26.8	26.8	26.6

- Data not available.

31. Consumer Price Index: U.S. city average and available local area data: all items

(1967 = 100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1985		1986					1985		1986				
			June	July	Feb.	Mar.	Apr.	May	June	June	July	Feb.	Mar.	Apr.	May	June
U.S. city average		–	322.3	322.8	327.5	326.0	325.3	326.3	327.9	318.7	319.1	323.2	321.4	320.4	321.4	323.0
Chicago, Ill.-Northwestern Ind.	M	–	324.1	324.4	328.4	323.9	323.7	324.2	330.4	310.9	311.1	312.8	309.7	309.1	309.6	315.6
Detroit, Mich.	M	–	317.0	318.0	322.9	320.0	318.8	321.7	321.0	307.4	308.3	312.3	309.3	309.1	311.0	310.2
Los Angeles-Long Beach, Anaheim, Calif.	M	–	319.3	321.3	326.6	328.2	326.8	329.4	331.3	314.1	315.8	320.4	321.6	320.2	322.7	324.5
New York, N.Y.-Northeastern N.J.	M	–	313.2	313.5	322.3	322.4	321.4	320.6	322.8	306.3	306.5	314.7	314.5	313.2	312.3	314.4
Philadelphia, Pa.-N.J.	M	–	314.2	315.5	320.1	319.1	317.8	318.8	321.7	317.2	318.6	322.8	321.4	319.7	320.8	323.5
Anchorage, Alaska (10/67 = 100)	1	10/67	–	283.1	–	291.2	–	288.9	–	–	279.0	–	294.4	–	291.8	–
Baltimore, Md.	1	–	–	324.0	–	331.1	–	329.1	–	–	323.4	–	329.5	–	326.8	–
Boston, Mass.	1	–	–	317.7	–	324.9	–	322.6	–	–	315.7	–	322.3	–	319.3	–
Cincinnati, Ohio-Ky.-Ind.	1	–	–	330.0	–	329.4	–	332.0	–	–	323.2	–	321.8	–	324.8	–
Denver-Boulder, Colo.	1	–	–	360.3	–	356.7	–	356.3	–	–	356.9	–	360.1	–	360.3	–
Miami, Fla. (11/77 = 100)	1	11/77	–	171.4	–	174.5	–	173.0	–	–	172.7	–	175.1	–	173.4	–
Milwaukee, Wis.	1	–	–	331.1	–	329.1	–	332.0	–	–	350.4	–	347.2	–	350.6	–
Northeast, Pa.	1	–	–	306.6	–	309.3	–	309.2	–	–	306.7	–	308.3	–	308.1	–
Portland, Oreg.-Wash.	1	–	–	312.9	–	315.0	–	314.6	–	–	303.2	–	304.3	–	303.2	–
St. Louis, Mo.-Ill.	1	–	–	319.9	–	319.2	–	318.6	–	–	316.6	–	315.0	–	314.2	–
San Diego, Calif.	1	–	–	372.8	–	379.2	–	382.8	–	–	336.9	–	341.9	–	346.2	–
Seattle-Everett, Wash.	1	–	–	322.0	–	325.0	–	323.5	–	–	309.1	–	311.4	–	308.4	–
Washington, D.C.-Md.-Va.	1	–	–	323.3	–	326.1	–	329.6	–	–	325.9	–	330.5	–	330.2	–
Atlanta, Ga.	2	–	328.0	–	336.9	–	334.9	–	338.5	326.0	–	334.3	–	331.7	–	335.5
Buffalo, N.Y.	2	–	307.3	–	310.1	–	308.0	–	308.9	293.7	–	295.8	–	292.7	–	294.0
Cleveland, Ohio	2	–	346.4	–	350.2	–	346.9	–	350.6	325.3	–	328.3	–	324.4	–	328.2
Dallas-Ft. Worth, Tex.	2	–	339.6	–	347.0	–	341.4	–	344.7	333.5	–	340.4	–	334.1	–	337.4
Honolulu, Hawaii	2	–	293.5	–	301.2	–	299.0	–	299.2	300.4	–	308.5	–	306.0	–	306.5
Houston, Tex.	2	–	337.6	–	337.2	–	330.0	–	333.3	326.0	–	334.3	–	327.7	–	330.9
Kansas City, Mo.-Kansas	2	–	320.1	–	321.1	–	320.7	–	322.9	310.5	–	310.1	–	304.9	–	311.4
Minneapolis-St. Paul, Minn.-Wis.	2	–	336.7	–	339.9	–	338.4	–	342.1	332.3	–	334.9	–	332.3	–	336.2
Pittsburgh, Pa.	2	–	325.9	–	330.1	–	328.1	–	328.6	308.3	–	311.4	–	307.8	–	308.3
San Francisco-Oakland, Calif.	2	–	333.2	–	341.1	–	338.3	–	344.0	328.7	–	336.0	–	333.2	–	339.1
Region[3]																
Northeast	2	12/77	170.4	–	174.5	–	173.7	–	174.2	169.4	–	172.3	–	171.1	–	171.6
North Central	2	12/77	174.2	–	175.4	–	173.9	–	176.1	171.0	–	171.8	–	170.0	–	172.2
South	2	12/77	173.8	–	176.6	–	175.1	–	176.3	173.7	–	176.1	–	174.1	–	175.2
West	2	12/77	174.6	–	177.5	–	176.8	–	178.7	172.8	–	175.4	–	174.5	–	176.3
Population size class[3]																
A-1	2	12/77	170.9	–	174.7	–	173.9	–	175.7	167.2	–	170.5	–	169.3	–	171.0
A-2	2	12/77	176.0	–	178.7	–	177.4	–	178.9	173.2	–	175.5	–	173.8	–	175.2
B	2	12/77	174.7	–	176.9	–	175.6	–	177.0	172.3	–	174.2	–	172.7	–	174.1
C	2	12/77	172.3	–	174.7	–	173.4	–	174.7	172.9	–	175.0	–	173.4	–	174.6
D	2	12/77	171.9	–	174.0	–	172.7	–	173.4	173.5	–	175.2	–	173.6	–	174.2
Region/population size class cross classification[3]																
Class A:																
Northeast	2	12/77	167.5	–	171.8	–	171.0	–	171.8	164.2	–	168.1	–	168.8	–	167.7
North Central	2	12/77	177.8	–	179.2	–	177.8	–	180.3	172.8	–	174.0	–	172.1	–	174.7
South	2	12/77	174.1	–	177.3	–	175.5	–	176.8	174.2	–	177.0	–	174.8	–	176.1
West	2	11/77	176.1	–	179.8	–	179.6	–	181.8	172.2	–	175.5	–	174.9	–	177.1
Class B:																
Northeast	2	12/77	173.5	–	176.4	–	174.7	–	175.2	170.5	–	172.4	–	171.7	–	172.2
North Central	2	12/77	172.6	–	173.7	–	172.1	–	174.1	169.0	–	169.7	–	167.7	–	169.7
South	2	12/77	175.3	–	178.2	–	177.0	–	178.5	172.2	–	174.6	–	173.2	–	174.6
West	2	12/77	176.2	–	177.6	–	176.7	–	178.3	176.6	–	176.2	–	177.1	–	178.7

See footnotes at end of table.

31. Continued— Consumer Price Index: U.S. city average and available local area data: all items

(1967 = 100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1985		1986					1985		1986				
			June	July	Feb.	Mar.	Apr.	May	June	June	July	Feb.	Mar.	Apr.	May	June
Class C:																
Northeast	2	12/77	179.0	-	183.1	-	183.0	-	183.4	183.7	-	187.8	-	187.4	-	187.8
North Central	2	12/77	169.6	-	170.4	-	168.5	-	170.7	166.7	-	167.1	-	165.1	-	167.2
South	2	12/77	172.8	-	175.3	-	173.6	-	174.5	174.5	-	176.6	-	174.3	-	175.2
West	2	12/77	168.4	-	171.1	-	170.5	-	171.6	167.2	-	169.6	-	168.9	-	169.9
Class D:																
Northeast	2	12/77	173.7	-	178.9	-	177.9	-	178.1	173.8	-	178.6	-	177.2	-	175.5
North Central	2	12/77	170.4	-	170.7	-	170.0	-	171.3	172.5	-	172.4	-	171.4	-	172.6
South	2	12/77	172.2	-	174.7	-	173.2	-	173.9	174.0	-	176.0	-	174.0	-	174.6
West	2	12/77	172.5	-	174.8	-	172.6	-	174.1	174.2	-	176.3	-	173.9	-	175.4

[1] Area is generally the Standard Metropolitan Statistical Area (SMSA), exclusive of farms. L.A.-Long Beach, Anaheim, Calif. is a combination of two SMSA's, and N.Y., N.Y.-Northeastern N.J. and Chicago, Ill.-Northwestern Ind. are the more extensive Standard Consolidated Areas. Area definitions are those established by the Office of Management and Budget in 1973, except for Denver-Boulder, Colo. which does not include Douglas County. Definitions do not include revisions made since 1973.

[2] Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated:.

M - Every month.

1 - January, March, May, July, September, and November.

2 - February, April, June, August, October, and December.

[3] Regions are defined as the four Census regions.

The population size classes are aggregations of areas which have urban population as defined:

A-1 - More than 4,000,000.

A-2 - 1,250,000 to 4,000,000.

B - 385,000 to 1,250,000

C - 75,000 to 385,000.

D - Less than 75,000.

Population size class A is the aggregation of population size classes A-1 and A-2.

- Data not available.

NOTE: Local area CPI indexes are byproducts of the national CPI program. Because each local index is a small subset of the national index, it has a smaller sample size and is, therefore, subject to substantially more sampling and other measurement error than the national index. As a result, local area indexes show greater volatility than the national index, although their long-term trends are quite similar. Therefore, the Bureau of Labor Statistics strongly urges users to consider adopting the national average CPI for use in escalator clauses.

32. Annual data: Consumer Price Index all items and major groups

Series	1977	1978	1979	1980	1981	1982	1983	1984	1985
Consumer Price Index for All Urban Consumers:									
All items:									
Index	181.5	195.4	217.4	246.8	272.4	289.1	298.4	311.1	322.2
Percent change	6.5	7.7	11.3	13.5	10.4	6.1	3.2	4.3	3.6
Food and beverages:									
Index	188.0	206.3	228.5	248.0	267.3	278.2	284.4	295.1	302.0
Percent change	6.0	9.7	10.8	8.5	7.8	4.1	2.2	3.8	2.3
Housing									
Index	186.5	202.8	227.6	263.3	293.5	314.7	323.1	336.5	349.9
Percent change	6.8	8.7	12.2	15.7	11.5	7.2	2.7	4.1	4.0
Apparel and upkeep:									
Index	154.2	159.6	166.6	178.4	186.9	191.8	196.5	200.2	206.0
Percent change	4.5	3.5	4.4	7.1	4.8	2.6	2.5	1.9	2.9
Transportation:									
Index	177.2	185.5	212.0	249.7	280.0	291.5	298.4	311.7	319.9
Percent change	7.1	4.7	14.3	17.8	12.1	4.1	2.4	4.5	2.6
Medical care:									
Index	202.4	219.4	239.7	265.9	294.5	328.7	357.3	379.5	403.1
Percent change	9.6	8.4	9.3	10.9	10.8	11.6	8.7	6.2	6.2
Entertainment:									
Index	167.7	176.6	188.5	205.3	221.4	235.8	246.0	255.1	265.0
Percent change	4.9	5.3	6.7	8.9	7.8	6.5	4.3	3.7	3.9
Other goods and services:									
Index	172.2	183.3	196.7	214.5	235.7	259.9	288.3	307.7	326.6
Percent change	5.8	6.4	7.3	9.0	9.9	10.3	10.9	6.7	6.1
Consumer Price Index for Urban Wage Earners and Clerical Workers									
All items:									
Index	181.5	195.3	217.7	247.0	272.3	288.6	297.4	307.6	318.5
Percent change	6.5	7.6	11.5	13.5	10.2	6.0	3.0	3.4	3.5

33. Producer Price Indexes, by stage of processing

(1967 = 100)

Grouping	Annual average		1985						1986					
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Finished goods	291.1	293.7	294.8	293.5	290.0	294.7	296.4	297.2	296.0	291.9	288.1	286.9	289.0	288.9
Finished consumer goods	290.3	291.8	293.1	291.4	288.2	292.3	294.4	295.4	293.8	288.4	283.5	281.6	284.2	284.1
Finished consumer foods	273.3	271.2	271.2	268.7	265.7	268.2	271.8	275.0	275.0	272.0	272.2	272.4	274.9	275.1
Finished consumer goods excluding foods	294.1	297.3	299.2	297.8	294.7	299.4	300.7	300.7	298.3	291.8	284.4	281.4	284.1	283.8
Nondurable goods less food	337.3	339.3	342.4	340.0	340.3	340.3	342.6	343.2	339.6	328.0	315.0	308.6	312.9	312.6
Durable goods	236.8	241.5	241.9	241.8	234.5	244.9	245.0	244.3	243.5	243.9	243.9	245.4	245.8	245.8
Capital equipment	294.0	300.5	300.8	301.0	298.3	303.5	303.8	303.7	303.9	304.3	304.3	305.6	305.8	305.8
Intermediate materials, supplies, and components	320.0	318.7	318.6	317.9	317.7	317.6	318.1	318.9	317.4	313.5	309.4	307.0	306.8	307.1
Materials and components for manufacturing	301.8	299.5	299.8	299.1	298.4	298.0	297.7	297.9	297.1	296.5	296.4	295.2	295.3	295.3
Materials for food manufacturing	271.1	258.8	260.3	253.0	249.9	252.3	254.0	254.3	252.8	249.2	246.3	244.6	246.6	247.8
Materials for nondurable manufacturing	290.5	285.9	285.8	285.8	285.1	283.3	282.8	283.1	283.8	282.4	281.9	279.0	278.0	278.0
Materials for durable manufacturing	325.1	320.2	320.9	320.3	319.2	318.6	317.5	317.6	313.4	313.1	313.6	313.1	313.2	313.3
Components for manufacturing	287.5	291.5	291.6	291.9	292.1	292.3	292.3	292.4	293.1	293.6	294.2	294.1	294.1	294.2
Materials and components for construction	310.3	315.2	316.9	316.5	315.6	315.5	315.0	315.7	316.2	316.5	316.8	318.0	318.3	317.7
Processed fuels and lubricants	586.2	548.9	544.0	539.8	542.4	542.6	550.5	557.2	540.8	500.8	453.9	430.2	425.7	429.3
Containers	302.3	311.2	311.4	310.3	309.9	310.4	309.8	310.6	311.2	310.9	311.2	312.5	313.9	313.6
Supplies	283.4	284.2	283.6	284.1	284.5	285.1	285.6	285.7	286.6	286.4	286.7	287.0	287.2	287.3
Crude materials for further processing	330.8	306.1	303.9	295.3	291.8	297.8	304.7	304.3	301.0	289.0	280.9	272.8	278.9	274.9
Foodstuffs and feedstuffs	259.5	236.0	231.6	221.0	215.4	224.6	236.6	236.8	231.7	227.2	224.0	220.1	228.9	226.1
Nonfood materials[1]	380.5	355.3	353.5	351.2	352.2	352.8	352.0	351.6	352.4	321.8	293.2	280.8	278.8	279.4
Special groupings														
Finished goods, excluding foods	294.8	299.0	300.5	299.5	295.9	301.3	302.4	302.4	300.7	296.3	291.1	289.4	291.3	291.1
Finished energy goods	750.3	720.9	733.8	719.9	718.2	716.5	729.5	733.8	700.9	629.3	551.1	511.3	532.7	531.5
Finished goods less energy	265.1	269.2	269.7	269.0	265.5	270.5	271.6	272.2	272.7	272.2	272.3	273.2	274.2	274.2
Finished consumer goods less energy	257.8	261.3	261.9	260.9	257.7	262.1	263.4	264.3	264.8	264.0	264.2	265.0	266.2	266.2
Finished goods less food and energy	262.3	268.7	269.4	269.4	265.7	271.6	271.8	271.4	272.1	272.5	272.6	273.7	274.2	274.1
Finished consumer goods less food and energy	245.9	252.1	252.9	252.9	249.6	254.9	256.0	254.6	255.5	256.0	256.1	257.1	257.7	257.6
Consumer nondurable goods less food and energy	239.0	246.2	247.4	247.3	247.9	248.3	248.5	248.3	250.5	251.1	251.3	251.8	252.5	252.3
Intermediate materials less foods and feeds	325.0	325.0	325.0	324.5	324.4	324.1	324.5	325.3	323.6	319.7	315.5	312.9	312.5	312.8
Intermediate foods and feeds	253.1	232.8	231.7	227.1	225.4	228.6	231.4	232.7	232.6	228.9	227.6	226.8	229.4	229.0
Intermediate energy goods	545.0	528.3	523.8	519.8	522.3	522.2	529.3	536.2	520.0	482.0	437.4	414.9	410.5	413.9
Intermediate goods less energy	303.8	304.0	304.3	303.9	303.4	303.4	303.2	303.5	303.4	303.0	303.2	302.8	303.0	302.9
Intermediate materials less foods and energy	303.6	305.2	305.6	305.5	305.0	304.6	304.2	304.5	304.3	304.2	304.4	304.0	304.0	303.9
Crude energy materials	785.2	748.1	752.6	742.9	743.2	743.1	737.1	735.6	732.8	662.9	618.4	570.7	571.8	564.2
Crude materials less energy	256.5	233.2	230.1	221.8	217.9	224.7	233.2	233.0	229.8	226.5	224.0	221.8	228.5	226.5
Crude nonfood materials less energy	266.1	249.7	247.2	245.8	246.7	246.5	244.6	242.9	245.8	246.5	245.6	249.1	249.3	250.0

[1] Crude nonfood materials except fuel.

34. Producer Price indexes, by durability of product

(1967 = 100)

Grouping	Annual average		1985						1986					
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Total durable goods	293.6	297.3	297.8	297.8	295.2	298.8	298.5	298.5	296.1	298.4	298.7	299.5	299.7	298.8
Total nondurable goods	323.3	317.2	317.3	314.1	313.0	314.3	317.6	318.8	316.8	308.4	300.6	295.7	297.9	297.4
Total manufactures	302.9	304.3	304.6	303.8	302.2	304.4	305.4	306.0	304.8	301.1	297.3	296.0	296.9	297.0
Durable	293.9	298.1	298.7	298.6	298.0	299.7	299.5	299.5	299.0	299.3	299.5	300.3	300.5	300.5
Nondurable	312.3	310.5	310.6	309.0	308.4	309.2	311.4	312.5	310.6	302.9	294.7	291.2	292.8	293.1
Total raw or slightly processed goods	346.6	327.9	327.5	320.2	317.6	320.6	326.2	327.6	326.0	316.3	310.4	302.0	305.6	302.6
Durable	266.7	252.2	247.6	249.7	249.7	248.1	245.2	244.3	248.2	251.2	251.5	252.7	252.0	250.9
Nondurable	351.4	332.4	332.3	324.4	321.6	324.9	331.2	332.7	330.6	320.2	313.8	304.7	308.7	305.5

35. Annual data: Producer Price indexes, by stage of processing

(1967 = 100)

Index	1977	1978	1979	1980	1981	1982	1983	1984	1985
Finished goods:									
Total	181.7	195.9	217.7	247.0	269.8	280.7	285.2	291.1	293.7
Consumer goods	180.7	194.9	217.9	248.9	271.3	281.0	284.6	290.3	291.8
Capital equipment	184.6	199.2	216.5	239.8	264.3	279.4	287.2	294.0	300.5
Intermediate materials, supplies, and components:									
Total	201.5	215.6	243.2	280.3	306.0	310.4	312.3	320.0	318.7
Materials and components for manufacturing	195.4	208.7	234.4	265.7	286.1	289.8	293.4	301.8	299.5
Materials and components for construction	203.4	224.7	247.4	268.3	287.6	293.7	301.8	310.3	315.2
Processed fuels and lubricants	282.5	295.3	364.8	503.0	595.4	591.7	564.8	566.2	548.9
Containers	186.3	202.8	226.8	254.5	276.1	285.6	286.6	302.3	311.2
Supplies	189.7	198.5	218.2	244.5	263.8	272.1	277.1	283.4	284.2
Crude materials for further processing:									
Total	209.2	234.4	274.3	304.6	329.0	319.5	323.6	330.8	306.1
Foodstuffs and feedstuffs	192.1	216.2	247.9	259.2	257.4	247.8	252.2	259.5	235.0
Nonfood materials except fuel	212.2	233.1	284.5	346.1	413.7	376.8	372.2	380.5	355.3
Fuel	372.1	426.8	507.6	615.0	751.2	886.1	931.5	931.3	909.6

36. U.S. export price indexes by Standard International Trade Classification

(June 1977 = 100, unless otherwise indicated)

Category	1974 SITC	1983		1984				1985				1986
		Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
ALL COMMODITIES (9/83 = 100)		100.0	99.5	100.2	101.5	99.3	99.1	97.5	97.5	96.5	96.7	97.0
Food (3/83 = 100)	0	113.1	108.8	106.2	109.6	103.5	98.5	95.8	94.0	90.2	93.6	90.5
Meat (3/83 = 100)	01	100.8	101.2	108.9	108.7	105.6	104.4	103.9	104.7	108.1	112.2	111.5
Fish (3/83 = 100)	03	97.7	100.4	99.8	98.7	98.0	98.7	101.0	103.6	102.6	101.8	102.2
Grain and grain preparations (3/80 = 100)	04	111.5	105.6	102.7	107.4	101.2	92.9	92.4	90.3	82.6	87.1	82.1
Vegetables and fruit (3/83 = 100)	05	114.8	116.1	116.2	126.8	125.5	114.6	119.4	120.1	126.8	118.8	115.2
Feedstuffs for animals (3/83 = 100)	08	121.4	117.4	106.9	98.8	83.5	82.4	72.8	68.6	75.7	83.4	88.5
Misc. food products (3/83 = 100)	09	102.8	101.7	104.9	110.6	109.5	106.4	110.6	109.2	108.1	107.7	106.0
Beverages and tobacco (9/83 = 100)	1	100.0	101.5	101.6	101.9	102.8	101.3	99.9	100.1	98.7	98.6	95.8
Beverages (9/83 = 100)	11	100.0	103.3	102.3	102.9	103.3	103.7	104.0	105.3	101.8	100.9	101.9
Tobacco and tobacco products (6/83 = 100)	12	100.0	101.4	101.6	101.8	102.7	101.1	99.5	99.6	99.5	98.4	96.1
Crude materials (6/83 = 100)	2	114.6	112.2	112.5	118.3	105.2	101.4	97.5	96.8	93.3	92.5	95.8
Raw hides and skins (6/80 = 100)	21	129.2	135.2	145.6	154.7	153.7	133.6	121.0	126.2	129.0	139.9	138.9
Oilseeds and oleaginous fruit (9/77 = 100)	22	105.6	96.8	93.9	104.3	79.9	74.8	71.0	71.2	64.2	63.9	66.9
Crude rubber (including synthetic and reclaimed) (9/83 = 100)	23	100.0	102.2	103.3	106.0	104.1	104.0	106.4	106.3	107.1	106.0	106.0
Wood	24	128.7	129.8	131.1	129.4	123.8	125.4	126.7	125.7	124.5	126.1	128.7
Pulp and waste paper (6/83 = 100)	25	103.5	106.0	112.5	122.1	120.8	114.2	100.5	96.1	93.8	92.7	99.3
Textile fibers	26	117.3	123.1	120.5	125.6	109.4	106.7	102.4	105.8	103.6	97.7	101.6
Crude fertilizers and minerals	27	144.8	144.8	148.6	147.7	163.0	163.2	166.6	167.9	169.4	165.5	168.0
Metalliferous ores and metal scrap	28	100.0	96.7	100.2	98.5	93.2	92.4	69.2	82.0	80.1	79.7	83.4
Mineral fuels	3	100.0	99.2	99.1	99.7	99.7	99.7	100.1	99.2	97.6	96.6	91.9
Animal and vegetables oils, fats, and waxes	4	125.6	122.0	129.8	164.5	145.7	147.9	142.0	144.5	114.5	101.4	90.8
Fixed vegetable oils and fats (6/83 = 100)	42	138.2	129.3	133.2	176.4	159.0	156.7	152.9	164.8	128.8	106.7	95.4
Chemicals (3/83 = 100)	5	97.0	98.6	101.4	99.7	98.3	97.7	97.0	96.8	97.1	96.6	96.5
Organic chemicals (12/83 = 100)	51	–	100.0	100.2	101.0	97.4	94.7	93.8	96.5	97.1	95.4	93.5
Fertilizers, manufactured (3/83 = 100)	56	99.8	96.8	108.3	96.9	97.4	94.8	92.5	87.9	89.8	90.0	89.6
Intermediate manufactured products (9/81 = 100)	–	100.8	100.0	101.0	101.3	102.0	100.4	99.4	99.2	99.2	99.1	100.3
Leather and furskins (9/79 = 100)	6	70.1	75.8	83.5	81.2	80.8	79.0	82.5	79.2	75.9	78.5	77.8
Rubber manufactures	61	145.0	145.0	146.7	147.5	146.9	146.5	150.2	149.0	148.3	146.7	151.0
Paper and paperboard products (6/78 = 100)	62	139.7	145.5	150.2	154.7	160.0	159.5	155.0	151.6	149.6	146.2	152.2
Iron and steel (3/82 = 100)	64	96.6	96.3	95.9	96.1	96.8	96.5	95.5	95.3	95.9	96.2	96.4
Nonferrous metals (9/81 = 100)	–	102.3	93.8	94.2	92.9	90.4	82.5	79.7	79.6	79.8	78.2	80.2
Metal manufactures, n.e.s. (3/82 = 100)	–	101.9	102.1	103.1	104.5	105.1	105.0	105.4	105.2	105.4	104.4	105.3
Machinery and transport equipment, excluding military and commercial aircraft (12/78 = 100)	67	135.9	137.0	138.5	139.4	140.1	141.5	142.3	142.9	143.1	143.3	144.0
Power generating machinery and equipment (12/78 = 100)	68	152.3	154.4	158.4	156.9	160.6	167.5	165.3	167.4	167.1	167.5	169.1
Machinery specialized for particular industries (9/78 = 100)	69	149.1	151.1	152.3	152.8	153.7	153.4	155.0	156.7	156.0	156.1	155.4
Metalworking machinery (6/78 = 100)	7	148.3	148.7	150.8	151.2	151.7	151.9	153.4	155.1	156.3	156.4	159.0
General industrial machines and parts n.e.s. 9/78 = 100)	71	145.4	145.9	148.6	149.0	149.3	150.2	152.4	152.0	152.4	152.2	152.3
Office machines and automatic data processing equipment	72	103.2	102.5	101.4	101.5	99.8	101.4	100.9	100.0	99.9	99.4	99.9
Telecommunications, sound recording and reproducing equipment	73	132.2	132.1	133.0	132.3	134.4	134.3	133.3	133.3	134.1	134.5	138.5
Electrical machinery and equipment	74	109.4	109.8	110.2	112.6	113.8	114.6	114.9	116.1	115.3	113.8	115.1
Road vehicles and parts (3/80 = 100)	75	127.5	128.8	130.2	131.2	131.0	131.8	133.1	133.9	133.8	135.0	135.5
Other transport equipment, excl. military and commercial aviation	76	176.4	179.3	183.1	187.7	189.6	191.7	195.5	196.6	199.3	200.7	203.3
Other manufactured articles	77	100.0	100.2	100.6	100.4	100.7	99.3	99.5	100.4	100.3	100.3	102.6
Apparel (9/83 = 100)	78	100.0	100.6	101.9	102.1	103.9	103.4	104.7	104.7	105.0	105.3	–
Professional, scientific, and controlling instruments and apparatus	79	169.0	171.5	171.8	172.0	175.8	171.7	175.5	178.3	178.7	178.8	182.2
Photographic apparatus and supplies, optical goods, watches and clocks (12/77 = 100)	8	130.0	132.0	132.0	131.3	132.7	130.3	128.0	129.1	127.5	128.5	131.6
Miscellaneous manufactured articles, n.e.s.	84	100.0	98.2	98.5	97.9	95.2	94.1	92.4	93.1	93.1	92.4	95.6
Gold, non-monetary (9/83 = 100)	971	100.2	96.2	95.8	93.5	81.7	79.5	69.1	75.4	77.4	77.5	81.8

– Data not available.

37. U.S. import price indexes by Standard International Trade Classification

(June 1977 = 100, unless otherwise indicated)

Category	1974 SITC	1984				1985				1986
		Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
ALL COMMODITIES (9/82 = 100)		98.0	98.3	96.7	95.7	93.5	93.0	92.9	94.2	88.5
Food (9/77 = 100)	0	102.5	103.5	102.0	98.1	96.5	96.8	94.9	102.8	113.5
Meat	01	133.4	133.8	135.4	132.3	130.4	118.2	120.6	131.2	122.7
Dairy products and eggs (6/81 = 100)	02	100.8	99.8	98.9	98.4	98.3	97.9	99.1	100.5	108.8
Fish	03	132.7	134.2	134.2	133.9	132.9	129.4	129.7	132.7	139.3
Bakery goods, pasta products, grain and grain preparations (9/77 = 100)	04	136.5	134.8	132.9	132.8	131.8	132.3	136.3	141.9	148.9
Fruits and vegetables	05	136.1	135.8	135.4	117.2	127.1	129.4	120.2	131.3	119.4
Sugar, sugar preparations, and honey (3/82 = 100)	06	117.1	120.3	119.0	118.5	118.4	122.6	123.1	111.9	124.6
Coffee, tea, cocoa	07	61.4	62.4	60.3	58.4	57.0	56.0	54.4	64.6	85.9
Beverages and tobacco	1	156.3	158.3	157.1	156.5	156.2	157.1	158.0	162.1	163.2
Beverages	11	152.6	153.6	153.5	152.8	154.2	154.3	156.0	159.1	161.8
Crude materials	2	103.2	102.6	100.6	98.9	94.0	93.6	91.5	91.2	94.7
Crude rubber (inc. synthetic & reclaimed) (3/84 = 100)	23	100.0	93.7	90.7	83.8	77.6	76.4	69.9	73.2	78.8
Wood (9/81 = 100)	24	114.8	103.2	99.6	104.0	100.7	106.9	101.6	99.4	104.3
Pulp and waste paper (12/81 = 100)	25	87.6	98.1	96.3	93.2	84.0	80.4	76.8	75.8	74.9
Crude fertilizers and crude minerals (12/83 = 100)	27	100.0	98.2	98.0	98.6	100.3	101.7	102.7	102.1	101.5
Metalliferous ores and metal scrap (3/84 = 100)	28	100.0	102.8	100.1	95.6	90.4	87.6	89.5	90.1	98.2
Crude vegetable and animal materials, n.e.s.	29	100.0	100.8	101.1	108.4	104.3	104.9	102.5	102.5	103.6
Fuels and related products (6/82 = 100)	3	88.3	88.0	86.9	85.2	82.9	80.9	79.8	79.1	56.3
Petroleum and petroleum products (6/82 = 100)	33	89.2	88.1	87.0	85.2	83.8	81.6	80.3	80.1	54.7
Fats and oils (9/83 = 100)	4	117.4	141.8	124.4	114.9	89.9	76.7	57.6	50.6	41.4
Vegetable oils (9/83 = 100)	42	118.1	143.1	125.3	115.3	89.5	75.9	56.2	48.9	39.3
Chemicals (9/82 = 100)	5	101.1	100.6	98.8	97.1	95.7	94.9	94.5	94.2	94.6
Medicinal and pharmaceutical products (3/84 = 100)	54	100.0	98.5	96.4	94.6	91.6	95.1	95.3	96.7	102.9
Manufactured fertilizers (3/84 = 100)	56	100.0	101.7	98.5	92.9	94.2	82.0	80.8	78.5	79.2
Chemical materials and products, n.e.s. (9/84 = 100)	59	-	-	100.0	97.5	96.1	95.6	96.9	97.8	99.9
Intermediate manufactured products (12/77 = 100)	6	137.6	139.6	137.2	136.8	133.1	132.4	133.6	133.4	134.0
Leather and furskins	61	141.6	145.3	144.0	140.4	135.3	133.3	137.0	141.3	141.6
Rubber manufactures, n.e.s.	62	141.8	140.8	139.6	140.5	139.5	138.6	137.3	138.1	138.5
Cork and wood manufactures	63	130.1	131.0	128.4	128.1	121.3	121.2	123.4	124.0	130.8
Paper and paperboard products	64	148.0	150.4	156.1	157.5	157.6	157.2	157.8	156.5	157.1
Textiles	65	130.8	130.1	131.6	132.9	130.4	127.5	126.5	128.1	131.2
Nonmetallic mineral manufactures, n.e.s.	66	169.4	166.6	156.6	159.4	154.3	151.8	157.6	162.3	164.2
Iron and steel (9/78 = 100)	67	118.5	123.8	124.7	123.7	121.0	120.1	119.1	118.3	117.3
Nonferrous metals (12/81 = 100)	68	96.0	96.3	90.2	87.3	81.9	82.3	83.7	80.4	79.4
Metal manufactures, n.e.s.	69	119.7	120.5	119.3	119.3	117.4	117.8	119.5	121.6	124.4
Machinery and transport equipment (6/81 = 100)	7	104.0	104.1	102.6	102.9	101.6	102.6	103.5	107.2	111.5
Machinery specialized for particular industries (9/78 = 100)	72	100.4	100.0	98.8	98.0	96.2	97.0	101.4	104.9	112.1
Metalworking machinery (3/80 = 100)	73	94.3	93.8	92.1	89.9	86.3	90.5	94.2	98.1	105.0
General industrial machinery and parts, n.e.s. (6/81 = 100)	74	93.7	94.4	92.4	91.3	89.2	91.1	94.3	98.0	103.8
Office machines and automatic data processing equipment (3/80 = 100)	75	97.8	96.7	94.1	92.2	89.6	89.4	90.3	93.7	96.9
Telecommunications, sound recording and reproducing apparatus (3/80 = 100)	76	94.2	94.8	93.6	91.3	90.0	88.8	88.3	88.6	89.4
Electrical machinery and equipment (12/81 = 100)	77	94.2	91.2	87.0	86.4	82.1	83.9	81.4	83.1	84.3
Road vehicles and parts (6/81 = 100)	78	109.0	110.4	109.8	111.3	111.5	112.1	112.7	117.8	123.4
Misc. manufactured articles (3/80 = 100)	8	100.6	101.5	99.7	100.0	97.0	98.0	99.6	100.8	103.3
Plumbing, heating, and lighting fixtures (6/80 = 100)	81	109.5	112.0	110.7	111.6	113.9	114.1	117.8	115.0	120.1
Furniture and parts (6/80 = 100)	82	136.8	140.8	138.4	142.5	137.4	136.7	142.1	142.7	147.0
Clothing (9/77 = 100)	84	130.2	132.5	135.4	138.5	136.7	133.9	134.5	134.5	133.4
Footwear	85	136.8	140.8	138.4	142.5	137.4	136.7	142.1	142.7	147.0
Professional, scientific, and controlling instruments and apparatus (12/79 = 100)	87	98.7	97.8	95.6	92.9	89.2	92.3	98.8	102.4	106.4
Photographic apparatus and supplies, optical goods, watches, and clocks (3/80 = 100)	88	89.6	92.8	91.2	91.3	88.9	89.5	91.1	94.5	99.3
Misc. manufactured articles, n.e.s. (6/82 = 100)	89	105.2	104.0	98.3	98.3	91.2	95.2	96.4	97.9	102.1
Gold, non-monetary (6/82 = 100)	971	-	-	-	-	-	-	-	-	-

- Data not available.

38. U.S. export price indexes by end-use category

(September 1983 = 100 unless otherwise indicated)

Category	Percentage of 1980 Trade Value	1984				1985				1986
		Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Foods, feeds, and beverages	16.294	92.8	98.5	88.8	83.0	81.5	80.9	79.2	77.5	75.5
Raw materials	30.696	102.2	102.5	100.5	98.1	97.6	97.2	98.5	95.9	96.0
Raw materials, nondurable	21.327	103.6	104.4	102.8	101.4	99.6	99.5	98.7	97.9	97.5
Raw materials, durable	9.368	98.8	97.7	95.0	93.3	92.6	91.6	91.1	91.0	92.5
Capital goods (12/82 = 100)	30.186	103.2	103.9	104.6	105.6	106.2	106.6	106.6	106.6	107.4
Automotive vehicles, parts and engines (12/82 = 100)	7.483	104.5	105.3	105.3	105.7	106.7	108.0	108.1	109.2	109.5
Consumer goods	7.467	100.9	100.9	101.3	100.8	100.9	101.1	101.9	101.4	103.7
Durables	3.965	100.1	99.6	99.4	99.3	99.1	99.2	100.4	99.5	101.8
Nondurables	3.501	101.8	102.1	103.0	102.3	102.7	103.0	103.3	105.3	105.5

39. U.S. import price indexes by end-use category

(December 1982 = 100)

Category	Percentage of 1980 Trade Value	1984				1985				1986
		Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Foods, feeds, and beverages	7.477	106.0	107.2	105.6	101.8	102.1	100.4	99.0	106.0	115.8
Petroleum and petroleum products, excl. natural gas	31.108	88.8	86.5	87.5	85.7	84.4	82.1	80.9	80.5	55.4
Raw materials, excluding petroleum	19.205	103.5	104.3	102.5	101.1	96.3	95.8	95.4	93.9	94.5
Raw materials, nondurable	9.391	100.7	102.1	101.7	100.7	95.0	93.9	93.5	91.8	91.1
Raw materials, durable	9.814	106.5	106.7	103.3	101.6	97.7	97.8	97.4	96.2	98.0
Capital goods	13.154	100.8	99.8	98.0	97.8	94.8	96.3	97.6	100.0	102.8
Automotive vehicles, parts and engines	11.750	103.6	104.9	104.0	105.2	105.4	105.9	106.4	111.4	115.6
Consumer goods	14.250	101.0	101.9	100.6	101.1	99.5	99.4	101.0	102.4	104.5
Durable	5.507	101.1	101.4	98.8	98.5	97.0	97.0	98.9	100.7	103.4
Nondurable	6.743	100.9	102.5	103.0	104.6	103.0	102.5	103.9	104.7	106.0

40. U.S. export price indexes by Standard Industrial Classification [1]

Industry group	1984				1985				1986
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Manufacturing:									
Food and kindred products (6/83 = 100)	109.0	112.7	105.6	103.3	99.5	99.5	96.7	98.1	97.0
Lumber and wood products, except furniture (6/83 = 100)	101.5	100.1	97.0	97.9	99.9	99.5	98.3	101.2	101.5
Furniture and fixtures (9/83 = 100)	101.8	103.1	103.5	104.9	105.2	106.5	107.1	108.4	109.2
Paper and allied products (3/81 = 100)	98.6	104.3	106.2	103.6	97.1	94.7	93.2	92.1	95.7
Chemicals and allied products (12/84 = 100)	103.3	102.3	101.3	100.7	100.3	99.6	99.7	99.2	98.9
Petroleum and coal products (12/83 = 100)	101.6	102.1	100.7	100.4	101.3	102.7	102.0	99.1	93.5
Primary metal products (3/82 = 100)	105.1	104.0	100.0	95.8	91.2	92.7	93.6	93.6	96.4
Machinery, except electrical (9/78 = 100)	137.4	137.9	138.0	139.9	140.4	140.5	140.6	140.5	140.6
Electrical machinery (12/80 = 100)	108.0	109.5	110.7	111.1	111.3	112.4	111.9	111.2	112.6
Transportation equipment (12/78 = 100)	155.7	157.2	157.8	158.9	160.5	161.9	162.8	164.3	165.2
Scientific instruments; optical goods; clocks (6/77 = 100)	153.1	153.2	156.0	153.0	154.9	156.6	156.2	156.7	159.7

[1] SIC - based classification.

– Data not available.

41. U.S. import price indexes by Standard Industrial Classification [1]

Industry group	1984				1985				1986
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Manufacturing:									
Food and kindred products (6/77 = 100)	122.3	126.6	124.1	122.6	118.8	115.0	114.2	115.1	117.7
Textile mill products (9/82 = 100)	104.4	103.8	104.3	104.7	102.3	101.0	100.4	101.8	104.7
Apparel and related products (6/77 = 100)	126.1	129.6	133.9	138.2	135.6	133.0	133.9	134.4	133.4
Lumber and wood products, except furniture (6/77 = 100)	129.4	121.1	117.3	120.0	116.3	120.6	117.5	115.8	122.1
Furniture and fixtures (6/80 = 100)	95.7	96.9	96.2	95.6	93.9	96.1	97.7	98.2	101.2
Paper and allied products (6/77 = 100)	136.5	141.9	146.0	145.5	141.5	139.8	138.7	137.4	137.6
Chemicals and allied products (9/82 = 100)	101.8	101.8	99.8	98.2	95.3	93.9	93.3	95.8	98.6
Rubber and miscellaneous plastic products (12/80 = 100)	98.1	98.5	97.8	98.0	96.9	96.7	96.6	97.5	100.9
Leather and leather products	140.3	143.7	141.6	144.2	139.1	138.9	142.3	144.0	145.8
Primary metal products (6/81 = 100)	90.1	91.9	88.3	86.6	82.2	83.0	83.4	81.9	82.0
Fabricated metal products (12/84 = 100)	-	-	-	100.0	99.0	99.1	101.0	102.6	104.9
Machinery, except electrical (3/80 = 100)	97.8	97.1	95.5	94.1	91.8	93.4	96.6	100.0	105.5
Electrical machinery (9/84 = 100)	-	-	100.0	98.6	95.1	95.8	94.5	95.8	96.8
Transportation equipment (6/81 = 100)	110.6	111.6	110.7	112.9	113.1	114.2	114.8	119.6	123.9
Scientific instruments; optical goods; clocks (12/79 = 100)	94.0	95.5	94.4	93.2	90.7	91.7	94.6	98.8	103.9
Miscellaneous manufactured commodities (9/82 = 100)	99.8	99.1	95.8	96.4	95.1	95.1	96.6	98.7	100.0

[1] SIC - based classification.

- Data not available.

42. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

(1977 = 100)

Item	Annual average	Quarterly indexes									
	1984	1983		1984				1985				1986
		III	IV	I	II	III	IV	I	II	III	IV	I
Business:												
Output per hour of all persons	105.2	103.5	103.6	104.9	105.5	105.3	105.0	105.3	105.5	105.9	104.9	105.5
Compensation per hour	168.2	162.1	164.1	166.1	167.5	169.1	170.4	172.4	174.3	176.1	177.6	178.2
Real compensation per hour	98.2	98.1	98.3	98.3	98.2	98.2	98.1	98.5	98.5	98.9	98.7	98.7
Unit labor costs	159.9	156.6	158.4	158.4	158.7	160.6	162.3	163.8	165.2	166.3	169.3	168.9
Unit nonlabor payments	156.5	146.8	148.6	153.4	156.8	157.3	158.0	157.6	158.2	158.6	156.2	159.1
Implicit price deflator	158.7	153.1	154.9	156.6	158.0	159.4	160.8	161.6	162.7	163.5	164.6	165.4
Nonfarm business:												
Output per hour of all persons	104.1	103.3	103.0	104.0	104.5	104.2	103.8	104.1	104.2	104.3	103.2	104.1
Compensation per hour	168.0	162.3	164.0	165.9	167.4	168.8	170.1	172.1	173.7	175.0	176.4	177.3
Real compensation per hour	98.0	98.2	98.2	98.1	98.1	98.0	97.9	98.3	98.2	98.3	98.0	98.2
Unit labor costs	161.4	157.1	159.1	159.6	160.1	162.0	163.9	165.3	166.8	167.8	170.9	170.3
Unit nonlabor payments	156.3	148.9	150.7	152.5	156.3	157.6	158.4	158.8	160.2	161.4	157.7	161.9
Implicit price deflator	159.6	154.2	156.1	157.1	158.8	160.5	161.9	163.0	164.5	165.5	166.3	167.4
Nonfinancial corporations:												
Output per hour of all employees	106.2	104.6	105.0	106.2	106.7	106.1	105.8	105.8	105.8	106.5	105.9	105.8
Compensation per hour	166.1	160.8	162.4	164.2	165.6	166.8	167.9	169.4	170.8	172.0	173.3	173.9
Real compensation per hour	96.9	97.3	97.3	97.1	97.1	96.9	96.7	96.7	96.6	96.6	96.3	96.3
Total unit costs	161.2	159.6	159.5	159.1	159.9	162.2	163.6	164.4	165.8	165.5	167.2	168.0
Unit labor costs	156.4	153.8	154.8	154.7	155.1	157.2	158.7	160.0	161.5	161.5	163.7	164.3
Unit nonlabor costs	175.3	176.7	173.7	172.3	174.0	177.0	177.9	177.6	178.6	177.2	177.8	179.0
Unit profits	135.6	114.4	124.0	132.9	139.1	134.3	135.9	138.3	139.1	150.2	143.1	146.1
Unit nonlabor payments	161.4	154.9	156.3	158.5	161.8	162.1	163.2	163.8	164.8	167.7	165.7	167.5
Implicit price deflator	158.1	154.2	155.3	156.0	157.4	158.9	160.3	161.3	162.6	163.6	164.4	165.4
Manufacturing:												
Output per hour of all persons	118.5	114.5	114.7	116.7	117.8	119.8	119.5	120.0	121.8	122.8	122.4	123.1
Compensation per hour	169.1	163.3	164.4	166.7	168.1	169.9	171.8	174.3	176.1	177.3	178.8	179.2
Real compensation per hour	98.7	98.8	98.5	98.6	98.6	98.7	98.9	99.5	99.5	99.6	99.4	99.3
Unit labor costs	142.8	142.6	143.4	142.8	142.7	141.9	143.7	145.3	144.5	144.4	146.0	145.6

43. Annual indexes of multifactor productivity and related measures, selected years

(1977 = 100)

Item	1960	1970	1973	1974	1976	1978	1979	1980	1981	1982	1983	1984
Private business												
Productivity:												
Output per hour of all persons	64.8	86.1	94.8	92.5	97.6	100.5	99.3	98.7	100.6	100.6	103.7	107.1
Output per unit of capital services	98.4	98.5	103.0	96.5	96.1	101.8	100.3	95.6	94.1	89.5	92.3	97.4
Multifactor productivity	75.4	90.2	97.5	93.8	97.1	101.0	99.7	97.6	98.3	96.8	99.6	103.7
Output	53.3	78.3	91.8	89.9	93.7	105.5	107.9	106.4	109.2	106.3	111.1	121.0
Inputs:												
Hours of all persons	82.2	90.8	96.8	97.2	95.9	105.0	108.6	107.8	108.5	105.4	107.2	113.0
Capital services	54.1	79.4	89.1	93.1	97.5	103.6	107.5	111.4	116.0	118.8	120.4	124.3
Combined units of labor and capital input	70.7	86.7	94.1	95.8	96.5	104.5	108.2	109.0	111.0	109.9	111.6	116.8
Capital per hour of all persons	65.9	87.4	92.0	95.9	101.6	98.7	98.9	103.3	106.9	112.7	112.3	109.9
Private nonfarm business												
Productivity:												
Output per hour of all persons	68.0	86.8	95.3	92.9	97.8	100.6	99.0	98.2	99.6	99.9	103.5	106.3
Output per unit of capital services	98.4	98.6	103.2	96.5	96.1	101.9	100.1	95.2	93.2	88.7	91.9	96.6
Multifactor productivity	77.6	90.7	97.9	94.1	97.2	101.0	99.4	97.2	97.4	95.9	99.4	102.9
Output	52.3	77.8	91.7	89.7	93.6	105.7	108.0	106.4	108.7	105.9	111.3	121.0
Inputs:												
Hours of all persons	77.0	89.7	96.2	96.5	95.7	105.1	109.1	108.4	109.1	106.0	107.6	113.8
Capital services	53.2	78.9	88.8	93.0	97.4	103.7	107.9	111.7	116.6	119.4	121.1	125.2
Combined units of labor and capital input	67.4	85.9	93.6	95.3	96.3	104.6	108.7	109.5	111.6	110.4	112.0	117.5
Capital per hour of all persons	69.1	88.0	92.4	96.3	101.8	98.7	98.9	103.1	106.8	112.6	112.6	110.1
Manufacturing												
Productivity:												
Output per hour of all persons	60.0	79.2	93.0	90.8	97.6	100.9	101.6	101.7	104.9	107.1	111.6	115.6
Output per unit of capital services	87.9	91.8	108.2	99.6	96.1	101.5	99.5	90.7	89.9	82.9	87.6	96.0
Multifactor productivity	67.0	82.3	96.8	93.1	97.1	101.1	101.0	98.6	100.8	100.3	104.9	110.4
Output	50.7	77.0	95.9	91.9	93.6	105.3	108.2	103.5	106.1	99.3	104.4	115.3
Inputs:												
Hours of all persons	84.4	97.3	103.1	101.2	95.9	104.4	106.5	101.7	101.1	92.7	93.5	99.8
Capital services	57.6	83.9	88.6	92.2	97.4	103.8	108.8	114.1	118.0	119.8	119.2	120.2
Combined units of labor and capital inputs	75.6	93.5	99.0	98.7	96.3	104.2	107.1	104.8	105.2	99.0	99.5	104.5
Capital per hour of all persons	68.3	86.2	85.9	91.1	101.6	99.4	102.1	112.2	116.7	129.2	127.5	120.4

44. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years

(1977 = 100)

Item	1960	1970	1973	1974	1976	1978	1979	1980	1981	1982	1983	1984	1985
Business:													
Output per hour of all persons	67.5	88.3	95.9	93.9	98.3	100.8	99.6	99.2	100.7	100.3	103.2	105.2	105.3
Compensation per hour	33.6	57.7	70.9	77.6	92.6	108.5	119.1	131.5	143.7	154.9	161.9	168.2	175.0
Real compensation per hour	68.8	90.1	96.7	95.4	98.7	100.8	99.4	96.7	95.7	97.3	98.5	98.2	98.6
Unit labor costs	49.8	65.4	73.9	82.7	94.3	107.7	119.6	132.6	142.7	154.5	157.0	159.9	166.2
Unit nonlabor payments	46.3	59.4	72.5	78.4	93.4	106.7	112.5	118.8	134.7	136.8	145.4	156.5	157.7
Implicit price deflator	48.5	63.2	73.4	80.5	94.0	107.3	117.0	127.6	139.8	148.1	152.8	158.7	163.1
Nonfarm business:													
Output per hour of all persons	70.9	89.1	96.4	94.3	96.5	100.8	99.2	98.8	99.8	99.2	102.6	104.1	103.9
Compensation per hour	35.3	58.1	71.2	78.0	92.8	108.6	118.9	131.3	143.6	154.8	162.1	168.0	174.2
Real compensation per hour	72.2	90.7	97.1	95.8	98.8	100.9	99.2	96.6	95.7	97.2	98.6	98.0	98.1
Unit labor costs	49.8	65.2	73.9	82.7	94.2	107.7	119.8	132.9	144.0	156.0	158.0	161.4	167.7
Unit nonlabor payments	46.2	60.0	69.4	74.0	93.1	105.6	110.5	118.5	133.5	136.6	147.0	156.3	159.5
Implicit price deflator	48.5	63.4	72.3	79.7	93.8	107.0	116.5	127.8	140.3	149.2	154.1	159.6	164.8
Nonfinancial corporations:													
Output per hour of all employees	73.4	91.1	97.5	94.6	98.4	100.6	99.8	99.1	99.6	100.4	104.0	106.2	105.9
Compensation per hour	36.9	59.2	71.6	78.2	92.9	108.4	118.7	131.1	143.3	154.3	160.8	166.1	171.3
Real compensation per hour	75.5	92.4	97.6	96.1	98.9	100.7	99.1	96.4	95.5	96.9	97.7	96.9	96.5
Unit labor costs	50.2	65.0	73.4	82.6	94.3	107.8	119.0	132.3	143.8	153.8	154.5	156.4	161.7
Unit nonlabor payments	51.5	60.1	68.9	73.1	93.8	104.4	108.4	118.6	137.8	142.1	152.2	161.4	165.5
Implicit price deflator	50.7	63.3	71.9	79.4	94.2	106.6	115.4	127.6	141.7	149.8	153.7	158.1	163.0
Manufacturing:													
Output per hour of all persons	62.2	80.8	93.4	90.6	97.1	101.5	101.4	101.4	103.6	105.9	112.9	118.5	121.8
Compensation per hour	36.5	57.3	66.8	76.2	92.1	108.2	118.6	132.4	145.2	157.5	163.2	169.1	176.6
Real compensation per hour	74.7	89.4	93.8	93.6	98.1	100.5	99.1	97.4	98.7	98.9	99.3	98.7	99.5
Unit labor costs	58.7	70.9	73.7	84.1	94.9	106.6	117.0	130.6	140.1	148.7	144.5	142.8	145.0
Unit nonlabor payments	60.2	64.3	70.7	67.7	93.5	101.9	98.9	97.8	111.8	114.0	132.4	140.5	138.9
Implicit price deflator	59.1	69.0	72.8	79.3	94.5	105.2	111.7	121.0	131.8	138.6	141.0	142.1	143.3

45. Unemployment rates in nine countries, quarterly data seasonally adjusted

Country	Annual average		1984		1985				1986
	1984	1985	III	IV	I	II	III	IV	I
Total labor force basis									
United States	7.4	7.1	7.3	7.1	7.2	7.2	7.1	6.9	7.0
Canada	11.2	10.4	11.2	11.1	11.0	10.5	10.2	10.1	9.7
Australia	8.9	8.2	8.7	8.6	8.5	8.4	8.1	7.8	7.9
Japan	2.7	2.6	2.6	2.7	2.6	2.5	2.6	2.9	2.8
France	9.7	10.1	9.9	10.0	10.2	10.1	10.2	9.9	10.0
Germany	7.7	7.7	7.8	7.7	7.8	7.8	7.7	7.7	7.7
Great Britain	12.8	13.0	13.0	12.8	12.9	13.0	13.2	12.8	13.0
Italy [1], [2]	5.8	5.9	5.8	5.7	5.8	5.7	5.9	6.2	6.2
Sweden	3.1	2.8	3.0	3.0	3.0	2.9	2.7	2.7	2.8
Civilian labor force basis									
United States	7.5	7.2	7.4	7.2	7.3	7.3	7.2	7.0	7.1
Canada	11.3	10.5	11.3	11.1	11.1	10.6	10.2	10.1	9.7
Australia	9.0	8.3	8.8	8.6	8.8	8.5	8.2	7.9	8.0
Japan	2.8	2.6	2.8	2.7	2.6	2.6	2.7	2.9	2.7
France	9.9	10.3	10.1	10.3	10.5	10.4	10.4	10.1	10.2
Germany	7.8	7.9	7.9	7.8	7.9	8.0	7.9	7.8	7.8
Great Britain	12.9	13.2	13.2	13.0	13.1	13.2	13.4	13.0	13.1
Italy	5.9	6.0	5.9	5.8	5.9	5.8	6.0	6.3	6.3
Sweden	3.1	2.8	3.1	3.0	3.0	2.9	2.8	2.7	2.8

[1] Quarterly rates are for the first month of the quarter.

[2] Major changes in the Italian labor force survey, introduced in 1977, resulted in a large increase in persons enumerated as unemployed. However, many persons reported that they had not actively sought work in the past 30 days, and they have been provisionally excluded for comparability with U.S. concepts. Inclusion of such persons would more than double the Italian unemployment rate shown.

NOTE: Quarterly and monthly figures for France, Germany, and Great Britain are calculated by applying annual adjustment factors to current published data and therefore should be viewed as less precise indicators of unemployment under U.S. concepts than the annual figures.

46. Annual data: Employment status of the civilian working-age population, ten countries

(Numbers in thousands)

Employment status and country	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Labor force										
United States	96,158	99,009	102,251	104,962	106,940	108,670	110,204	111,550	113,544	115,461
Canada	10,203	10,500	10,895	11,231	11,573	11,904	11,958	12,183	12,399	12,639
Australia	6,244	6,358	6,443	6,519	6,693	6,810	6,910	6,997	7,130	7,272
Japan	53,100	53,820	54,610	55,210	55,740	56,320	56,980	58,110	58,480	58,820
France	22,000	22,300	22,470	22,670	22,790	22,930	23,150	23,110	23,250	23,320
Germany	25,900	25,870	26,000	26,240	26,500	26,610	26,640	26,840	26,700	27,010
Great Britain	25,290	25,430	25,620	25,710	25,870	25,870	25,880	26,010	26,530	26,950
Italy	20,300	20,530	20,630	20,910	21,210	21,410	21,450	21,610	21,670	21,800
Netherlands	4,890	4,950	5,010	5,100	5,290	5,500	5,560	5,720	5,740	5,690
Sweden	4,149	4,168	4,203	4,262	4,312	4,326	4,350	4,369	4,385	4,418
Participation rate										
United States	61.6	62.3	63.2	63.7	63.8	63.9	64.0	64.0	64.4	64.8
Canada	61.1	61.6	62.7	63.4	64.1	64.8	64.1	64.4	64.8	65.2
Australia	62.7	62.7	62.0	61.7	62.2	62.0	61.8	61.5	61.5	61.8
Japan	62.4	62.5	62.8	62.7	62.6	62.6	62.7	63.1	62.7	62.3
France	57.3	57.6	57.5	57.5	57.2	57.1	57.1	56.5	56.6	56.8
Germany	53.8	53.4	53.3	53.3	53.2	52.9	52.5	52.3	52.7	53.4
Great Britain	63.2	63.2	63.3	63.2	63.2	62.2	61.9	61.9	62.7	63.7
Italy	47.8	48.0	47.7	47.8	48.0	48.0	47.4	47.2	47.3	47.2
Netherlands	49.1	49.0	48.8	49.0	50.0	51.3	51.2	52.1	52.0	51.2
Sweden	66.0	65.9	66.1	66.6	67.0	66.8	66.8	66.7	66.8	67.2
Employed										
United States	88,752	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005	107,150
Canada	9,477	9,651	9,987	10,395	10,708	11,006	10,644	10,734	11,000	11,311
Australia	5,946	6,000	6,038	6,111	6,284	6,416	6,415	6,300	6,490	6,670
Japan	52,020	52,720	53,370	54,040	54,600	55,060	55,620	56,550	56,870	57,260
France	21,010	21,180	21,260	21,300	21,320	21,200	21,230	21,150	20,940	20,910
Germany	25,010	24,970	25,130	25,460	25,730	25,520	25,060	24,850	24,610	24,880
Great Britain	23,810	23,840	24,040	24,360	24,100	23,190	22,820	22,680	23,100	23,410
Italy	19,600	19,800	19,870	20,100	20,380	20,490	20,430	20,470	20,390	20,490
Netherlands	4,630	4,700	4,750	4,830	4,960	4,990	4,930	4,890	4,880	4,890
Sweden	4,083	4,093	4,109	4,174	4,226	4,218	4,213	4,218	4,249	4,293
Employment-population ratio										
United States	56.8	57.9	59.3	59.9	59.2	59.0	57.8	57.9	59.5	60.1
Canada	56.7	56.6	57.5	58.7	59.3	59.9	57.0	56.7	57.4	58.4
Australia	59.7	59.2	58.1	57.9	58.4	58.4	57.3	55.4	56.0	56.6
Japan	61.1	61.2	61.3	61.4	61.3	61.2	61.2	61.4	61.0	60.6
France	54.8	54.7	54.4	54.0	53.5	52.8	52.3	51.7	51.0	50.9
Germany	52.0	51.6	51.5	51.7	51.6	50.7	49.4	48.4	48.6	49.2
Great Britain	59.5	59.3	59.4	59.6	58.9	55.8	54.6	54.0	54.6	55.3
Italy	46.1	46.3	45.9	45.9	46.1	45.9	45.2	44.7	44.5	44.4
Netherlands	46.5	46.5	46.3	46.4	46.9	46.5	45.4	44.5	44.2	44.0
Sweden	64.9	64.8	64.6	65.3	65.6	65.1	64.7	64.4	64.7	65.3
Unemployed										
United States	7,406	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539	8,312
Canada	726	849	908	836	865	898	1,314	1,448	1,399	1,328
Australia	298	358	405	408	409	394	495	697	642	602
Japan	1,080	1,100	1,240	1,170	1,140	1,260	1,360	1,560	1,610	1,560
France	990	1,120	1,210	1,370	1,470	1,730	1,920	1,960	2,310	2,410
Germany	890	900	870	780	770	1,090	1,580	1,990	2,090	2,130
Great Britain	1,480	1,590	1,580	1,350	1,770	2,680	3,060	3,330	3,430	3,540
Italy	700	740	760	810	830	920	1,020	1,140	1,280	1,310
Netherlands	260	250	260	270	330	510	630	830	860	800
Sweden	66	75	94	88	86	108	137	151	136	125
Unemployment rate										
United States	7.7	7.1	6.1	5.8	7.1	7.6	9.7	9.6	7.5	7.2
Canada	7.1	8.1	8.3	7.4	7.5	7.5	11.0	11.9	11.3	10.5
Australia	4.8	5.6	6.3	6.3	6.1	5.8	7.2	10.0	9.0	8.3
Japan	2.0	2.0	2.3	2.1	2.0	2.2	2.4	2.7	2.8	2.6
France	4.5	5.0	5.4	6.0	6.4	7.5	8.3	8.5	9.9	10.3
Germany	3.4	3.5	3.4	3.0	2.9	4.1	5.9	7.5	7.8	7.9
Great Britain	5.9	6.3	6.2	5.3	6.8	10.4	11.8	12.8	12.9	13.2
Italy	3.4	3.6	3.7	3.9	3.9	4.3	4.8	5.3	5.9	6.0
Netherlands	5.3	5.0	5.2	5.3	6.2	9.3	11.3	14.5	15.0	14.1
Sweden	1.6	1.8	2.2	2.1	2.0	2.5	3.1	3.5	3.1	2.8

47. Annual indexes of productivity and related measures, twelve countries

(1977 = 100)

Item and country	1960	1970	1973	1974	1976	1977	1979	1980	1981	1982	1983	1984	1985
Output per hour													
United States	62.2	80.8	93.4	90.8	97.1	100.0	101.4	101.4	103.6	105.9	112.9	118.5	121.8
Canada	50.3	76.8	91.3	93.4	96.2	100.0	104.2	101.9	104.0	101.0	107.6	111.5	115.1
Japan	23.2	64.8	83.1	86.5	94.3	100.0	114.8	122.7	127.2	135.0	142.3	152.2	159.9
Belgium	32.8	60.0	78.7	83.2	95.3	100.0	111.8	119.3	127.2	132.8	141.0	145.5	-
Denmark	37.2	65.5	83.2	86.0	98.2	100.0	106.5	112.3	114.2	114.6	117.3	118.3	118.4
France	36.4	69.6	82.2	85.2	95.0	100.0	110.3	112.0	116.4	123.5	129.3	135.0	140.2
Germany	40.3	71.2	84.0	87.4	96.5	100.0	108.2	108.6	111.0	112.6	119.0	124.7	131.9
Italy	36.5	72.7	90.9	95.3	98.9	100.0	110.5	116.9	121.0	123.4	126.6	135.0	139.1
Netherlands	32.4	64.3	81.5	88.1	95.8	100.0	112.3	113.9	116.9	119.4	126.1	139.3	-
Norway	54.6	81.7	94.6	97.7	99.7	100.0	107.1	109.3	109.7	112.6	119.2	122.3	125.0
Sweden	42.3	80.7	94.8	98.8	101.7	100.0	110.9	112.7	113.2	116.5	125.5	132.6	135.2
United Kingdom	53.8	77.6	92.9	95.2	99.1	100.0	102.2	101.2	107.9	112.7	121.2	126.2	129.7
Output													
United States	52.5	78.6	96.3	91.7	93.1	100.0	108.1	103.2	104.8	98.4	105.6	117.9	121.0
Canada	41.5	75.1	94.6	98.0	98.1	100.0	110.9	107.7	108.8	96.4	101.7	110.1	115.2
Japan	19.2	69.9	91.9	91.7	94.8	100.0	113.9	124.1	129.8	137.3	148.2	165.2	175.8
Belgium	41.7	78.1	95.8	99.6	99.5	100.0	104.2	107.2	105.9	109.1	110.7	112.8	-
Denmark	49.2	82.0	95.9	97.4	99.6	100.0	105.4	110.1	106.6	108.3	112.2	118.6	122.3
France	35.4	73.3	88.6	91.8	98.1	100.0	106.1	106.6	105.5	106.0	107.4	108.4	109.0
Germany	50.0	86.6	96.1	95.4	98.0	100.0	106.6	106.6	104.9	102.4	103.5	107.4	113.0
Italy	37.4	78.0	90.5	96.3	97.9	100.0	108.6	115.4	114.3	111.8	109.2	113.2	115.3
Netherlands	44.8	84.4	95.8	100.0	99.0	100.0	106.1	106.6	106.7	105.0	105.3	110.8	-
Norway	55.1	87.0	99.5	104.0	101.4	100.0	100.3	101.3	100.1	99.8	98.8	101.3	103.7
Sweden	52.6	92.5	100.3	105.7	106.1	100.0	103.6	104.0	100.6	100.1	105.2	112.4	114.6
United Kingdom	71.0	94.7	104.7	103.5	98.2	100.0	100.5	91.7	86.2	86.4	88.9	92.4	95.0
Total hours													
United States	84.4	97.3	103.1	101.2	95.9	100.0	106.5	101.7	101.1	92.9	93.5	99.5	99.3
Canada	82.6	97.7	103.6	105.0	102.0	100.0	106.4	105.7	104.6	95.4	94.6	98.7	100.1
Japan	82.7	107.9	110.7	106.1	100.6	100.0	99.3	101.2	102.0	101.7	104.2	108.5	110.0
Belgium	127.0	130.1	121.8	119.7	104.4	100.0	93.2	89.9	83.3	82.1	78.5	77.5	-
Denmark	132.4	125.1	115.2	113.2	101.4	100.0	99.0	98.1	93.4	94.5	95.7	100.2	103.3
France	97.2	105.3	107.8	107.8	101.2	100.0	96.2	95.2	91.0	85.9	83.0	80.3	77.8
Germany	123.8	121.7	114.4	109.2	101.6	100.0	98.5	98.1	94.6	91.0	87.0	86.2	85.7
Italy	102.3	107.4	99.6	101.0	99.0	100.0	98.2	98.7	94.5	90.4	86.2	83.9	82.9
Netherlands	138.4	131.2	117.6	113.5	103.3	100.0	94.4	93.6	91.2	88.0	83.5	79.5	-
Norway	101.0	106.4	105.1	106.5	101.7	100.0	93.6	92.6	91.3	88.6	82.9	82.8	83.0
Sweden	124.4	114.6	105.7	107.0	104.3	100.0	93.4	92.3	88.9	85.9	83.9	84.8	84.8
United Kingdom	131.9	122.1	112.7	106.7	99.0	100.0	98.3	90.7	79.9	76.7	73.3	73.2	73.3
Compensation per hour													
United States	36.5	57.3	68.8	76.2	92.1	100.0	118.6	132.4	145.2	157.5	163.2	169.1	176.6
Canada	27.1	46.5	59.2	68.5	89.9	100.0	118.3	130.6	151.5	167.1	179.3	182.1	191.4
Japan	8.9	33.9	55.1	72.3	90.7	100.0	113.4	120.7	129.8	136.6	140.7	144.8	148.3
Belgium	13.8	34.9	53.5	65.2	89.5	100.0	117.6	130.4	144.6	152.0	163.7	176.6	-
Denmark	12.6	36.3	56.1	67.9	90.4	100.0	123.1	135.9	149.6	162.9	174.3	183.9	195.5
France	15.1	36.6	52.3	62.0	88.9	100.0	129.3	147.5	170.3	200.8	226.2	246.5	262.7
Germany	16.8	48.0	67.5	76.9	91.3	100.0	116.1	125.6	134.5	141.0	148.4	155.3	164.7
Italy	8.3	26.1	43.7	54.5	84.2	100.0	134.7	160.2	197.1	237.3	276.4	303.0	334.0
Netherlands	12.5	39.0	60.5	71.9	91.9	100.0	117.0	123.6	129.1	137.5	144.7	152.8	-
Norway	15.8	37.9	54.5	63.6	88.8	100.0	116.0	128.0	142.8	156.0	173.5	188.3	205.2
Sweden	14.7	38.5	54.2	63.8	91.5	100.0	120.1	133.6	148.1	158.9	173.3	190.7	205.8
United Kingdom	14.8	30.8	44.6	56.9	88.4	100.0	137.7	165.8	188.9	206.4	222.4	237.2	257.0
Unit labor costs: National currency basis:													
United States	58.7	70.9	73.7	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.8	145.0
Canada	53.9	60.6	64.8	73.3	93.5	100.0	113.5	128.1	145.7	165.4	166.7	163.2	166.3
Japan	38.4	52.3	66.4	83.6	96.2	100.0	98.8	98.4	102.0	101.2	98.9	95.1	92.7
Belgium	42.0	58.1	68.0	78.3	93.9	100.0	105.2	109.3	113.6	114.4	116.1	121.4	-
Denmark	33.8	55.4	67.4	79.0	92.1	100.0	115.7	121.0	131.1	142.2	148.6	155.5	165.1
France	41.6	52.6	63.6	72.8	93.6	100.0	117.3	131.7	146.3	162.6	175.0	182.5	187.4
Germany	46.6	67.4	80.3	88.0	94.6	100.0	107.3	115.7	121.2	125.2	124.7	124.6	124.9
Italy	22.8	36.0	48.1	57.2	85.1	100.0	121.9	137.0	162.9	192.4	218.3	224.5	240.1
Netherlands	38.5	60.7	74.3	81.6	96.0	100.0	104.1	106.5	110.4	115.2	114.7	109.7	-
Norway	29.0	46.4	57.6	65.2	89.1	100.0	106.2	117.0	130.2	136.6	145.5	154.0	164.2
Sweden	34.8	47.7	57.2	64.6	90.0	100.0	106.3	118.6	130.9	136.3	138.1	143.8	152.2
United Kingdom	27.6	36.7	48.2	59.7	89.2	100.0	134.7	163.8	175.1	183.1	183.5	187.9	196.1
Unit labor costs: U.S. dollar basis:													
United States	58.7	70.9	73.7	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.8	145.0
Canada	59.0	61.7	68.8	79.7	100.7	100.0	103.0	116.4	129.1	142.3	143.7	133.9	129.4
Japan	28.5	39.1	65.6	76.8	86.9	100.0	121.3	116.8	123.8	106.8	111.5	107.2	104.2
Belgium	30.2	42.0	62.8	72.1	87.2	100.0	128.5	134.1	109.9	89.5	81.3	75.3	-
Denmark	29.5	44.4	67.2	77.9	91.5	100.0	132.0	129.0	110.3	102.3	97.5	90.1	93.5
France	41.7	46.8	70.4	74.5	96.3	100.0	135.5	153.4	132.2	121.5	112.9	102.7	102.6
Germany	25.9	42.9	70.4	79.1	87.3	100.0	135.9	147.9	124.9	119.7	113.4	101.6	98.6
Italy	32.5	50.6	73.1	77.6	90.5	100.0	129.5	141.4	126.3	125.4	126.8	112.8	111.1
Netherlands	25.1	41.2	35.6	74.6	89.1	100.0	127.4	134.2	108.9	105.8	98.6	83.9	-
Norway	21.7	34.5	53.4	62.8	86.9	100.0	113.8	126.2	120.6	114.2	106.1	100.4	101.7
Sweden	30.1	41.1	58.7	65.1	92.3	100.0	112.9	125.3	115.4	96.9	80.4	77.7	79.1
United Kingdom	44.4	54.4	67.7	80.1	92.3	100.0	163.9	218.3	203.1	183.5	159.4	143.9	147.3

- Data not available.

48. Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]								
	1976	1977	1978	1979	1980	1981	1982	1983	1984
PRIVATE SECTOR[3]									
Total cases	9.2	9.3	9.4	9.5	8.7	8.3	7.7	7.6	8.0
Lost workday cases	3.5	3.8	4.1	4.3	4.0	3.8	3.5	3.4	3.7
Lost workdays	60.5	61.6	63.5	67.7	65.2	61.7	58.7	58.5	63.4
Agriculture, forestry, and fishing[3]									
Total cases	11.0	11.5	11.6	11.7	11.9	12.3	11.8	11.9	12.0
Lost workday cases	4.7	5.1	5.4	5.7	5.8	5.9	5.9	6.1	6.1
Lost workdays	83.3	81.1	80.7	83.7	82.7	82.8	86.0	90.8	90.7
Mining									
Total cases	11.0	10.9	11.5	11.4	11.2	11.6	10.5	8.4	9.7
Lost workday cases	5.8	6.0	6.4	6.8	6.5	6.2	5.4	4.5	5.3
Lost workdays	114.4	128.8	143.2	150.5	163.6	146.4	137.3	125.1	160.2
Construction									
Total cases	15.3	15.5	16.0	16.2	15.7	15.1	14.6	14.8	15.5
Lost workday cases	5.5	5.9	6.4	6.8	6.5	6.3	6.0	6.3	6.9
Lost workdays	105.0	111.5	109.4	120.4	117.0	113.1	115.7	116.2	128.1
General building contractors:									
Total cases	14.5	15.0	15.9	16.3	15.5	15.1	14.1	14.4	15.4
Lost workday cases	5.2	5.7	6.3	6.8	6.5	6.1	5.9	6.2	6.9
Lost workdays	100.0	100.2	105.3	111.2	113.0	107.1	112.0	113.0	121.3
Heavy construction contractors:									
Total cases	16.3	16.0	16.6	16.6	16.3	14.9	15.1	15.4	14.9
Lost workday cases	5.5	5.7	6.2	6.7	6.3	6.0	5.8	6.2	6.4
Lost workdays	109.2	116.7	110.9	123.1	117.6	106.0	113.1	122.4	131.7
Special trade contractors:									
Total cases	15.3	15.6	15.6	16.0	15.5	15.2	14.7	14.8	15.8
Lost workday cases	5.6	6.1	6.6	6.9	6.7	6.6	6.2	6.4	7.1
Lost workdays	105.8	115.5	111.0	124.3	118.9	119.3	118.6	119.0	130.1
Manufacturing									
Total cases	13.2	13.1	13.2	13.3	12.2	11.5	10.2	10.0	10.6
Lost workday cases	4.8	5.1	5.6	5.9	5.4	5.1	4.4	4.3	4.7
Lost workdays	79.5	82.3	84.9	90.2	86.7	82.0	75.0	73.5	77.9
Durable goods									
Lumber and wood products:									
Total cases	22.1	22.3	22.6	20.7	18.6	17.6	16.9	18.3	19.6
Lost workday cases	9.7	10.4	11.1	10.8	9.5	9.0	8.3	9.2	9.9
Lost workdays	167.3	178.0	178.8	175.9	171.8	158.4	153.3	163.5	172.0
Furniture and fixtures:									
Total cases	16.9	17.2	17.5	17.6	16.0	15.1	13.9	14.1	15.3
Lost workday cases	6.0	6.0	6.9	7.1	6.6	6.2	5.5	5.7	6.4
Lost workdays	94.5	92.0	95.9	99.6	97.6	91.9	85.6	83.0	101.5
Stone, clay, and glass products:									
Total cases	16.1	16.9	16.8	16.8	15.0	14.1	13.0	13.1	13.6
Lost workday cases	6.4	6.9	7.8	8.0	7.1	6.9	6.1	6.0	6.6
Lost workdays	114.1	120.4	126.3	133.7	128.1	122.2	112.2	112.0	120.8
Primary metal industries:									
Total cases	16.6	16.2	17.0	17.3	15.2	14.4	12.4	12.4	13.3
Lost workday cases	6.3	6.8	7.5	8.1	7.1	6.7	5.4	5.4	6.1
Lost workdays	114.8	119.4	123.6	134.7	128.3	121.3	101.6	103.4	115.3
Fabricated metal products:									
Total cases	18.9	19.1	19.3	19.9	18.5	17.5	15.3	15.1	16.1
Lost workday cases	6.8	7.2	8.0	8.7	8.0	7.5	6.4	6.1	6.7
Lost workdays	109.8	109.0	112.4	124.2	118.4	109.9	102.5	96.5	104.9
Machinery, except electrical:									
Total cases	14.2	14.0	14.4	14.7	13.7	12.9	10.7	9.8	10.7
Lost workday cases	4.6	4.7	5.4	5.9	5.5	5.1	4.2	3.6	4.1
Lost workdays	70.6	69.9	75.1	83.6	81.3	74.9	66.0	58.1	65.8
Electric and electronic equipment:									
Total cases	8.5	8.6	8.7	8.6	8.0	7.4	6.5	6.3	6.8
Lost workday cases	2.8	3.0	3.3	3.4	3.3	3.1	2.7	2.6	2.8
Lost workdays	44.9	46.7	50.3	51.9	51.8	48.4	42.2	41.4	45.0
Transportation equipment:									
Total cases	12.4	11.8	11.5	11.6	10.6	9.8	9.2	8.4	9.3
Lost workday cases	4.7	5.0	5.1	5.5	4.9	4.6	4.0	3.6	4.2
Lost workdays	73.8	79.3	78.0	85.9	82.4	78.1	72.2	64.5	68.8
Instruments and related products:									
Total cases	7.2	7.0	6.9	7.2	6.8	6.5	5.6	5.2	5.4
Lost workday cases	2.4	2.4	2.6	2.8	2.7	2.7	2.3	2.1	2.2
Lost workdays	36.7	37.4	37.0	40.0	41.8	39.2	37.0	35.6	37.5
Miscellaneous manufacturing industries:									
Total cases	11.7	11.5	11.8	11.7	10.9	10.7	9.9	9.9	10.5
Lost workday cases	4.0	4.0	4.5	4.7	4.4	4.4	4.1	4.0	4.3
Lost workdays	59.4	58.7	66.4	67.7	67.9	66.3	69.9	66.3	70.2

See footnotes at end of table.

48. Continued— Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]								
	1976	1977	1978	1979	1980	1981	1982	1983	1984
Nondurable goods									
Food and kindred products:									
Total cases	19.3	19.5	19.4	19.9	18.7	17.8	16.7	16.5	15.7
Lost workday cases	8.0	8.5	8.9	9.5	9.0	8.6	8.0	7.9	8.1
Lost workdays	123.8	130.1	132.2	141.8	136.8	130.7	129.3	131.2	131.6
Tobacco manufacturing:									
Total cases	10.0	9.1	8.7	9.3	8.1	8.2	7.2	6.5	7.7
Lost workday cases	4.1	3.8	4.0	4.2	3.8	3.9	3.2	3.0	3.2
Lost workdays	62.5	66.7	56.6	64.8	45.8	56.8	44.6	42.8	51.7
Textile mill products:									
Total cases	10.5	10.2	10.2	9.7	9.1	8.8	7.6	7.4	8.0
Lost workday cases	2.7	2.9	3.4	3.4	3.3	3.2	2.6	2.8	3.0
Lost workdays	55.5	57.4	61.5	61.3	62.8	59.2	53.8	51.4	54.0
Apparel and other textile products:									
Total cases	6.7	6.7	6.5	6.5	6.4	6.3	6.0	6.4	6.7
Lost workday cases	1.9	2.0	2.2	2.2	2.2	2.2	2.1	2.4	2.5
Lost workdays	31.0	31.7	32.4	34.1	34.9	35.0	36.4	40.6	40.9
Paper and allied products:									
Total cases	13.7	13.6	13.5	13.5	12.7	11.6	10.6	10.0	10.4
Lost workday cases	4.7	5.0	5.7	6.0	5.8	5.4	4.9	4.5	4.7
Lost workdays	94.8	101.6	103.3	108.4	112.3	103.6	99.1	90.3	93.8
Printing and publishing:									
Total cases	6.6	6.8	7.0	7.1	6.9	6.7	6.6	6.6	6.5
Lost workday cases	2.6	2.7	2.9	3.1	3.1	3.0	2.8	2.9	2.9
Lost workdays	40.3	41.7	43.8	45.1	46.5	47.4	45.7	44.6	46.0
Chemicals and allied products:									
Total cases	8.2	8.0	7.6	7.7	6.8	6.6	5.7	5.5	5.3
Lost workday cases	3.1	3.1	3.3	3.5	3.1	3.0	2.5	2.5	2.4
Lost workdays	50.6	51.4	50.9	54.9	50.3	48.1	39.4	42.3	40.8
Petroleum and coal products:									
Total cases	7.8	8.1	7.9	7.7	7.2	6.7	5.3	5.5	5.1
Lost workday cases	3.2	3.3	3.4	3.6	3.5	2.9	2.5	2.4	2.4
Lost workdays	62.5	59.2	56.3	62.0	59.1	51.2	46.4	46.8	53.5
Rubber and miscellaneous plastics products:									
Total cases	16.8	16.8	17.1	17.1	15.5	14.6	12.7	13.0	13.6
Lost workday cases	7.1	7.6	8.1	8.2	7.4	7.2	6.0	6.2	6.4
Lost workdays	113.3	118.1	125.5	127.1	118.6	117.4	100.9	101.4	104.3
Leather and leather products:									
Total cases	11.6	11.5	11.7	11.5	11.7	11.5	9.9	10.0	10.5
Lost workday cases	4.1	4.4	4.7	4.9	5.0	5.1	4.5	4.4	4.7
Lost workdays	69.0	68.9	72.5	76.2	82.7	82.6	86.5	87.3	94.4
Transportation and public utilities									
Total cases	9.8	9.7	10.1	10.0	9.4	9.0	8.5	8.2	8.8
Lost workday cases	5.0	5.3	5.7	5.9	5.5	5.3	4.9	4.7	5.2
Lost workdays	94.0	95.9	102.3	107.0	104.5	100.6	96.7	94.9	105.1
Wholesale and retail trade									
Total cases	7.5	7.7	7.9	8.0	7.4	7.3	7.2	7.2	7.4
Lost workday cases	2.8	2.9	3.2	3.4	3.2	3.1	3.1	3.1	3.3
Lost workdays	43.2	44.0	44.9	49.0	46.7	45.3	45.5	47.8	50.5
Wholesale trade:									
Total cases	8.1	8.5	8.9	8.8	8.2	7.7	7.1	7.0	7.2
Lost workday cases	3.3	3.6	3.9	4.1	3.9	3.6	3.4	3.2	3.5
Lost workdays	51.8	52.5	57.5	59.1	58.2	54.7	52.1	50.6	55.5
Retail trade:									
Total cases	7.2	7.4	7.5	7.7	7.1	7.1	7.2	7.3	7.5
Lost workday cases	2.6	2.7	2.8	3.1	2.9	2.9	2.9	3.0	3.2
Lost workdays	39.7	40.5	39.7	44.7	44.5	41.1	42.6	46.7	48.4
Finance, insurance, and real estate									
Total cases	2.0	2.0	2.1	2.1	2.0	1.9	2.0	2.0	1.9
Lost workday cases	.7	.8	.3	.9	.8	.8	.9	.9	.9
Lost workdays	11.6	10.4	12.5	13.3	12.2	11.6	13.2	12.8	13.6
Services									
Total cases	5.3	5.5	5.5	5.5	5.2	5.0	4.9	5.1	5.2
Lost workday cases	2.0	2.2	2.4	2.5	2.3	2.3	2.3	2.4	2.5
Lost workdays	38.4	35.4	36.2	36.1	35.8	35.9	35.8	37.0	41.1

[1] Total cases include fatalities.

[2] The incidence rates represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as: (N/EH) X 200,000, where:

N = number of injuries and illnesses or lost workdays.

EH = total hours worked by all employees during calendar year.

200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year.)

[3] Excludes farms with fewer than 11 employees since 1976.

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Labor Month In Review

A VIEW OF THE 80'S. The Congressional Research Service of the Library of Congress reported to the Congress on employment trends in the 1980's from a national, industrial, and regional perspective. The report, based in large part on BLS data, was prepared by Linda LeGrande and Mark Jickling. Excerpts:

National trends. The first two-thirds of the 1980's can be divided into 2 distinct periods. The earlier years are marked by two recessions. The economy barely had an opportunity to recover from the January-July 1980 downturn before it was hit by the much more severe and protracted July 1981-November 1982 recession.

While overall employment headed downward between 1979 and 1982, service sector jobs rose by 3.8 percent, or 2.4 million. Once the economy began its recovery, job growth in the sector became more robust: 6.9 million jobs were added, producing a 10.5-percent rate of gain.

The performance of the goods-producing sector contrasts sharply with that of the service-producing sector. The goods sector lost 2.6 million or 10 percent of its jobs between 1979 and 1982. Some 85 percent of the cutbacks occurred in manufacturing, with durable goods producers accounting for three-fourths of the lost manufacturing jobs.

Between 1982 and 1985, total employment in the goods-producing sector rebounded. It regained 47 percent (1.2 million) of the jobs lost during the recession period. Most of the sector's components expanded employment. However, the mining industry, which actually increased employment during the two recessions, cut its work force between 1982 and 1985.

Despite the relatively good economic climate and employment gains of the past few years, total employment in the goods-producing sector in 1985 was 1.4 million jobs (5.3 percent) below its 1979 level. Some of the industries having smaller work forces in 1985 than in 1979 may eventually return to their prerecession size. Other industries with fewer jobs at mid-decade may be undergoing a structural transformation from which they might emerge with permanently smaller work forces.

Regional trends. Five of the nine regions actually reported increased total nonfarm employment during the two recessions: West South Central (9.5 percent) Mountain (3.9 percent), South Atlantic (3.1 percent), and Pacific and New England (1 percent each).

The East North Central bore the brunt of the recessions' impact; 8.1 percent of the region's nonfarm jobs disappeared. The East South Central and West North Central regions experienced job losses of 4.9 percent and 4.2 percent, respectively. The economic downturn had much less of an influence in the Middle Atlantic region, where employment fell less than 1 percent.

Regional nonfarm employment rebounded across the board between 1982 and 1985. Most regions that reported employment gains during the recession period grew at a faster rate, however, than the four regions that were adversely affected by the downturn of the business cycle.

While only the West South Central and Middle Atlantic regions recorded manufacturing job losses during both the recovery and recession periods, manufacturing employment in four other regions—New England, East South Central, and East and West North Central—failed to rebound enough between 1982 and 1985 to reach or surpass its prerecession level.

Economic diversification. Given the relative imperviousness of the service-producing *vis-a-vis* the goods-producing sector to the ups and downs of the business cycle, one might argue that States should target their economic development efforts toward business and professional service firms, banks and insurance companies, consumer-oriented enterprises, and the like. Given the relatively better performance of high tech *vis-a-vis* smokestack manufacturing industries during the 1980's recessions, one might argue that States should encourage the expansion of already existing high tech firms within their borders and the (re)location of new high tech firms to their towns.

However, today's high-flying industry may be tomorrow's problem-plagued industry. In addition, high tech manufacturing cannot be every State's solution, because it is expected to continue to contribute only a small share of future new jobs. Moreover, some States may be better able than others to alter their industrial mix. To attract different industries, a State must have or be able to provide the requisite infrastructure for them.

To assist those States that choose to change their industrial structures, the Federal Government might act as an information clearinghouse. In such a capacity, a government agency could collect and disseminate case studies of various areas' experiences with economic diversification. States then might more easily study the issue before proceeding and perhaps be able to avoid problems encountered elsewhere during their diversification efforts. In addition, the Government could provide States with information concerning any financial resources available to them in their development activities.

Economic diversification is desirable if one's goal is to moderate employment fluctuations. It is not a panacea, however. Some States may be better able than others to change their industrial mix. Some States may want to consider using other adjustment measures in combination with diversification to mitigate the effects of the transition process on certain industries and their workers. □

Health insurance trends in cost control and coverage

An analysis of changes in company health plans between 1979 and 1984 shows that employers often sought to contain rising expenditures, in some cases, increasing the cost to workers; improvements in benefits, however, continued

ROBERT N. FRUMKIN

Influenced by rapidly rising costs of health care, companies often raised their employees' share of the total health care bill and also modified plans to encourage use of less costly health services during the 1979–84 period. At the same time, however, some health plans improved benefit features, such as increasing the maximum lifetime payments under major medical plans.

Although cost containment efforts and benefit improvements were common, approaches to achieve these objectives varied. To analyze these efforts, the Bureau of Labor Statistics traced provisions of 209 employee health plans for the 1979–84 period.

These plans were found in 173 establishments and covered at least 1.8 million workers.[1] The plans were mainly those of large companies, with 61 percent covering 1,000 workers or more (6 percent of the plans covered at least 25,000). While clearly not a representative sample of all health insurance plans, they do cover a substantial number of both union and nonunion workers, and offer insights into plan provisions over the 5 years studied. All but 11 of the health plans changed at least one of the features reviewed in this article between 1979 and 1984.

The 209 plans analyzed in this article comprise all plans common to both the 1979 and 1984 Bureau of Labor Statistics Employee Benefits Surveys. This annual survey provides data on the incidence and detailed provisions of benefit plans financed at least partially by medium and large companies. Under health plans, the survey covers provisions for hospital, surgical, medical, major medical, extended care, and other benefits. It also looks at methods of funding benefits (but not actual employer costs) and the incidence and amounts of employee contributions for individual and family coverage.[2]

Measures taken

Efforts to curb costs stemmed from rapid increases in health care outlays. Total national health expenditures rose from $215.1 billion in 1979 to $387.4 billion 5 years later.[3] This increase reflects both the introduction of new and expensive treatments for many illnesses and a sharp rise in prices for health services. Over the 1979–84 period, the medical care component of the Consumer Price Index rose at a 9.6-percent annual rate, compared with 7.4 percent for the index as a whole. Such cost increases helped to drive up employer financing of group health insurance, from $51.3 billion in 1979 to $96.9 billion in 1984.[4]

Cost containment measures took many forms. Quite noticeable were actions that increased the worker's share of health care costs. For example, a number of the plans were redesigned to eliminate basic coverage for certain types of care and transfer payment arrangements entirely under a major medical plan. (See table 1.) Basic plans, applying to an individual category of care—hospital, surgical, or medical—typically provide "first-dollar" coverage; that is, an insured individual is not required to make an initial payment for care.

Robert N. Frumkin is an economist in the Division of Occupational Pay and Employee Benefit Levels, Bureau of Labor Statistics.

Conversely, major medical plans—which cover several categories of expenses—eliminate "first-dollar" coverage and require cost-sharing by the employee through deductibles and coinsurance provisions. A deductible is a specified amount an insured individual must pay toward health care expenses before any benefits are provided by the plan. Slightly more than one-fifth of the plans increased the size of the deductible in existing major medical insurance policies between 1979 and 1984. Expenses in excess of the deductible are shared by the individual and the insurance plan on the basis of a specified coinsurance rate; plans typically pay 80 percent of covered charges, while the insured pays the remaining 20 percent.

Table 1. Summary of changes in 209 health insurance plans, 1979 and 1984

Change	Number of plans changed	Percent of plans changed
Cost containment		
Basic coverage eliminated for:		
Hospital benefits	27	12.9
Surgical benefits	28	13.4
Medical benefits	23	11.0
Diagnostic x ray and laboratory benefits	21	10.0
Major medical plans:		
Increased deductible	46	22.0
Increased employee's coinsurance payments	4	1.9
Increased maximum limits on employee's expenses	9	4.3
Eliminated maximum limit on employee's expenses	1	.5
Decreased lifetime maximum benefit	7	3.3
Converted to self-insured plan	38	18.2
Converted to partly insured and partly self-insured plan	16	7.7
Converted to comprehensive major medical plan	26	12.4
Reduced first dollar coverage	4	1.9
Added extended care facility benefit[1]	34	16.3
Added home health care benefit[1]	62	29.7
Employee-paid premiums increased or added:		
For employee coverage	30	14.4
For family coverage	68	32.5
Coverage improvements		
Basic hospital benefits:		
Increased duration	18	8.6
Increased daily payments	16	7.7
Basic surgical benefits:		
Increased maximum scheduled allowance	30	14.4
Added full coverage for outpatient care	17	8.1
Basic medical benefits:[2]		
Increased duration	8	3.8
Increased payment per visit	25	12.0
Added payment for office visit	7	3.3
Diagnostic x ray and laboratory benefits:		
Raised ceiling on annual payments	74	35.4
Major medical benefits:		
Decreased deductible	12	5.7
Decreased employee's coinsurance payments	9	4.3
Decreased maximum limits on employee's expenses	25	12.0
Introduced maximum limit on employee's expenses	42	20.1
Increased lifetime maximum benefit	118	56.5
Added benefits	8	3.8
Increased first dollar coverage	14	6.7
Employee-paid premiums reduced or eliminated:		
For employee coverage	16	7.7
For family coverage	22	10.5

[1] Also a coverage improvement.

[2] Includes payments for treatment in hospital and in physician's office.

Some employers also modified their approach to funding benefits. They substituted, either completely or partially, self-funding for the purchase of a health insurance policy from a commercial insurance company, such as Aetna, or an association of hospitals or physicians (Blue Cross-Blue Shield). Employers who insure their own benefits have greater control over plan design and, therefore, can control costs more directly. Growth in this type of funding was most pronounced for major medical benefits, for which the number of self-insured plans more than doubled—from 27 in 1979 to 65 in 1984. (See table 2.) Nevertheless, commercial insurance continued to be the most common method of funding both basic and major medical insurance benefits in 1984.

Still another form of cost containment provided alternatives to care in a hospital. Thirty-four of the plans added coverage for expenses in an extended care facility, such as noncustodial care in a nursing home, and 62 introduced home health care benefits.

Spurred by the passage of the Health Maintenance Organization Act of 1973, more employers have offered the choice of an HMO as an alternative to other health insurance benefits.[5] Usually providing comprehensive health care at a fixed fee, Health Maintenance Organizations have been viewed as a possible lower cost alternative to other health care. These organizations encourage preventative medicine and have lower hospitalization rates for their members. There were 11 HMOs among the 209 plans in both 1979 and 1984.

Changes in benefit financing also affected employees. In both years of this study, the majority of the plans examined were noncontributory, that is, employers paid all of the insurance premiums. The following tabulation shows, however, that in the jointly financed plans, the amount of employee contributions nearly doubled from 1979 to 1984.

	Number of plans		*Average employee monthly contribution*	
	1979	*1984*	*1979*	*1984*
Jointly financed coverage:				
Employee	61	67	$ 6.43	$11.57
Family	100	92	17.07	33.22

Although cost containment efforts attracted most attention, benefit improvements were not ignored between 1979 and 1984, particularly in the area of major medical benefits. Slightly more than half the 209 plans studied increased maximum lifetime benefits under major medical provisions, and 67 improved financial protection against catastrophic illnesses by either introducing a ceiling on employees' "out-of-pocket" expenses (42 plans) or lowering an existing ceiling (25 plans). A third of the plans raised maximum annual payments for diagnostic x ray and laboratory benefits. Table 1 shows the frequency of a variety of other health insurance coverage improvements.

Table 2. Funding media for selected types of coverage in 209 health insurance plans, 1979 and 1984

Funding media	Basic hospital[1]		Basic surgical[1]		Basic medical[1]		Major medical[2]	
	1979	1984	1979	1984	1979	1984	1979	1984
Total	209	209	209	209	209	209	209	209
Coverage provided	187	161	165	156	126	115	186	194
Blue Cross-Blue Shield	53	49	45	37	44	36	20	27
Commercial carrier	99	61	88	68	58	43	139	102
Independent health plans	35	51	32	51	24	36	27	65
Labor/management[3]	24	40	21	40	13	25	27	65
Health Maintenance Organization[4]	11	11	11	11	11	11	–	–
Coverage not provided	22	48	44	53	83	94	23	15

[1] Basic benefits apply to individual categories of expenses such as hospital, surgical, or medical expenses. They generally apply without deductible or coinsurance provisions.

[2] Major medical benefits cover many categories of expenses, some of which are not covered under basic benefits, and others for which basic coverage limits have been exhausted. Major medical benefits are characterized by deductible and coinsurance provisions that are applied across categories of care.

[3] Includes plans that are financed by general revenues of a company on a pay-as-you-go basis, plans financed through contributions to a trust fund established to pay benefits, and plans operating their own facilities if at least partially financed by employer contributions. Includes plans that are administered by a commercial carrier through Administrative Services Only contracts.

[4] Includes federally qualified (those meeting standards of the Health Maintenance Organization Act of 1973, as amended) and other HMOs delivering comprehensive health care on a prepayment rather than fee-for-service basis. All HMOs are included here regardless of sponsorship, for example, Blue Cross-Blue Shield or a commercial insurance carrier.

NOTE: Dash indicates no plans in this category.

The following sections of this article explore the interplay between cost containment and benefit improvements as found in individual health insurance areas.

Hospital benefits

The average expense for a day of hospital care increased from $217 in 1979 to $411 in 1984, according to the American Hospital Association.[6] Over this period, more employees were required to share in the cost if hospitalized. For example, 27 of the 209 plans studied adopted this requirement by eliminating basic coverage. This raised the number of plans studied with only major medical coverage for hospitalization from 22 to 48. (See table 3.)

Also, more employees with basic hospital benefits were required to pay a deductible before their confinements were covered. In 1984, 17 of the plans imposed a deductible, compared with 12 plans in 1979. The type of deductible varied from no benefit coverage for the first day in the hospital to a specified dollar amount. The most common deductible was $100 for the first day in the hospital.

The average daily cost for a semiprivate room rose from $134 in 1979 to $209 in 1984.[7] As in 1979, most plans in 1984 based payment for a hospital confinement on the semiprivate room rate, automatically allowing benefit levels to keep pace with inflation. Roughly 10 percent of the plans in both years paid a cash room-and-board allowance, for a daily average of $68 in 1979 and $113 in 1984.

Eighteen of the plans increased the maximum duration of hospital coverage. At least half of the plans, 68 in 1979 and 62 in 1984, provided hospital benefits for 365 days or more; nearly all plans covered at least 70 days.

Extended care benefits

To counter the sharp rise in hospital costs, benefit provisions for medical care outside hospitals are becoming more prominent. Benefits may cover medical treatment at an extended care facility or at home, both less costly than long-term hospitalization. As noted, a day's cost for hospitalization averaged $411 in 1984, compared with $150 for confinement in an extended care facility and $40 for home care.[8]

The potential cost advantages of alternative health care over hospitalization prompted a net increase in the number of plans providing coverage for extended care facility (28 plans) and home care (59). (See table 4.) Two-fifths of the plans covering extended care facilities in 1979 modified their terms by 1984, changing either a benefit provision (such as duration or dollar amount of coverage) or type of coverage (such as converting from major medical to basic benefits), or both. Extended care benefits commonly are available only after hospitalization, however.

Surgical benefits

Cost containment also affected surgical benefits. Twenty-eight of the plans eliminated first-dollar coverage for surgery in 1984. (See table 1.) Also, as an incentive to reduce costs, 17 plans with deductibles or coinsurance, or both, for surgery performed on an inpatient basis offered full payment for surgery performed on an outpatient basis.

In 1984, 153 of the plans paid all or a percent of the "usual, customary, and reasonable" charges for surgical procedures, up 14 plans from 1979.[9] This approach automatically links benefit levels to rising costs. The remaining 56 plans specified cash allowances for covered surgical procedures; of these, 30 had increased the allowance after 1979, raising the average allowance for the most expensive covered procedure from $925 to $1,400.

Medical benefits

One plan in the study added in-hospital medical benefits after 1979, resulting in all having this benefit by 1984. Ninety-four plans, up from 82 in 1979, covered in-hospital medical visits under major medical benefits only; consequently, they did not provide first-dollar coverage. (See table 3.) Payments were based on usual, customary, and reasonable arrangements in 171 plans, 11 more than in 1979. Visits to a physician's office were covered by 206 plans in 1984, up 6 plans from 1979. Coverage for 1984 was through major medical benefits in 171 plans and through combined basic and major medical benefits in 21. All major medical arrangements were on a usual, customary, and reasonable basis.

In 1984, 16 plans included some form of cost sharing other than a general deductible or coinsurance requirement for visits to a doctor's office, up 5 plans from 1979. Devices ranged from co-payments by the insured of from $1 to $10 per visit to no payment by the insurance plan for the first visit or a specified number of visits. Employee co-payments were generally associated with Health Maintenance Organizations, with the most common being $2 per visit.

Diagnostic x ray and laboratory benefits

All of the health insurance plans in the study provided diagnostic x ray and laboratory benefits in both 1979 and 1984. However, the number of plans providing this service through both basic and major medical benefits declined from 144 to 93; 28 additional plans provided this service through basic benefits only in 1984, and 23 provided it through major medical benefits only. (See table 3.)

Plans usually paid for diagnostic care on a usual, customary, and reasonable basis in both years. Of the 60 plans designating cash allowances in 1984, 34 had increased scheduled payments for this service over the 5 years studied; consequently, the average maximum allowance increased from $175 to $310 per year. If diagnostic care were done on an outpatient basis, 63 plans paid the full cost in 1984, compared with 35 plans in 1979.

Major medical benefits

All but 15 of the plans studied provided major medical benefits in 1984; 23 plans did not provide this benefit in 1979. The 11 Health Maintenance Organizations by their nature preclude separate major medical provisions and the remaining four plans provided basic benefits only, but were sufficiently comprehensive to counter the need for a separate major medical plan. Changes that reduced costs or improved benefits were made more often to major medical provisions than to any other health benefit examined.[10]

Major medical plans typically include two cost-sharing features—deductibles and coinsurance requirements. All but two of the major medical plans in 1984 called for a deductible, as did all such plans studied in 1979. Deductibles were typically established on a yearly basis and were commonly $100 per person in 1979 and 1984. By 1984, however, 41 plans required more than $100, compared with 16 plans in 1979. Also, four plans changed to a deductible of 1 percent of earnings. Previously, two of these plans had a deductible of $50 and two, a deductible of $100.

There are two types of major medical insurance: supplemental and comprehensive. Supplemental benefits provide additional coverage to the separate basic plans. Comprehensive plans stand alone and combine the types of benefits found in basic and major medical plans. Because comprehensives eliminate nearly all first-dollar coverage, they offer greater savings opportunities in insurance premiums than basic/supplemental plans. From 1979 to 1984, the number of comprehensive plans in the study nearly doubled, from 31 to 57 plans.

Coinsurance provisions were found in all of the major medical plans studied in both years. The coinsurance rate paid by the plans, most commonly 80 percent, changed very little during this period. In 1984, 20 of 194 major medical plans paid more than 80 percent of the health care expenses, while one plan paid less; this compared with 16 and none, in 1979.

A significant improvement in major medical benefits was adding financial protection against catastrophic illnesses. This provision limits the yearly "out-of-pocket" expenses an insured individual must pay. It was part of 156 plans in 1984, compared with 106 in 1979. In both years, the majority of plans set the limit at $1,000 a year.

Maximum benefits payable under a major medical plan are specified on a per disability or, more commonly, on a lifetime basis. In 1979 and 1984, the most common lifetime maximum benefit was $250,000 among the plans studied. Since 1979, however, 118 plans raised their benefit ceilings, while eight eliminated them entirely. The results are as follows:

Table 3. Distribution of 209 health insurance plans by benefit arrangement for selected categories of care, 1979 and 1984

Category	Benefit arrangement							
	Basic benefit only		Major medical benefit only		Basic and major medical benefits		Care not provided	
	1979	1984	1979	1984	1979	1984	1979	1984
Hospital care	41	34	22	48	146	127	–	–
Extended care facility	46	56	39	58	20	19	104	76
Home health care	23	51	10	37	7	12	169	109
Surgical care	74	70	44	53	91	86	–	–
Medical care-in hospital	32	22	82	94	94	93	1	–
Medical care-office visit	15	14	165	171	20	21	9	3
Diagnostic x ray and laboratory benefit	40	68	25	48	144	93	–	–

[1] Basic benefits apply to individual categories of expenses, such as hospital, surgical, or medical expenses. They generally apply without deductible or coinsurance provisions.

[2] Major medical benefits cover many categories of expenses, some of which are not covered under basic benefits, and others for which basic coverage limits have been exhausted. Major medical benefits are characterized by deductible and coinsurance provisions that are applied across categories of care.

NOTE: A given plan may offer categories of care under different types of payment, for example, hospital care as a benefit (typically no initial payment by the employee), visits to a physician's office as major medical benefit (cost shared by employer and employee), and surgical care as first a basic benefit and then as a major medical benefit. Dash indicates no plans in this category.

Table 4. Extended care benefit changes in 209 health insurance plans, 1979 and 1984

Action taken by 1984	Extended care facility		Home health care[1]	
	Number of plans	Percent of plans	Number of plans	Percent of plans
Total	209	100.0	209	100.0
Added benefit	34	16.3	62	29.7
Eliminated benefit	6	2.9	3	1.4
Changes in existing benefits[2]	44	21.1	14	6.7
Basic benefits provision[2]	30	14.4	9	4.3
Duration	15	7.2	8	3.8
Dollar amount	14	6.7	1	.5
Other[3]	3	1.4	–	–
Changes in type of coverage	21	10.0	8	3.8
From basic only to major medical only	4	1.9	–	–
From basic only to basic and major medical	2	1.0	1	.5
From major medical only to basic only	6	2.9	3	1.4
From major medical only to basic and major medical	1	.5	1	.5
From basic and major medical to basic only	2	1.0	1	.5
From basic and major medical to major medical only	6	2.9	2	1.0
Benefit unchanged	49	23.4	21	10.0
No benefit in either year	76	36.4	109	52.2

[1] Includes care provided by a Visiting Nurse Association and related benefits.

[2] The total is less than the sum of the individual items because more than one change may have occurred for one benefit.

[3] Includes an addition of a basic benefits deductible, elimination of a copayment, and a change from a first-dollar coverage to a limit on the number of days covered.

NOTE: Dash indicates no plans in this category.

	1979	1984
Plans with maximum lifetime benefits	156	156
Below $250,000	86	36
$250,000	58	55
Above $250,000	12	65
Plans with unlimited lifetime benefits	30	38
Average lifetime maximum benefit	$193,000	$450,000

Other health benefits

Other health insurance benefits examined in this study included provisions for mental health care, prescription drugs, private duty nursing, dental care, and vision care. As the following tabulation shows, mental health care, prescription drugs, and private duty nursing were found in 95 percent or more of the plans. Dental coverage was prevalent in 1979 and showed substantial growth by 1984, but vision care continued to be covered in a minority of the plans.

Coverage	1979	1984
Number of plans with—		
Mental health	208	209
Basic benefits only	26	19
Major medical only	24	50
Basic and major medical	158	140
Prescription drug	205	204
Basic benefits only	29	25
Major medical only	170	170
Basic and major medical	6	9
Private duty nursing	199	203
Basic benefits only	15	7
Major medical only	181	192
Basic and major medical	3	4
Dental	116	173
Vision care	53	62

Major medical plans, rather than basic plans, generally provide coverage for private duty nursing and prescription drug care. Both dental and vision care benefits were provided either as part of a comprehensive health insurance package or as a free-standing plan. In nearly all cases, dental benefits entailed a deductible separate from that for other health benefits, and covered at least a portion of usual, customary, and reasonable charges, or provided scheduled cash allowances.

New ways to cut costs

Aside from revising plan provisions, such as increasing major medical deductibles, cost containment efforts have promoted new types of features. None was in a majority of the plans studied in 1984, and because of their relative rarity at the time, these features were not analyzed in 1979. The following tabulation shows the number and percent of plans with a specific cost-containment provision:

	Number	Percent
Second opinion provision before elective surgery	91	44
Higher rate of payment for testing prior to hospital admission	86	41
Hospice care	22	10
Routine physical examination	17	8
Higher rate of payment for generic drugs	7	3
Reduced or no plan coverage for nonemergency weekend hospital admissions	6	3

Cost containment efforts go beyond the provisions considered in this article. Incentives for use of preferred provider organizations, intensified claims review procedures, and introduction of health education and health promotion ("wellness") plans are other approaches that have emerged recently to halt rising health care costs. These items, however, are beyond the current scope of the Bureau's Employee Benefits Survey.[11] □

——FOOTNOTES——

[1] The number of plans exceeds the number of establishments because some establishments maintained more than one plan, either giving employees a choice of plans or providing dictinct plans for different employee groups. The total number of workers covered by the 209 plans is unknown because some of the plans were in multi-establishment companies and covered employees in units other than those surveyed. The employment figure cited in the text reflects plan participation in surveyed establishments only.

[2] Survey results are published in an annual BLS bulletin and special analyses of individual benefit areas, such as health insurance and retirement plans, are featured periodically in the *Monthly Labor Review*.

The survey covers, on a sample basis, private sector establishments in the United States, excluding Alaska and Hawaii, employing at least 50, 100, or 250 workers, depending on the industry. Industrial coverage includes: mining; construction; manufacturing; transportation, communications, electric, gas, and sanitary services; wholesale trade; retail trade; finance, insurance, and real estate; and selected services. The survey analyzes benefit plans paid for wholly or partly by employers; benefits financed entirely by employees are excluded. Findings for 1984 are reported in *Employee Benefits in Medium and Large Firms*, Bulletin 2237 (Bureau of Labor Statistics, 1985). For information on the background and conduct of the survey, see Robert Frumkin and William Wiatrowski, "Bureau of Labor Statistics takes a new look at employee benefits," *Monthly Labor Review*, August 1982, pp. 41–45.

[3] *Health Care Financing Review*, Winter 1984, p. 3; and Fall 1985, p. 3.

[4] Data from the U.S. Department of Commerce, Bureau of Economic Analysis.

[5] Unpublished data from the Bureau of Labor Statistics' 1984 Area Wage Surveys show that 48 percent of office workers and 33 percent of plant workers were in establishments that offered a Health Maintenance Organization plan. The Area Wage Surveys cover a cross-section of industries in metropolitan areas. For more detailed information on these plans, see Allan Blostin and William Marclay, "HMOs and other health plans: coverage and employee premiums," *Monthly Labor Review*, June 1983, pp. 28–33.

[6] *Hospital Statistics 1985* (Chicago, American Hospital Association), text table 8, p. 20.

[7] *Source Book of Health Insurance Data 1980/1981*, Health Insurance Institute, p. 48, and *Source Book of Health Insurance Data 1984/1985*, p. 44.

[8] *Business Insurance*, May 28, 1984, pp. 47–49.

[9] Most commonly found in Blue Shield plans, the usual, customary, and reasonable approach pays all or a percent of the charge of a participating physician for covered services if it is: not more than the physician's usual charge; within the customary range of fees in the given geographic area; and is reasonable, considering medical circumstances.

[10] For a closer look at major medical provisions, see Douglas Hedger and Donald Schmitt, "Major medical coverage during a period of rising costs," *Monthly Labor Review*, July 1983, pp. 11–16.

[11] For more detailed discussions of cost containment, see Richard F. O'Brien, "Health Care Cost Containment: An Employer's Perspective," *Labor Law Journal*, August 1985, pp. 468–73; Karen Ignagni, "Organized Labor's Perspective on Rising Health Costs," *Labor Law Journal*, August 1985, pp. 473–76; William G. Williams, "Health Care Cost-Containment Techniques," in Jerry S. Rosenbloom, ed., *The Handbook of Employee Benefits* (Homewood, Il., Dow Jones-Irwin, 1984), pp. 251–72; and *World of Work Report*, November 1985, pp. 1–2.

A note on communications

The *Monthly Labor Review* welcomes communications that supplement, challenge, or expand on research published in its pages. To be considered for publication, communications should be factual and analytical, not polemical in tone. Communications should be addressed to the Editor-in-Chief, *Monthly Labor Review*, Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C. 20212.

Computer manufacturing enters a new era of growth

Strong gains in output and employment are estimated to 1995; not surprisingly, the most optimistic of three projections does not match the extraordinary pace the industry has set in the last 25 years

Marcus E. Einstein and James C. Franklin

From the early 1960's through the mid-1980's, the outlook for growth in the computer manufacturing industry was, for most of the period, unusually optimistic. Even the 1981–82 recession seemed to have little effect on the industry's growth. In 1985, however, the outlook for the industry clouded considerably. Business demand for computers fell, as well as the demand for home computers. Some companies reported huge losses, and several went bankrupt. Even firms in Silicon Valley, an important center for computer manufacturing, laid off workers. The industry is now apparently at a turning point, entering an era of slower growth.

To provide some insights into the current situation, the Bureau of Labor Statistics undertook a study that focused on the development of alternative projections of industry output and employment. This article presents the results of that study.

For several decades, the Bureau of Labor Statistics has developed projections of the U.S. economy under alternative sets of assumptions. The latest set of three projections, to 1995, were published in the November issue of the *Monthly Labor Review.*[1] These and previous BLS projections were based on alternative macroeconomic assumptions, such as the unemployment rate, productivity growth, and labor force growth. While the projections for the computer manufacturing industry presented in this study reflect the recent economic projections, industry alternatives that assume different circumstances regarding the pace of technological development in the industry are also explored.

The results of this study are based on the assumption that although significant technological advances will be forthcoming during the projection period, none will have the dramatic impact of the introduction of the minicomputer in the mid-1960's or the microcomputer in the mid- to late 1970's. The analysis shows rates of projected growth of both output and employment varying significantly under the alternative scenarios. In all scenarios, the growth rate for the computer manufacturing industry is projected to exceed the average for the economy as a whole and to have one of the highest growth rates among manufacturing industries. However, the highest projected growth rate is still below that experienced over the past decades. This should come as no surprise given the rapid expansion of the industry and its present size.

Historical overview

Over the last 25 years, the computer and peripheral equipment manufacturing industry (SIC 3573-4)[2] has been one of the more dynamic and fastest-growing industries in the U.S. economy. Industry products represented more than 20 percent of all business investment in 1984, and computers are one of the few manufacturing industries in which the United States still shows a sizable world trade surplus, estimated at $6.8 billion in 1985.[3] In addition, computers recently have become a factor in purchases of goods by households. Virtually nonexistent in 1975, personal computers are now estimated to be in 10 percent of households. Employment growth in the computer manufacturing industry has also played an increasingly more important role in the economy. With employment growth averaging more than 6 percent annually from 1960 through 1984, the industry has been adding new jobs at a rate 10 times faster than for all manufacturing.

Marcus E. Einstein and James C. Franklin are economists in the Office of Economic Growth and Employment Projections, Bureau of Labor Statistics.

Technological development. The development of the computer manufacturing industry can be traced, in part, through a continuous stream of technological breakthroughs in computer engineering. These advances, primarily in the area of miniaturization, have transformed the computer from a "30-ton" monster to a 2- or 3-pound machine small enough to sit comfortably on a person's lap.

Prior to 1965, the industry primarily produced large mainframe computing systems. Annual unit sales grew on average by 33 percent between 1960 and 1964. (See table 1.) Because of the size and expense of these systems, most buyers or lessees were large institutions, such as banks, insurance companies, or government agencies.

The still young industry recognized the potential demand for a smaller and less expensive system than the mainframe. This led to the development of the minicomputer. Introduced in 1965, the "minis" were very well received and for the next 10 years annual unit sales increased on average by 50 percent. (See table 1.) However, because minicomputers were much cheaper, the dollar value of sales grew less rapidly, at an average annual rate of about 10 percent.

Increased miniaturization, declining component costs, and other technical developments led to the introduction of the personal computer in 1975. Initially developed by enterprising computer engineers and sold in kits via mail order, the personal computer since has become the dominant product of the industry in terms of unit sales, accounting for more than 96 percent of domestic consumption for all computers. Over the 1975–84 period, annual growth in unit sales of the personal computer averaged 95 percent. On a value basis, however, personal computers represent only 35 percent of industry sales because the unit prices of personal computers are much lower.

Capital expenditures. Throughout the 1960's, business investment in computer equipment grew 10 percent a year, on average, or at roughly the same rate as overall capital investment. Purchases of computer equipment represented, on average, a relatively constant 3 to 4 percent of all capital expenditures. However, beginning about 1970, businesses started to devote more of their investment dollars to computerizing their operations and, as a result, the share of total business investment expenditures attributed to computers grew to 9.6 percent in 1979. (See table 2.)

Emerging from the high inflation period of the 1970's, marked by increased labor costs and increased competition from abroad, American industry began searching for a means to increase productivity by modernizing plants and

Table 1. Domestic consumption of micro, mini, and mainframe computers,[1] 1960–84
[Dollars in millions]

Year	Total		Micro				Mini				Mainframe			
			Units		Dollars		Units		Dollars		Units		Dollars	
	Units	Dollars	Number	Percent of total	Number	Percent of total	Number	Percent of total	Number	Percent of total	Number	Percent of total	Number	Percent of total
1960	1,790	$ 590.0	–		–		–		–		1,790	100.0	$ 590	100.0
1961	2,700	880.0	–		–		–		–		2,700	100.0	880	100.0
1962	3,470	1,090.0	–		–		–		–		3,470	100.0	1,090	100.0
1963	4,200	1,300.0	–		–		–		–		4,200	100.0	1,300	100.0
1964	5,600	1,670.0	–		–		–		–		5,600	100.0	1,670	100.0
1965	5,610	1,798.6	–		–		260	4.6	$ 28.6	1.6	5,350	95.4	1,770	98.4
1966	7,635	2,680.4	–		–		385	5.0	40.4	1.5	7,250	95.0	2,640	98.5
1967	11,920	3,968.0	–		–		720	6.0	68.5	1.7	11,200	94.0	3,900	98.3
1968	10,180	4,900.4	–		–		1,080	10.6	100.4	2.0	9,100	89.4	4,800	98.0
1969	7,770	4,302.2	–		–		1,770	22.8	152.2	3.5	6,000	77.2	4,150	96.5
1970	8,320	3,809.6	–		–		2,620	31.5	209.6	5.5	5,700	68.5	3,600	94.5
1971	10,400	4,118.4	–		–		2,800	26.9	218.4	5.3	7,600	73.1	3,900	94.7
1972	14,310	5,270.7	–		–		3,610	25.2	270.7	5.1	10,700	74.8	5,000	94.9
1973	19,270	5,768.9	–		–		5,270	27.3	368.9	6.4	14,000	72.7	5,400	93.6
1974	17,480	6,777.2	–		–		8,880	50.8	577.2	8.5	8,600	49.2	6,200	91.5
1975	23,470	6,128.3	5,100	21.7	$ 76.5	1.2	11,670	49.7	641.8	10.5	6,700	28.6	5,410	88.3
1976	49,550	6,770.1	25,800	52.1	374.1	5.5	17,000	34.3	816.0	12.1	6,750	13.6	5,580	82.4
1977	91,950	8,563.4	58,500	63.6	760.5	8.9	24,550	26.7	1,202.9	14.0	8,900	9.7	6,600	77.1
1978	152,650	10,283.9	115,600	75.7	1,098.2	10.7	29,550	19.4	1,595.7	15.5	7,500	4.9	7,590	73.8
1979	202,330	10,855.5	160,000	79.1	1,488.0	13.7	35,130	17.4	2,037.5	18.8	7,200	3.5	7,330	67.5
1980	301,850	13,431.2	250,500	83.0	2,104.2	15.7	41,450	13.7	2,487.0	18.5	9,900	3.3	8,840	65.8
1981	439,900	14,842.2	385,100	87.5	2,503.1	16.9	44,100	10.0	2,699.1	18.2	10,700	2.5	9,640	64.9
1982	793,420	17,311.3	735,000	92.6	4,190.0	24.2	47,820	6.0	2,821.3	16.3	10,600	1.4	10,300	59.5
1983	1,315,405	19,110.0	1,260,000	95.8	5,300.0	27.7	45,420	3.4	3,330.0	17.4	9,985	0.8	10,480	54.9
1984	2,182,005	22,295.0	2,100,000	96.2	7,750.0	34.8	72,130	3.3	4,165.0	18.8	10,700	0.5	10,360	46.4

[1] Micro, mini, and mainframe are defined in terms of price: micro–$1,000 to $19,999; mini–$20,000 to $249,999; mainframe–$250,000 and over.

NOTE: Because microcomputers exclude units with list prices less than $1,000, the sales of most personal home computers are not reflected in these figures.

SOURCE: Computer and Business Equipment Manufacturers Association.

curtailing labor costs. The computer manufacturing industry encouraged increased use and extended applications of the computer as one possible solution. Manufacturers began offering microcomputers that were built with mass-produced microprocessors and invited anyone who was interested to write the software. The result for the computer buyer was hardware and software that were both more adaptable and less expensive than the minicomputer. Aided further by changes in the tax treatment for capital expenditures in the Economic Recovery Tax Act of 1981, businesses generally responded by increasing capital spending and by devoting a larger share to computers. Business investment in computers surged over the 1980–84 period and increased from 12 percent of total investment in 1980 to more than 20 percent in 1984. (See table 2.)

Foreign trade. America's early lead in computer technology allowed U.S. manufacturers to dominate world markets during most of the 1970's. U.S. exports of computers grew from $1.3 billion in 1972 to more than $4 billion in 1978 (both stated in current prices). In the late 1970's, imports began to appear in U.S. markets. However, despite foreign competition, the computer industry's trade balance continued to grow, peaking in 1981 at $7 billion.

Since 1981, however, trade surpluses have been declining steadily, in part because of competition from East Asian and Pacific Basin countries. As a result of a number of factors, including intense price competition, many U.S. computer manufacturing companies moved their production operations to the Far East, including Singapore and Hong Kong, which offered government incentives for local investment and lower labor and materials costs. In addition, the Japanese entered the world market using the high-volume, price-cutting techniques which they had successfully used in other electronic product markets. In 1984, however, the U.S. computer industry still had a trade surplus of $5.9 billion, as shown below (millions in current dollars):[4]

Year	*Exports*	*Imports*	*Trade balance*
1977	$ 3,264	$ 253	$3,011
1978	4,129	757	3,372
1979	5,500	969	4,531
1980	7,606	1,159	6,447
1981	8,652	1,647	7,005
1982	9,118	2,296	6,822
1983	10,569	4,362	6,207
1984	13,511	7,575	5,936

Personal consumption. The history of the home segment of the computer industry is short, spanning only the last 10 years. As noted, the first home, or personal, computers were produced about 1975. They came in kit form and were sold mostly to hobbyists. Fueled by technological improvements, plummeting prices, and widespread interest and publicity about computers, home computer sales grew rapidly from around 210,000 units in 1978 to more than 5 million machines in 1984.[5] This growth slackened recently and is a factor in bringing the computer industry to an important juncture—posing the prospect for much slower growth in the future than experienced over most of the last 25 years. Many initial buyers may have been caught up in the "faddish" element of the computer revolution and perhaps initially did not fully understand the limitations of the machines and the difficulties of use. As skepticism grew and price wars accelerated, consumers apparently began to delay purchases, waiting for even lower prices, for more user-friendly software, and simpler and easier to use machines.

Table 2. Purchases of producers' durable equipment, 1960–84

[1977 dollars in billions]

Year	Total business investment	Business investment, in office, computing, and accounting machinery[1]	Computing equipment as percent of total
1960	53.4	1.5	2.8
1961	52.1	1.4	2.7
1962	57.6	1.4	2.4
1963	61.6	1.8	2.9
1964	68.9	2.0	2.9
1965	80.9	2.3	2.8
1966	91.9	3.1	3.4
1967	90.7	3.2	3.5
1968	95.3	3.2	3.4
1969	102.6	4.0	3.9
1970	100.0	4.0	4.0
1971	99.4	4.0	4.0
1972	110.4	4.9	4.4
1973	130.1	5.7	4.4
1974	132.0	7.0	5.3
1975	116.4	6.4	5.5
1976	123.7	8.1	6.5
1977	143.1	10.0	7.0
1978	162.8	13.0	8.0
1979	173.0	16.7	9.6
1980	167.7	20.2	12.0
1981	174.4	25.8	14.8
1982	162.6	29.4	18.1
1983	174.4	34.3	20.2
1984	209.9	43.5	20.7

[1] Data available only at SIC 357 or three-digit level; however, SIC 3573-4 accounts for approximately 95 percent of SIC 357.

SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts, converted to 1977 dollars by the authors, using SIC industry price index.

Employment. The computer manufacturing industry has also experienced dramatic changes in employment. From 1960 through 1984, employment growth averaged more than 6 percent annually, while employment growth for all of manufacturing averaged only 0.6 percent. As a consequence, computer manufacturing accounted for nearly 14 percent of the growth in wage and salary employment in manufacturing over the 1960–84 period, although in 1984 it still represented less than 2.5 percent of all manufacturing jobs. (See table 3.)

Although overall employment in the computer manufacturing industry has been increasing, the percentage of employees in production occupations has been declining. In the mid-1960's, when the industry was producing mainframe and minicomputer systems, production worker employment was as high as 47 percent of the total. However, the ratio steadily declined with a growing emphasis on research and development activities, expanding at a rate of almost 18 percent annually, along with continuing automation of the production line. A slight resurgence in production employment occurred in the first few years of the personal computer. As new companies entered the market at a rapid pace, production workers were actually increasing faster than overall industry employment, reaching 41 percent of industry employment in 1979. Since then, growth in production-related occupations has slowed owing to the concentration on research and development expenses, increased automation of the production line, and the movement offshore of production facilities.

Currently, more than 25 percent of employment in the computer manufacturing industry consists of engineers, technicians, and systems analysts. The relatively high concentration of these occupations can be explained by the high priority of research and development operations. In 1983–84, computer manufacturers spent more than $6 billion on R&D activities, representing more than 7 percent of sales.[6]

In contrast to the high percentage of engineers, technicians, and computer analysts employed in the computer manufacturing industry, only 38 percent of all employees were in production-related occupations in 1984. This is one of the lowest ratios of production workers to total employment for any manufacturing industry, far below the manufacturing average of 68.7 percent. Here are the data for 1967–84:

Year	*Wage and salary employees (thousands)*	*Production occupations (thousands)*	*Ratio of production occupations to total*
1967	145.1	68.2	.47
1970	193.8	75.0	.39
1975	210.4	76.9	.37
1977	239.1	95.8	.40
1979	318.9	131.4	.41
1982	403.3	153.4	.38
1984	460.9	174.3	.38

Projections

What follows is a number of different scenarios for output and employment growth of the computer industry over the 1984–95 period. (See table 4.) Nine scenarios were developed by combining three possible assumptions concerning implementation rates of technological advances along with the three levels of overall economic growth, described in the article entitled "Economic outlook to 1995: new assumptions and projections," which appeared in the November 1985 issue of the *Review*.

Output and employment projections reflecting the combination of the medium technological implementation rate with the varying economic growth levels were developed by the model described in the above article.[7] Additional output projections were made by pairing assumptions reflecting both a lesser and greater rate of technological development and implementation with each of the same three levels of economic growth and then analyzing the resulting expected impact on demand, production, and employment.[8]

Although there are nine alternative scenarios, the emphasis in this article is on the following three: low rate/low economic growth, medium rate/medium economic growth, high rate/high economic growth. These three scenarios will be referred to subsequently as the low, medium, and high scenarios.

A breakdown of the projected annual growth rates during the 1984–95 period for the components of demand is shown in table 5. The projections for the medium case were taken directly from the macro projections in the November article. The projected growth rates for the low and high scenarios were estimated through analysis of the possible interaction between the technological rates and the various rates of economic growth. This analysis by its nature was judgmental and subjective, particularly in that the assumed rates of technological use are broad in nature and are not specific to any given technology.

Before continuing, a caveat is in order. The constant dollar value of the computer manufacturing industry's output is difficult to measure because of the combination of unit price declines and increased unit capabilities, especially over the last several years. This problem arises because the fast pace of technological development, especially for the microcomputer, virtually redefines the product within a period of a few years. Consequently, it is difficult to make a unit price comparison as the product "unit" is not strictly comparable over the period of technological change.

In December, the Bureau of Economic Analysis released a new deflator for this industry. The deflator increases the historical real output of the computer manufacturing industry, compared with the real output as measured by the defla-

Table 3. Total employment for all of manufacturing and computer manufacturing, 1960–84, selected years

[Numbers in thousands]

Year	Total manufacturing	Computer manufacturing	Computer manufacturing as percent of total
1960	17,152	116	0.7
1965	18,400	148	.8
1970	19,064	228	1.2
1975	18,614	238	1.3
1976	19,305	239	1.2
1977	20,014	252	1.3
1978	20,851	297	1.4
1979	21,401	339	1.6
1980	20,889	376	1.8
1981	20,550	407	2.0
1982	19,154	424	2.2
1983	18,825	440	2.3
1984	19,779	479	2.4
	Average annual rate of change (compound rate)		
1960–84	0.6	6.1	–
1960–65	1.4	5.0	–
1965–70	1.3	9.8	–
1970–75	−1.1	0.2	–
1975–80	2.1	9.6	–
1980–84	−1.1	6.2	–

SOURCE: Bureau of Labor Statistics data compiled from Current Employment Survey; prior to 1967, computer employment data are from Department of Commerce, *County Business Patterns*.

Table 4. Output and employment in computer manufacturing under alternate projections of economic growth and technological development, 1984–95

[1977 dollars in millions]

Rate of technological development	Economic projections			Compound annual rate of growth[1]		
	Low	Medium	High	Low	Medium	High
Output						
Low	$78,773	$92,915	$106,857	5.7	7.3	8.6
Medium	92,793	104,315	117,846	7.2	8.4	9.6
High	102,881	122,107	138,300	8.3	10.0	11.2
Employment						
Low	527,000	685,000	715,000	2.5	3.3	3.7
Medium	679,000	713,000	741,000	3.2	3.7	4.1
High	705,000	723,000	760,000	3.6	3.8	4.3

[1] In 1984, output was $43,021 million, and employment totaled 479,000 jobs.

NOTE: See text for discussion of problems of measuring constant dollar output. Employment covers wage and salary jobs.

tor used in this study. The Bureau of Labor Statistics has also undertaken an effort to improve measures of price changes among the range of computer products. Preliminary results of these studies indicate that the historical measure of real output on which the original projections were based is probably understated. Because this study presents alternatives to those projections, however, that output measure is used in the interest of continuity. The use of this historical output series, however, should not be construed as implying a final decision on the relative merits of alternative measures.

Technological factors. One of the most influential technological advances during the next 10 years is expected to be continued increases in computing power. This year, the first "micron" computer chips are expected to become available in the semiconductor marketplace. These chips have 4 times the storage capacity of the 256K RAM chips. Half-micron and quarter-micron computer chips with even greater storage capacity are widely predicted by the mid-1990's. Each successive generation of micron and sub-micron computer chips should spur the development of computers with increased computing power.[9]

This power should enable software designers to develop more complex programs for the personal computer. With continued advances in hardware and software, tasks that now require mini or mainframe computers can be expected to be accomplished in the future with the use of personal computers. Software also can be expected to continue to become easier to use. Additional computing power should facilitate greater use of artificial intelligence techniques in software designs, resulting in a variety of decisionmaking software that develop analytical conclusions based on user-defined parameters.

Both software and hardware are also expected to become increasingly targeted for specialty markets both in business and in the home. Doctors have a need for diagnostic and other medical software. Lawyers require specialized word-processing software. Other markets include computer-aided design and engineering, scientific research and development, and total factory automation. Small businesses also often have specialized tasks to perform that require different capabilities than the spreadsheet, word processing, and inventory and accounting software that is generally available. This is expected to change over the course of the next 10 years as software becomes more specialized for business purposes. In the home, as well, the computer should become more accepted as a useful appliance with an increased variety of specialized programs that focus on hobbies, educational interests, entertainment, and productivity in the household.[10]

The linking of microcomputers to each other and shared data bases also is an innovation that should stimulate investment demand for computers. Businesses want the ability to communicate among their mainframes, mini-, and microcomputers regardless of the manufacturer. Through 1985, computer equipment by different manufacturers was for the most part incompatible in such a network; however, it is expected that this problem will abate through the mid-1990's.

Telecommunications networks that provide electronic banking, brokerage, shopping, and data retrieval services should play a more influential role in the future growth of the computer industry. These networks offer convenient banking, brokerage, and shopping services. They also supply a necessary adjunct to microcomputers in providing access to data bases. Telecommunications networks undoubtedly will influence the personal computer market for homes and businesses as they expand their markets and services.

The optical laser disk as a medium for data storage is another development likely to contribute to the growth of the computer industry. The optical disk can store roughly a thousand times the amount of information that can be stored on a $5^1/_4$-inch floppy disk. This makes the disk an ideal medium for data storage as an accessory to the microcomputer, which has limited ability to store raw data. The dissemination of data bases on optical disks is already a reality in the form of encyclopedias.[11]

The development of more powerful microcomputers, the increased availability of more specialized and more powerful software and the advances in networking, telecommunications, and optical disk technology are all expected to provide the stimulus for additional growth in the computer industry through 1995. The extent that these expected advances contribute to the computer industry's growth is dependent upon the pace of adoption. Without specific references to any given technological development, the implementation rates presented in the projection scenarios are specified in terms of their effect on growth prospects for the industry.

Business investment and government spending. A moderate rate of technological development and implementation combined with a generally favorable economy is assumed to encourage both business investment and government spending in the medium scenario. Business investment in computer equipment is projected to grow annually at a rate of 8.3 percent. Federal Government spending is projected to grow 7.1 percent annually and State and local government spending, 6.5 percent.

In the low scenario, a low rate of technological development and implementation coupled with a generally sluggish economy is assumed to hamper both business investment and government spending. Consequently, business investment is projected to have a growth rate of 5.8 percent annually. The annual growth rate for Federal spending is a projected 4.7 percent and for State and local spending, 3.6 percent.

In the high scenario, with the combination of a rapid rate of technological development and implementation and a strong, investment-oriented economy, business investment is projected to grow at an annual rate of 10.9 percent. Government spending on computers at the Federal level is projected to rise at an annual rate of 9.3 percent and at the State and local level, 8.1 percent.

Personal consumption. The growth rates projected for personal consumption of the computer are high in all three alternatives. However, the overall impact on the industry in all cases is relatively low because personal consumption only represents from 6 to 8 percent of total industry production from a value viewpoint. Personal consumption is projected at about $8 billion, reflecting a 20.9-percent annual growth rate in the moderate alternative.

In the low scenario, a slow rate of development of a wide variety of specialized, user-friendly software is assumed to somewhat reduce consumer demand. As a result, the projected annual growth rate is 15.9 percent.

In the high scenario, the assumption of a strong economy coupled with the development of a wide variety of consumer software should have a stimulative effect on personal consumption. In this alternative, personal consumption is projected to grow at an annual rate of 24.3 percent.

Foreign trade. In the medium scenario, by 1995, the foreign exchange rate of the U.S. dollar is assumed to fall gradually to the level of 1980. The world economy is assumed to roughly parallel the generally favorable economy of the United States. These assumptions combined with a moderate rate of technological implementation are expected to stimulate exports for a projected 10.5-percent growth rate. Imports are projected to have an 11.8-percent annual growth rate, reflecting a strong domestic demand for computer products.

In the low scenario, the assumptions of a continuation of a strong U.S. dollar, a generally sluggish worldwide economy, as well as a slow rate of technological development and implementation are projected to hamper the growth in U.S. exports of computer products. Under these assumptions, U.S. computer firms should continue to find competition with foreign firms difficult and to move offshore to take advantage of lower labor and materials costs to remain competitive. Exports are projected to grow at an annual rate of 7.8 percent and imports at a rate of 9.5 percent.

Table 5. Alternative projections of output and consumption for computer manufacturing, 1984–95
[1977 dollars in millions]

Item	1977	1984	1995			Compound rate of growth			
						1977–84	1984–95		
			Low	Medium	High		Low	Medium	High
Industry output	$12,920	$43,021	$78,773	$104,315	$138,300	18.8	5.6	8.4	11.2
Intermediate use	3,176	9,809	18,429	23,701	31,320	17.5	5.9	8.3	11.1
Final users:									
Personal consumption	86	1,000	5,049	8,071	10,932	42.0	15.9	20.9	24.3
Business investment	6,159	26,529	49,311	63,590	82,437	23.2	5.8	8.3	10.9
Government									
Federal	1,078	5,564	9,255	11,628	14,773	26.4	4.7	7.1	9.3
State and local	121	626	926	1,246	1,477	26.5	3.6	6.5	8.1
Exports	3,215	10,525	23,962	31,472	41,071	18.5	7.8	10.5	13.2
Imports	−493	−8,392	−22,804	−28,969	−34,274	49.9	9.5	11.8	13.6

NOTE: Consumption totals exceed industry output slightly because a small percentage of total commodity output is produced as a secondary product by other industries. See text for discussion of problems of measuring constant dollar output for this industry.

Table 6. Alternative projections of employment for selected groups in computer manufacturing, 1984–95

[Numbers in thousands]

Occupation	1984		1995 low projections		1995 medium projections		1995 high projections	
	Employment	Percent	Employment	Percent	Employment	Percent	Employment	Percent
Total employment—SIC 3573-4	479.0	100.0	627.0	100.0	713.0	100.0	760.0	100.0
Managerial and management-related occupations	75.2	15.7	98.4	15.7	111.9	15.7	121.8	16.0
Engineers	59.4	12.4	94.0	15.0	101.2	14.2	129.2	17.0
Computer systems analysts	7.7	1.6	10.7	1.7	12.8	1.8	15.2	2.0
Technician occupations	57.5	12.0	92.8	14.8	95.5	13.4	121.6	16.0
Marketing and sales occupations	13.4	2.8	21.9	3.5	20.0	2.8	21.3	2.8
Administrative support occupations	87.7	18.3	102.8	16.4	117.6	16.5	125.4	16.5
Precision production occupations	27.8	5.8	34.5	5.5	40.6	5.7	41.6	5.5
Handworking occupations, including assemblers and fabricators	80.0	16.7	81.5	13.0	109.8	15.4	98.8	13.0

In the high scenario, the following conditions are assumed: the foreign exchange rate of the U.S. dollar declines to its 1980 level at a faster pace than in the medium scenario, the economic growth of the major trading partners of the United States roughly parallels the high growth of the U.S. economy, and there is a high rate of technological development and implementation. Under these assumptions, both foreign and domestic demand for computer equipment is expected to be high. The competitiveness of U.S. computer firms should also increase under these assumptions as the cost advantage of foreign labor and materials is reduced. Export growth is projected to increase at an annual rate of 13.2 percent, while imports are projected to have an annual growth rate of 13.6 percent.

Output. The output projections derived in the alternative demand scenarios previously discussed indicate that the computer manufacturing industry should remain vigorous. The projected growth rates for output during the 1984–95 period under the various scenarios range from 5.6 to 11.2 percent. However, as seen in table 4, the range is much narrower when focusing on all but the two most extreme scenarios. These rates, while slow by historical standards for this industry, would still exceed the rates of all but a handful of manufacturing industries even under the high growth scenario.[12] The output growth projected for this industry in all scenarios would approximately double the historical relationship of the computer industry to total manufacturing.

The medium scenario would result in a projected annual growth rate of 8.4 percent, a pace nearly 3 times faster than for all manufacturing industries.[13] The low scenario reflects an industry growing only half as fast as it did between 1960 and 1984. However, at a 5.6-percent annual growth rate this still would be 2.5 times the projected rate of growth for all of manufacturing.[14] The surging demand and increased competitiveness of U.S. computer manufacturers anticipated in the high scenario results in a projected annual growth rate of 11.2 percent.

Employment. The range of projected growth for employment, varying from 2.5 to 4.3 percent annually, is much narrower than the range for projected output growth. These projections assume continued improvements in productivity, accelerating in tandem with faster output growth. The anticipated gains in productivity are due to the assumption of some continued movement to offshore manufacturing sites, improvements in the production process utilizing automation and robotics, and the introduction of simpler but more powerful components.

Employment in the medium scenario is projected to reach 713,000 by 1995. Although this means the industry would grow at half its historical rate of employment growth, it would be expanding about 6 times faster than all manufacturing industries and would be one of the fastest-growing industries in the economy.[15]

The assumption of a moderate but continuous stream of technological advances described in this scenario can be expected to foster an increase in the number of engineers, technicians, and computer systems analysts. (See table 6.) As a group, they are projected to increase 4.8 percent annually and account for 29.4 percent of industry employment, 13 percent greater than their share in 1984. Production workers, however, are not anticipated to fare as well. Assumptions of continued gains in productivity would result in a projected decline in these occupations of 6 percent in terms of proportion of industry employment.

Reduced demand resulting from the conditions described in the low scenario would likely mean intense price-competition and tight profit margins. This in turn would sharply curtail employment, projected at 627,000 in 1995. New jobs would fall to 149,000. While indicating slow growth in the computer industry, these new jobs would represent almost 50 percent of the new manufacturing jobs projected in the low growth alternative.[16]

Production workers would be the most affected in this low scenario. Assuming the continued movement of the production process overseas, handworking occupations, including assemblers and fabricators, would see their share of industry employment decline by 22 percent. Precision production occupations would decrease by 10 percent. Reduced revenues for computer manufacturers assumed in this scenario would limit funds available for research and development, thereby lessening the rate at which new products enter the market. Under these conditions, engineers, technicians, and computer systems analysts would experience slow growth. They would, however, increase their share of industry employment as an offset to the decline of production workers.

Given the overall favorable conditions for domestic manufacturing coupled with accelerated implementation of technological advances assumed in the high scenario, employment in this industry is projected to reach 760,000 jobs in 1995. This would represent a vigorous 4.3-percent growth rate, nearly 17 percent faster than the rate projected in the medium scenario.

Despite the reduced movement to offshore manufacturing sites assumed in this scenario, the gap between the projected rates of growth for output and employment would continue to widen, assuming the achievement of higher productivity through technological advancements in product components and production methods. More funds are assumed to be devoted to R&D activities; therefore, engineers, technicians, and computer systems analysts are projected to more than double their 1984 employment and account for 35 percent of industry employment. Precision production and handworking occupations are projected to increase 30 percent in the high scenario. However, the share of industry employment represented by these occupations would decline nearly 18 percent as a result of assumed acceleration in productivity.

Summary and conclusions

The computer manufacturing industry has received a great deal of attention in the last 25 years. The advent of the microcomputer and the subsequent explosive expansion of output reinforced a perception that the industry's potential for growth was enormous. The slump of 1985, however, brought the realization that there were limits to this rapid growth. Given the assumptions used in this study, the computer manufacturing industry is seen as being strong and viable and likely to continue to grow, but at a less rapid rate than in the past. This is hardly surprising. The industry is maturing. Historically, the computer manufacturing industry has experienced periodic waves of rapid expansion; each wave precipitated by the introduction of a major technological advance, such as the mainframe, the minicomputer, and finally, the microcomputer. Now, after the microcomputer and without a new revolutionary computer on the horizon, the industry seems to be entering a period of stable growth that is characteristic of a maturing industry. Still, even without any new revolutionary breakthroughs anticipated through 1995, it is expected that the computer manufacturing industry will continue to be one of the strongest manufacturing industries. □

FOOTNOTES

[1] See Betty W. Su, "The economic outlook to 1995: new assumptions and projections"; Howard N Fullerton, Jr, "The 1995 labor force: BLS' latest projections"; Valerie A. Personick, "A second look at industry output and employment trends through 1995"; and George T. Silvestri and John M. Lukasiewicz, "Occupational employment projections: the 1984–95 outlook," *Monthly Labor Review*, November 1985, pp. 3–59.

[2] The Office of Economic Growth and Employment Projections uses a 156-order industry sectoring plan for projection purposes. Under this plan, SIC 3573–4 accounts for one sector. This industry sector includes manufacturers whose primary product is electronic computing and peripheral equipment and calculating and accounting machines other than electronic computing equipment. However, because the production of computers and peripheral equipment accounts for the overwhelming majority of this industry, the focus of this article is on computers and peripheral equipment.

[3] See *U.S. Industrial Outlook 1986* (U.S. Department of Commerce, International Trade Administration), p. 28–1.

[4] U.S Department of Commerce, Bureau of the Census, Foreign Trade Division data.

[5] *Statistical Abstract of the United States, 1984* (U.S. Department of Commerce, Bureau of the Census), table 1422. See also *The Wall Street Journal*, June 4, 1985.

[6] *Business Week*, Mar. 22, 1985, p. 176.

[7] Su, "Economic outlook to 1995." The following is a brief description of the three assumed economic growth levels:

High: Projected real GNP annual growth 1984–95 is 3.8 percent. Declining unemployment to 5.0 percent in 1995. High rate of business investment due to low capital costs and high profits. Declining foreign exchange rate of the U.S. dollar.

Medium: Projected real GNP annual growth 1984–95 is 2.9 percent. Declining unemployment to 6.0 percent in 1995. Strong rate of business investment. Declining foreign exchange rate of the U.S. dollar.

Low: Projected real GNP annual growth 1984–95 is 2.2 percent. Unemployment remains around 7.0 percent. Slow rate of business investment. Continuation of a strong U.S. dollar relative to foreign currencies.

In all three scenarios, the real economic growth of the Nation's major trading partners is assumed to more or less parallel that of the United States.

[8] For employment projections, see Personick, "A second look at industry output."

[9] See John W. Wilson, "Super Chips," *Business Week*, June 10, 1985.

[10] For related information, see William M. Bulkeley, "Faster Cheaper Machines Seen Edging into Growing Super Minicomputer Field," *The Wall Street Journal*, June 23, 1955, p. 6; Richard Brandt, "Finding the Missing Link in Automation," *Business Week*, June 17, 1985; Pete Carey, "The Future of the Micro—Looking Ahead at the Next Decade," *Popular Computing*, January 1985, pp. 89, 90, 178–79; and Kevin Anderson, "Personal Computers Search for a Niche," *USA Today*, June 10, 1985, p. E–1.

[11] Mark Lewyn, "Future Looks Bright for Optical Disk Systems," *USA Today*, July 17, 1985, p. B–1.

[12] Based upon projections data in the November 1985 issue of the *Monthly Labor Review*.

[13] Personick, "A second look at industry output," p. 29.

[14] *Ibid.*

[15] *Ibid*, p. 28.

[16] *Ibid.*

NOTE: Sources of additional information on topics discussed in this article include: John W. Wilson, "America's High-Tech Crises," *Business Week*, Mar. 11, 1985, pp. 56–62, 67; "Computer Industry's Rapid Growth is Slowing," *The Wall Street Journal*, May 24, 1985, p. 6; Andrew Pollack, "Computer Makers in a Severe Slump," *The New York Times*, June 10, 1985, pp. D–1, D–5; and John W. Wilson, "Computers: When Will the Slump End?" *Business Week*, Apr. 21, 1986, pp. 58–61.

Work, poverty, and the working poor: a multifaceted problem

New study shows that most able-bodied heads of poor households demonstrate strong labor force attachment, but their employment tends to be intermittent, low-paying, or both

SHELDON DANZIGER AND PETER GOTTSCHALK

In 1984, the poverty rate for all households in the United States was slightly less than the rate for 1967 and at about the same as that in 1971.[1] About one-fourth of all heads of household whom we classified as "expected to work" had low weekly earnings. However, about 60 percent of these households escaped poverty.

This article describes changes from 1967 to 1984 in the economic status of households headed by persons who are expected to work. It compares the situations of households that are "poor" with those headed by "low earners." Excluded from the group expected to work are householders who are over age 65, the disabled, students, or women with a child under age 6.[2] Our results cast doubt on a common perception that most poor households are impoverished because their heads, though capable of doing so, do not work.[3]

A household is classified as poor if its cash income, of all types and from all household members, falls below the official poverty line for a household of its size. We define low earners as household heads with weekly earnings below $204 per week in 1984 dollars. Such persons could not earn the poverty-line annual income for a family of four if they worked 52 weeks a year.[4]

Households headed by low earners are not necessarily poor. Whether or not the household is poor depends on the household's own poverty line and its annual cash income. Similarly, poor households do not necessarily have heads with low weekly earnings.[5]

As the following tabulation shows, there were 93.5 million households in the United States in 1984. Of these, 65.33 million had a head whom we classify as expected to work. Among this group of households, 17.03 million had low weekly earnings, but not all of them were poor:

All households (millions)	93.50
Head expected to work	65.33
Low weekly earners	17.03
Household is poor	6.09
Household is not poor	10.94
Others (earned above $204/week)	48.30
Household is poor	.57
Household is not poor	47.73
Head not expected to work	28.17
Household is poor	7.50
Household is not poor	20.67

By having a smaller family or other sources of household income, 10.94 million households were able to escape poverty. The heads of almost all poor households in which the head was expected to work had low weekly earnings (6.09 out of 6.66 million), while very few households in which the head did not have low weekly earnings were poor (0.57 out of 48.30 million). Thus, about 10 percent (6.66

Sheldon Danziger is a professor of social work and director of the Institute for Research on Poverty, University of Wisconsin–Madison. Peter Gottschalk is a professor of economics, Bowdoin College, and research affiliate, Institute for Research on Poverty.

out of 65.33 million) of all households in which the head was expected to work were poor in 1984.

Recent trends

Table 1 shows changes in the incidence of household poverty and the composition of all households and all poor households, classified by the characteristics of the household head, for selected years from 1967 to 1984. The poverty rate for all households declined from 17.1 percent in 1967 to 13.1 percent in 1979 and then rose to 15.2 percent in 1984, a rate that is quite close to that of 1971.

The proportion of all household heads expected to work declined slightly from 71.3 percent in 1967 to 69.9 percent in 1984. Among poor households, the proportion expected to work increased from 37.1 to 47.0 percent over this period, primarily because of the rapid decline in the incidence of poverty among the elderly. By implication, at most only half of the poverty population could be *directly* affected by increases in the demand for labor, inducements to supply more labor, or requirements to work.

The data in table 1 show that among all poor household heads expected to work in 1984, roughly equal proportions either did not work at all during the year, worked between 1 and 47 weeks, or worked all year. This is in contrast to 1967, when more than half of those expected to work (20.0 out of 37.1 percent) worked all year. An important cause of the decline in year-round work was the doubling of the unemployment rate between 1967 and 1984.

Table 1. Percent distribution of all households and poor households by selected characteristics of household head, selected years, 1967–84

Characteristic	1967	1971	1979	1984
All households	100.0	100.0	100.0	100.0
Head not expected to work	28.7	29.4	30.3	30.1
Elderly	19.3	19.5	19.6	20.0
Women, child under 6	2.0	2.4	2.8	3.1
Student	2.2	2.2	2.4	2.5
Disabled	5.3	5.3	5.5	4.6
Head expected to work	71.3	70.6	69.7	69.9
Weeks worked:				
0	3.9	4.5	4.4	5.9
1 to 47	7.2	9.8	9.8	10.0
48 to 52	60.2	56.4	55.4	54.0
Poor households	100.0	100.0	100.0	100.0
Head not expected to work	62.9	62.5	61.5	53.0
Elderly	40.4	34.7	27.6	20.1
Women, child under 6	7.0	9.8	12.6	12.8
Student	5.5	6.5	7.7	7.7
Disabled	10.0	11.5	13.6	12.3
Head expected to work	37.1	37.5	38.5	47.0
Weeks worked:				
0	8.3	10.1	11.8	15.1
1 to 47	8.8	12.2	14.0	16.8
48 to 52	20.0	15.2	12.9	15.1
Household poverty rate	17.1	15.0	13.1	15.2
Unemployment rate	3.8	5.6	5.8	7.7

NOTE: Columns may not add to subtotals because of rounding. Data for all tables are authors' computations from March 1968, 1972, 1980, and 1985 Current Population Survey data tapes.

Incidence of low weekly earnings

Between 1967 and 1979, the incidence of household heads with low weekly earnings as a proportion of all household heads expected to work averaged 19.4 percent, but increased to 26.1 percent by 1984. In 1984, 21.1 percent of all such men and 44.9 percent of the women had low weekly earnings. Thus, a substantial proportion of household heads could not keep a family of four out of poverty even if they worked 52 weeks at their current weekly earnings.[6] The following tabulation shows the incidence of low weekly earnings among male and female household heads who could be expected to work:

	1967	*1971*	*1979*	*1984*
Low weekly earners:				
All households	19.4	19.1	19.7	26.1
Men	13.9	14.1	14.4	21.1
Women	53.4	47.8	42.4	44.9

There were major differences in the incidence of, and trend in, low weekly earnings among male and female household heads. The incidence among men was much lower than that for women in every year studied. However, the incidence increased for men and decreased for women.

These trends did not change when we redefined the low earnings population as those whose weekly wage was insufficient to keep a family of three out of poverty—that is, the cutoff was lowered from $204 to $159 in 1984 dollars. The incidence of low weekly earnings for all household heads increased from 15.2 to 20.0 percent between 1967 and 1984 under this definition.

Escaping from poverty

Because the earnings of household heads can be supplemented by other sources of income and because the poverty threshold depends on family size, our measure of low earnings does not necessarily mean that the household is poor. Most poor household heads who are expected to work had low weekly earnings (91.4 percent), but most heads with low weekly earnings escaped poverty (64.2 percent).

Table 2 shows the methods by which households headed by those with low earnings escaped poverty. We classify low-earning household heads who escape poverty into one of the eight mutually exclusive categories shown. The classification is hierarchical: any household head who fits more than one category is classified only in the one closest to the top of the table.

Escape from poverty because of small family size indicates that even though the head's weekly earnings times 52 weeks was below the poverty line for a family of four, actual annual earnings did exceed the poverty line for this house-

Table 2. Percent distribution of all low-earning households escaping poverty by source of escape, selected years, 1967–84

Source	1967	1971	1979	1984
Percentage of all low-earning households escaping poverty	60.0	63.3	67.0	64.2
Total sources of escape	100.0	100.0	100.0	100.0
1. Family size less than four persons	52.5	50.2	47.7	43.5
2. Earnings of members other than head	26.0	23.6	23.6	27.1
3. Private income other than earnings[1]	8.3	11.7	11.6	13.4
4. Public cash transfers[2]	8.9	10.1	13.4	11.6
Combinations of sources:				
5. 2 and 3	0.8	1.2	0.8	0.8
6. 2 and 4	1.7	1.4	1.2	1.5
7. 3 and 4	1.7	1.6	1.5	1.8
8. 2, 3, and 4	0.1	0.2	0.2	0.2

NOTE: Totals may not add to 100.0 because of rounding. These sources of escape are computed in a hierarchical, mutually exclusive fashion in the order shown in rows 1–8.

[1] Private income other than earnings includes self-employment income from farm and nonfarm businesses, interest, dividends, rents, royalties, income from estates or trusts, private pensions, alimony, child support, and any other source of money income which was regularly received.

[2] Cash transfers include benefits from Aid to Families with Dependent Children, Supplemental Security Income, General Assistance, unemployment compensation, workers' compensation, government employee pensions, veterans' pension and compensation, and Social Security and railroad retirement.

hold. In other words, this household had fewer than four members.

For each of the next three categories—earnings of other household members, other private income (which includes interest, dividends, rents, private pensions, and so forth), and public cash transfers—we use the following procedure. First, we compute the gap between the household's poverty line and the head's earnings. If the amount of income from the first of these sources exceeds this gap, the household was taken out of poverty by this source. If not, we compare the next source to the poverty gap. If no single source exceeds the gap, but some combination of sources does, the household is classified into the appropriate combination shown in rows 5 through 8. For example, consider a household of four persons, two parents and two children, with a poverty gap that is $2,000 after the head's earnings have been counted. If the wife earned more than $2,000 *and* the household received more than $2,000 in transfers, the household would be categorized as escaping from poverty because of the earnings of members other than the head (row 2). However, if the wife earned $1,999 instead, the household would be counted as escaping because of cash transfers (row 4). If both amounts were $1,999, then escape would be via the combination of other earnings and transfers (row 6).

In every year, at least 60 percent of households whose heads were low earners escaped poverty. The largest category of escape (row 1) indicates that the earnings of the head exceeded the household's poverty threshold, implying a household of fewer than four persons. The next most important source was the earnings of other household members. Other private income sources and cash transfers follow in roughly equal importance. However, the role played by cash transfers is small, owing in part to the hierarchical nature of our classification, but also to the unavailability of cash transfer programs for many of those expected to work and the relatively small average level of benefits for recipients.[7]

Characteristics of the poor, expected to work

Table 3 shows selected demographic and economic characteristics of poor households in which the head is expected to work. Although only about 10 percent of all households in which the head was expected to work were poor in 1984, they represented almost half of all poor households.

The top panel of table 3 further classifies poor households headed by persons expected to work by sex, race, Hispanic origin, and presence of children. In 1984, roughly half of these households (51.4 percent) consisted of single individuals or childless couples. Of the remaining 48.6 percent with children, 27.6 percent were white, 13.2 were nonwhite, and 7.8 percent were Hispanic. Thus, while a majority of poor households with children were white, nonwhites and Hispanics were overrepresented.

Between 1967 and 1984, households headed by women with children over age 6 increased from 13.4 to 17.7 percent of poor household heads who are expected to work. This trend toward the feminization of poverty was more pronounced among all poor households, as the percentage of such households headed by women with children under age 6 increased from 7.0 to 12.8 percent over the study period. (See table 1.)

The bottom panel of table 3 shows, for poor households in which there were children and a head expected to work, the proportion who received cash transfers, the weeks worked per year by the heads, the average amounts of household transfers, and the earnings of heads who worked, in constant 1984 dollars. Between 1967 and 1984, the share of those who received transfers increased from 17.1 to 38.2 percent for male-headed households, and from 48.9 to 61.5 percent for households headed by women. Most of the increase for men was attributed to the increased Social Security, disability, and unemployment insurance benefits; most, for women, to increased welfare receipts. The average transfer amount (in 1984 dollars) peaked at $3,336 for men and $5,425 for women in 1971. Between 1971 and 1984, the average benefit declined substantially for single mothers.

The fact that fewer than 40 percent of poor male household heads and only about 60 percent of all poor female household heads received transfers in 1984 indicates a substantial and growing gap in the safety net for many poor children.

There was a sharp decrease between 1967 and 1984 in the proportion of men who headed poor households and worked all year (from 71.8 to 45.6 percent) and a sharp increase in the proportion of those who did not work at all (from 7.8 to 17.0 percent). This undoubtedly reflects increased unemployment rates, but may also reflect increased participation in transfer programs.[8] For women, the percentage who did not work at all diminished somewhat over the period, and the proportion working full year declined considerably (from 32.6 to 21.4 percent). Nonetheless, nearly half of the men and about 20 percent of the women (with children over age 6) who headed poor households worked all year in 1984.

For male household heads who worked, earnings in constant dollars declined substantially over the analysis period, reflecting both the decline in weeks worked and the increased incidence of low weekly earnings. Nonetheless, in every year studied, earnings were much more important to these households than were transfers. For female household heads who worked, earnings in constant dollars increased somewhat over the period. However, because more female- than male-headed households received transfers and fewer had a working head, transfers were their most important income source.

Table 3. Selected characteristics of poor households headed by those expected to work, selected years, 1967–84

Characteristic	1967	1971	1979	1984
Demographic composition:				
Total	100.0	100.0	100.0	100.0
White, non-Hispanic:				
Men with children	29.5	22.9	18.5	19.5
Women with children over age 6	7.8	7.4	9.0	8.1
Nonwhite, non-Hispanic:				
Men with children	11.5	8.5	5.7	6.2
Women with children over age 6	5.6	6.4	7.7	7.0
Hispanic:				
Men with children	([1])	4.8	4.3	5.2
Women with children over age 6	([1])	1.3	2.4	2.6
Households without children	45.6	49.0	52.3	51.4
Transfer recipiency and earnings:				
Male head with children:				
Percent receiving cash transfers	17.1	20.4	32.3	38.2
Average household transfers[2]	$2,871	$3,336	$3,066	$3,260
Percent working 0 weeks	7.8	10.6	10.7	17.0
Percent working 48 weeks or more	71.8	69.3	52.7	45.6
Average earnings of head[3]	$6,650	$5,820	$4,860	$4,484
Female head with children over age 6:				
Percent receiving cash transfers	48.9	62.3	61.9	61.5
Average household transfers[2]	$4,529	$5,425	$4,637	$3,925
Percent working 0 weeks	55.7	63.6	50.6	50.3
Percent working 48 weeks or more	32.6	25.5	18.3	21.4
Average earnings of head[3]	$3,531	$3,699	$3,763	$3,818

[1] Data relating to 1967 are not available for Hispanics. Both white and nonwhite categories for that year include Hispanics.

[2] In constant 1984 dollars for recipients. Cash transfers include benefits from Aid to Families with Dependent Children, Supplemental Security Income, General Assistance, unemployment compensation, workers' compensation, government employee pensions, veterans' pension and compensation, and Social Security and railroad retirement.

[3] In constant 1984 dollars for heads with earnings.

Table 4. Federal direct tax bill for a family of four with poverty-line earnings, selected years, 1965–84[1]

Year	Poverty-line earnings	Personal income tax[2]	Social Security tax (employee's share)	Total Federal tax	Effective tax rate[3] (in percent)
1965	$ 3,223	$ 31.22	$116.83	$ 148.05	4.4
1969	3,743	104.02	179.66	283.68	7.6
1971	4,137	54.18	215.12	269.30	6.5
1973	4,540	33.60	265.59	299.19	6.6
1974[4]	5,038	3.32	294.72	298.04	5.9
1975	5,500	−250.00	321.75	71.75	1.3
1977	6,191	−180.90	362.17	181.27	2.9
1978	6,662	−133.80	403.05	269.25	4.0
1980	8,414	−54.00	515.78	461.78	5.5
1982	9,860	285.00	660.62	945.62	9.6
1984	10,609	366.00	710.80	1,076.80	10.1

[1] The family of four is hypothetical. We assume it consists of a married couple with two children not living on a farm; has only one earner per family; and that all its income is from wages and salaries.

[2] The data from 1975 to 1984 include the earned income tax credit. A negative entry represents a refund to the family.

[3] Defined as total Federal tax as a percentage of family income.

[4] The Tax Reduction Act of 1975 rebated $100 of 1974 personal income taxes to a family at this income level.

Federal taxes of the working poor

While some able-bodied heads of poor households receive transfers, the majority of them work and pay taxes. Table 4 shows the amount of taxes that a hypothetical family of four at the poverty line (a low weekly earner by our definition) would have paid in Federal income tax and Social Security tax if he or she had worked all year and had had no other source of income.

In 1984, this family would have paid $366 in personal income taxes and $711 in Social Security taxes, or 10.1 percent of household income. Not only is this tax burden high in an absolute sense, but it is also high in comparison with the taxes imposed on similar poor households in earlier years. Although Social Security taxes steadily increased between 1965 and 1984, they were offset by reductions in Federal income taxes during the 1970's. The result was a decline in effective tax rates from 4.4 percent in 1965 to a low of 1.3 percent in 1975. This stands in sharp contrast to the steady increase in the effective tax rate on working poor households after 1975. Thus, if taxes were subtracted from the earnings data, the increased incidence of low weekly earnings over the 1967–84 period would be even greater than that shown in the text tabulation (p. 18). Moreover, a family with earnings only and a family with earnings and welfare benefits at a given income below the poverty level will be counted as equally poor in the census data, but the family with earnings only will have a lower spendable income owing to taxation.

OUR RESULTS SHOW THAT:

- Poverty for all households in 1984 was somewhat below the rate for 1967 and at about the same level as it was in 1971. Large changes have occurred, however, in the labor market characteristics of the poor during the period.

- The majority of the heads of poor households are not expected to work because they are either over 65 years of age, disabled, students, or women with children under 6 years of age.
- About a quarter of all household heads who are expected to work have low weekly earnings. About 60 percent of their households nevertheless escape poverty.
- Among the remaining poor households with an able-bodied head, most have substantial labor market attachment. About half of all poor able-bodied mothers whose youngest child is over age 6 work at some point during the year, as compared with about 80 percent of men who head poor households with children.
- Despite this work effort, poor households remain in poverty because of low annual earnings, which reflect both low weekly earnings and less than full-year work. And most of these households would remain poor even if their heads worked a full year at their current weekly earnings rate. □

FOOTNOTES

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[1] A household consists of a family or an unrelated individual. This differs from the Census Bureau's definition of a household which "consists of all persons who occupy a housing unit." *Characteristics of Households and Persons Receiving Selected Noncash Benefits: 1984*, Series P-60, No. 150, p. 109. For example, if an unrelated individual resides in the same housing unit as a family of four, we would have two households and the Census would have one. Our definition is consistent with the assumption that the family and the unrelated person do not pool their incomes; the Census definition is consistent with income-pooling.

[2] While child care responsibilities may complicate labor market opportunities for single-parent households with a child over 6, we nevertheless classify such persons as expected to work because this is consistent with existing welfare policies.

[3] Throughout this paper, we use the official measure of poverty as defined by the Census Bureau. This measure is based on cash income and does not account for the receipt of in-kind benefits, such as medicare, medicaid, and food stamps. Inclusion of benefits would lower the extent of poverty in any year, but would not alter the trends in work effort and the incidence of low earnings discussed here.

Data for valuing in-kind benefits are available only for the years since 1979. All the data presented are based on computations by the authors from the computer tapes of the March 1968, 1972, 1980, and 1985 Current Population Surveys, conducted by the Bureau of the Census.

[4] In 1984, the poverty level for a family of four was $10,609. We define any household head with weekly earnings below $204 as a low earner, regardless of his or her own household size. The poverty line for every family size is fixed in real terms and varies over time only because of changes in the Consumer Price Index. The same is true for our low-earnings threshold.

[5] For example, a head of a household of four persons who earns $250 per week would not be counted as a low earner even if she or he worked only 10 weeks in the last year. If this were the household's only income for that year, the household would be poor. However, the householder would not be classified as a low earner because her or his household would escape poverty through full-year work. Also, consider the head of a two-person household who earns $150 per week for 50 weeks, or $7,500 per year. We classify this head as a low earner, but the household is not poor because the poverty line for a two-person household is $6,762.

[6] Note that if a head did not work at all during the year, we consider him or her as a low earner, along with those whose weekly earnings fell below our threshold.

[7] When we recompute the low earnings cutoff on the basis of a poverty line for a family of three, the importance of family size obviously decreases. Nonetheless, a family size of less than three persons is still the largest single source of escape for households whose heads have low weekly earnings.

[8] We have shown elsewhere that the increased transfers can account for, at most, small declines in work effort over this period. See Sheldon Danziger and Peter Gottschalk, "The Poverty of Losing Ground," *Challenge*, May-June 1985, pp. 32–38.

The declining middle class: a further analysis

The proportion of employment in higher paying occupations increased for all groups during 1973-82; but the earnings distribution of these occupations shifted to include more lower paying positions

PATRICK J. MCMAHON AND JOHN H. TSCHETTER

Some observers argue that jobs in the U.S. economy are shifting from middle paying to low and high paying. Some attribute the shift, or bipolarization, to declining employment in smokestack industries and growth of high tech industries, low paying occupations, and service-producing industries.[1] Others attribute the shift to the movement of the baby-boom generation into the labor market.[2] Robert Lawrence of The Brookings Institution found bipolarization occurring between 1969 and 1983, and cited the changing age distribution of the labor force as the most compelling explanation.

Other observers argue that, while the events used to explain the bipolarization might be occurring, occupational shifts are not responsible. Neal Rosenthal of the Bureau of Labor Statistics looked at median weekly earnings by occupation and found a slight shift away from the middle paying jobs between 1973 and 1982.[3] More importantly, however, he found a decline in the proportion of lower paying jobs, which does not support the notion of bipolarization.

In this article, we replicate Lawrence's and Rosenthal's studies to determine why their respective results differ. We extended Rosenthal's analysis of occupational employment to the 1973–85 period and to several broad population groups and found, as he did, that the changes in occupational structure—whether caused by changing technologies, changing industrial employment patterns, or other factors—almost always caused a *declining* proportion of employment in lower paying occupations. We extended Lawrence's analysis of earnings distributions to the 1973–85 period and found, as he did, an *increasing* proportion of lower paying jobs. Why do the results of the two analyses differ? Further analysis showed that within occupational earnings groups, the earnings distributions had shifted downward, that is, each group included more lower paying positions.

Several caveats to these discussions should be noted. Discussions of the declining proportion of middle-income earners can focus on changes in the earnings distribution of individuals or changes in the earnings distribution of families. Changes in the earnings distribution of individuals may be caused by changes in the occupational structure of the economy that reflect changes in industrial structure and technology. In addition, changes in the earnings distribution within each occupation and changes in relative earnings among occupations can affect the earnings distribution of individuals. Changes in the earnings distribution of families are affected not only by these same factors but also by changes in family structure. For example, increasing

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Patrick J. McMahon is an economist with the Australian Bureau of Labour Market Research and John H. Tschetter is an economist with the Office of Economic Growth and Employment Projections, Bureau of Labor Statistics, U.S. Department of Labor.

numbers of dual-earner families can lead to an increase in the proportion of families with high earnings and increasing numbers of single-person households can lead to an increase in the proportion of families with low earnings.

Issues of the debate

Of the many issues on structural and technological change, the one that currently attracts considerable attention and concern is the changing employment patterns—the employment decline in large heavy manufacturing industries and in blue-collar occupations, and the employment increase in high technology manufacturing and service-producing industries and in white-collar and service occupations. For example, 43 percent of the full-time wage and salary workers were employed in blue-collar and farm occupations in 1973, compared with only 35 percent in 1982.

Apprehension about these changes is widespread. In many countries, rising unemployment is considered the most striking social—perhaps even political—aspect of this structural change. Joyanna Moy has shown that the U.S. economy has proved to be more dynamic than most others, and so the alarm is less about a lack of jobs than about the growing proportion of "wrong types" of jobs.[4] The focus of the debate on structural change in the United States has been on the apparent loss of middle earnings jobs, which some argue have been replaced by both low and high earnings jobs.

The debate has become more complicated because additional explanations of the apparent bipolarization have been offered and bipolarization is thought to be affecting different population groups unequally. According to Lawrence, men are believed to have borne the brunt of bipolarization; women have not even experienced bipolarization.[5] Further, Lawrence says the entry of the baby-boom generation into the labor market and the resulting changes in the age distribution of the work force provide a more powerful explanation of bipolarization.

One major problem in this debate is the type of evidence offered. Some put forth anecdotal evidence. Others offer "hard" evidence, but for only a few industries or occupations—for example, the rapid growth of a few very low paying occupations and a few very high paying occupations in the service sector combined with the decline of a few middle paying occupations in the goods-producing sector. However, the evidence usually becomes less compelling when a broader focus is taken.[6] A few offer systematic or comprehensive data; these observers, however, cannot agree on who comprises the middle class over time. Some use occupations to define the middle class; others use earnings. In this analysis, we use one data base for both the occupational and earnings approaches, and then reconcile the conflicting findings.

Rosenthal's occupational approach

Like Rosenthal, we analyzed the declining middle-class thesis using data from the Current Population Survey on usual weekly earnings and on employment of full-time wage and salary workers by detailed occupation. The analysis identifies the effect of changes in occupational structure on the distribution of full-time workers among three earnings groups: low, middle, and high. We revised Rosenthal's original analysis to ensure a consistent data base for our analysis.[7] Because of substantial changes in occupational definitions introduced in 1983, shifts between 1982 (and earlier years) and 1985 cannot be measured.

To test the effect of changes in occupational structure on the distribution of workers into low, middle, and high earnings groups between the beginning and ending years, we (1) arrayed the detailed occupations in the ending year by usual weekly earnings and arranged them into thirds (bottom, middle, or top), with each third containing the same number of occupations; (2) summed the number of workers in the occupations in each third and calculated a percent distribution of the employment; and (3) arrayed employment in the beginning year for each occupation in the same order as in the ending year, and calculated the beginning-year percent distribution for each third. Consequently, an occupation was in the same third in the beginning year as it was in the ending year. Rosenthal analyzed 416 detailed occupations for 1973 and 1982; we analyzed 504 occupations for 1983 and 1985. The 1982, 1983, and 1985 data are annual averages; the 1973 data relate only to May.

All full-time workers. If bipolarization were occurring, the proportion of total employment in the middle third would decline between 1973 and 1982, and the bottom and top thirds would show an increase. The following tabulation shows the distribution of employment of full-time wage and salary workers in 1973 and 1982 by usual median weekly earnings in 1982, based on the occupational approach:

	Usual weekly earnings	*Percent distribution of employment*	
		1973	*1982*
Top third	$382 to $773	25.2	29.0
Middle third	264 to 382	34.2	32.5
Bottom third	71 to 264	40.6	38.5

The share of employment in the top third increased appreciably, the bottom share decreased, and the middle decreased, but less than the bottom third. Based on the declining proportion of employment in the bottom third, we agree with Rosenthal's conclusion that changes in occupational structure alone from 1973 to 1982, whether caused by technological change, the shift from goods- to service-producing industries, or other factors, do not support the notion of bipolarization.

The following tabulation shows our findings on the distribution of employment in 1983 and in 1985 by usual median weekly earnings in 1985, based on the occupational approach:

	Usual weekly earnings	*Percent distribution of employment*	
		1983	*1985*
Top third	$439 to $931	29.5	29.7
Middle third	301 to 439	33.6	34.1
Bottom third	100 to 301	37.0	36.3

The top and middle thirds increased, and the bottom third decreased. The changes in occupational structure since 1983 also are *contrary* to the bipolarization thesis.

Population groups. Have blacks, whites, men, women, youth, and adults all benefited from these occupational trends which have caused a declining proportion of lower paying occupations? To answer this question, we need to identify the changes in occupational structure of full-time workers in the three earnings groups separately for each of the six population groups. To do this, we (1) summed separately by population group the number of workers in each occupation for 1973 and 1982 according to Rosenthal's 1982 rankings for total employment by occupation, and (2) calculated the percent distribution of employment by usual weekly earnings class for each population group. The occupational structure varies considerably by population group and the respective structures are changing. More than half of the youth, women, and blacks who worked full time were in low paying occupations in 1982. (See table 1.) Nearly 40 percent of the men who worked full time were in high paying occupations, compared with only 14 percent of their female counterparts.

Table 1. Employment distribution for selected groups by earnings, based on the occupational approach, 1973 and 1982
[In percent]

	1973	1982
Youth, 16–24 years:		
Top third	11.4	14.5
Middle third	32.3	29.2
Bottom third	56.3	56.3
Adults, 25 years and older:		
Top third	28.6	32.0
Middle third	34.6	33.2
Bottom third	36.8	34.7
Men:		
Top third	34.9	39.0
Middle third	39.3	36.4
Bottom third	25.8	24.6
Women:		
Top third	7.5	13.9
Middle third	24.9	26.7
Bottom third	67.6	59.4
Whites:		
Top third	26.8	30.6
Middle third	34.6	33.0
Bottom third	38.6	36.4
Blacks:		
Top third	10.6	15.3
Middle third	31.2	29.9
Bottom third	58.2	54.8

For each group, the share of employment in the top third increased several percentage points between 1973 and 1982. However, only for women did the share of employment increase in the middle third. Men accounted for the largest decline in the share of middle paying occupations. Only younger workers did not experience a decline in the share of employment in the bottom third. Despite the varying patterns among the groups, the shifts in occupational structure of full-time workers do not support the notion of bipolarization, where employment in both the lower paying and higher paying occupations grows as a percent of total employment, while employment in middle paying occupations declines.

Lawrence's earnings approach

In Lawrence's analysis of the declining middle-class thesis, he distributed full-time workers into earnings classes that are a fixed or constant percentage of the median weekly earnings for all full-time workers. With this approach, Lawrence did find evidence of bipolarization between 1969 and 1983.[8] He said the most compelling explanation for the findings lies in demographic factors, not declining employment in smokestack industries or increasing employment in service industries. Further, he found the shifting age distribution to be the most important demographic factor.

The major difference between the occupational and earnings approaches is how the bottom, middle, and top earnings classes are tracked over time. In the occupational approach, one assumes that the "class" of occupations is stable over time. Thus, we only have to determine to which class an occupation belonged for a given year. In the earnings approach, one assumes that earnings levels which divide classes of workers are a fixed or constant percentage of the median weekly earnings for all full-time wage and salary workers. Thus, we only have to calculate the earnings groups for a given year.

We replicated elements of Lawrence's methodology for the 1973–85 period.[9] (Because of the changes in occupational definitions in 1983, it is not possible to calculate the 1969–83 shifts with the occupational approach.) Like Lawrence, we used the CPS data on usual weekly earnings of full-time wage and salary workers. To measure the changes in employment distribution by earnings groups between 1973, 1982, and 1985, we (1) arrayed the full-time workers in 1982 by usual weekly earnings and arranged them into thirds (bottom, middle, and top), with each third containing about the same number of workers; (2) assumed that the earnings level (or brackets) which divide the earnings groups are the same percentage of the median weekly earnings for full-time workers in both 1973 and 1985 as in 1982; and (3) arrayed the workers in the respective earnings classes in 1973 and in 1985 and calculated the distribution for each class. (The median usual weekly earnings of full-time workers used here are $152 for 1973, $300 for 1982, and $349 for 1985.)

If bipolarization were occurring, the proportion of total employment in the middle third would show a decline over time and the bottom and top thirds would show increases. The following tabulation shows the distribution of employment in 1973, 1982, and 1985 by usual weekly earnings in 1982, based on the earnings approach:

	Usual weekly earnings	*Percent distribution of employment*		
		1973	*1982*	*1985*
Top third	Over $385	33.3	33.5	32.6
Middle third	$239 to $385	34.8	33.5	31.7
Bottom third	Under $239	31.9	33.1	35.7

The shifts over the 1973 to 1982 period support the notion of bipolarization—declining employment share for the middle third, increasing shares for the bottom and top thirds. During the 1983–85 period, only the share for the bottom third increased; the shares for both the middle and top thirds decreased. While the shifts for the entire 1973–85 period do not support the bipolarization thesis because the top third decreased, they are of considerable concern because they show an increasing proportion of low paying jobs and a declining proportion of middle paying jobs.

Reconciling the findings

The most striking difference between the occupational and earnings approaches is the declining employment share in the bottom third with the occupational approach (1.9 percentage points), but an increasing share with the earnings approach (1.2 percentage points). To reconcile these conflicting findings, the two methods were combined. We (1) calculated for each detailed occupation the employment distribution by usual weekly earnings class in both 1973 and 1982, where the earnings class is defined by the earnings approach; (2) aggregated the individual occupations according to their rankings in the occupational approach; and (3) calculated the percentage distribution with the low, middle, and high paying occupations by earnings class.

As shown in the following tabulation, there has been a change in the earnings distribution of occupations, a downward shift:

Occupational approach	*Earnings approach*		
1973	*Top*	*Middle*	*Bottom*
All full-time workers	33.3	34.8	31.9
Top third	68.1	25.4	6.5
Middle third	35.9	43.3	20.7
Bottom third	9.6	33.4	57.0
1982			
All full-time workers	33.5	33.5	33.1
Top third	63.8	27.2	9.0
Middle third	34.5	42.1	23.4
Bottom third	9.7	30.9	59.4

Within those occupations ranked in the top third, the proportion of wage and salary workers who would fall in the top earnings category declined over the 1973–82 period, while the proportion of workers in the middle and bottom earnings categories increased. And different patterns hold for each group of occupations. Within those occupations ranked in the middle third, the proportion of wage and salary workers in the top and middle earnings category declined over the 1973–82 period, while the proportion in the bottom earnings categories increased. Within those occupations ranked in the bottom third, the proportion of wage and salary workers who would fall in the middle earnings category declined, while the proportion in the top and bottom earnings categories increased.

There are many possible explanations for the changes in earnings distribution within the occupational groupings. Unfortunately, sufficient data are not available to evaluate the impact of individual factors, and it is likely that there would be interactions among the factors. The following discussion highlights possible explanations for the changes.

The downward shift might be an experience or tenure effect. Three elements are required to make this point. First, earnings within an occupation are positively related both to occupational tenure (length of time in the occupation) and to job tenure (length of time with the current employer).[10] Second, women, on average, have less experience or tenure then men within individual occupations; younger workers have less experience than older workers. Third, a greater percentage of the full-time workers in 1982, compared with 1973, were under age 35, and a greater percentage were women. Thus, the younger, more female 1982 work force, compared with the 1973 work force, implies less experience or tenure within individual occupations and, thus, smaller earnings. For example, there was a dramatic increase in the percentage of high paying jobs which were held by women over the period, from 11 percent in 1973 to 19 percent in 1982. Such a large change suggests a significantly different tenure mix in the high paying occupations. Similar but less dramatic changes occurred for the middle and low paying occupations.

The explanation for the changing earnings distributions within the occupational groupings might be a cohort effect. According to Richard Freeman, Robert Lawrence, and others, the baby-boom generation is so large that the earnings within the generation are depressed when compared with other generations.[11] If their thesis is valid, then the changing mix of generations within the work force that began in the early 1970's would have had a negative effect on the earnings distributions. Lawrence found this to be the most compelling explanation.

The changes in earnings distributions within occupations might be an industry effect. Of the 416 occupations in the 1982 analysis, 274 had full-time workers in both the goods- and service-producing industries. The median usual weekly earnings were higher in goods-producing industries for 181 of those occupations. The absolute difference in earnings across the 274 occupations was $78 (the difference without regard to sign). Most earnings studies only compare the median weekly earnings or hourly earnings of industries, not the occupational earnings by industry.

The changes in employment are sensitive to the economy's movement through the various stages of a business cycle. The 1973–82 shifts occurred as the economy moved from a business cycle peak to a trough. The entry-level earnings for most occupations may have been depressed when compared with 1973 because 1982 was the low point of the business cycle.

Finally, in response to innovations, international competition, cost consciousness, or other demand-oriented factors, companies might have made some significant changes in organizational structure. For example, they may have reduced the levels of management; substituted entry and mid-level personnel for senior personnel; and contracted for goods and services, rather than providing similiar services with inhouse staff. At some point, such changes would affect the earnings distributions of individual occupations.

Part-time workers

At some point, the potential substitution of part-time workers for full-time workers must be considered when examining trends in the number of middle-class workers. (Rosenthal's findings did not change when part-time workers were included in his original analysis.) Substitution could consist of long-term, secular trends (such as businesses expanding working hours or employers accommodating workers seeking part-time work) or it could be a cyclical phenomenon, for example, decreasing work hours during a recession as demand slackens.

The percentage of all employed persons working part time is indicative of these phenomena. The following tabulation shows the proportion of workers on full-and part-time schedules, selected years, 1973–85:

	1973	*1982*	*1983*	*1985*
Full-time	83.0	79.5	79.7	81.0
Part-time for economic reasons	3.0	6.2	6.2	5.2
Voluntary part-time	14.0	14.3	14.1	13.8

The percentage of employed persons voluntarily working part time has changed little over the last 12 years; the percentage working part time for economic reasons has fluctuated with the movement of the economy through business cycles.

To estimate the impact of part-time employment on detailed occupations by usual weekly earnings class, we (1) arrayed the detailed occupations in 1985 by the usual weekly earnings of full-time workers and arranged them into thirds; (2) summed total workers, full-time workers, and part-time workers in each third and calculated the respective distributions of employment; and (3) arrayed the total, full-time, and part-time workers for each occupation in the same order as in 1985, and calculated the respective 1983 distributions. (The data do not permit distinguishing between types of part-time workers.) The following tabulation shows the distribution of total, full-time, and part-time employment in 1983 and 1985, based on occupational earnings:

	Total		*Full-time*		*Part-time*	
	1983	*1985*	*1983*	*1985*	*1983*	*1985*
Top third	25.2	25.6	29.5	29.7	7.5	7.4
Middle third	30.2	31.0	33.6	34.1	16.5	17.3
Bottom third	44.6	43.5	37.0	36.3	76.1	75.3

The share of middle earners increased slightly for each distribution. Part-time workers were certainly concentrated in occupations ranked in the bottom third; but the share of part-time workers in the bottom third declined over the period.

We can conclude from this calculation that the patterns of occupational shifts whether measured in terms of all workers, full-time workers, or part-time workers are comparable. Therefore, the substitution of part-time workers for full-time workers is not a valid explanation for the declining proportion of workers in low paying occupations.

TWO STUDIES OF THE DECLINING MIDDLE-INCOME thesis were analyzed to put them on equal footing. The original studies were based on different periods as well as different approaches. Our reconcilation showed that there was a significant change in the earnings distribution in all three occupational earnings groups—top, middle, and bottom—between 1973 and 1982.

One should be cautious in applying these findings to the future because we were not able to identify the cause of the changing earnings distributions. And the trends for some of the possible variables offered as explanations will be considerably different during the next decade, compared with the past decade. For example, according to BLS' labor force projections, the 1995 labor force will be older and more experienced than the current labor force.[12] Thus, if tenure and experience were the proper explanation for the 1973–82 earnings shifts within occupations, then the shifts might reverse during the next decade. However, the recent trends for the cohort effect—the presence of the baby-boom generation in the labor market—will continue through the next decade. □

—FOOTNOTES—

ACKNOWLEDGMENT: The authors thank Robert Z. Lawrence of The Brookings Institution and Neal H. Rosenthal of the Bureau of Labor Statistics for their helpful comments.

[1] R. Kuttner, "The Declining Middle," *The Atlantic Monthly*, July 1983, pp. 60–72; L. S. Thurow, "The Disappearance of the Middle Class," *The New York Times*, Feb. 5, 1984, p. F3; B. Steinberg, *Deindustrialization and the Two Tier Society* (AFL-CIO, Industrial Union Department, 1985); and M. Harrington and M. Levinson, "The Perils of a Dual Economy—A Growing Trend in the American Occupational Structure," *Dissent*, Fall 1985, pp. 417–26.

The intellectual stimulus to the debate initially came from B. Bluestone and B. Harrison, *The Deindustrialization of America* (New York, Basic Books, Inc., 1982). Proponents of the disappearing middle class have since construed the decline in employment in the smokestack and goods-producing industries along with a simultaneous growth in the high tech and service-producing industries as synonymous with a bipolarization of the earnings structure. They often point to the differential growth rates of employment in a small number of occupations identified with these industries. The argument is loose and no evidence to support a bipolarization in the earnings distribution arising from shifts in the occupational structure has ever been published.

[2] Robert Z. Lawrence, "Sectoral Shifts and the Size of the Middle Class," *Brookings Review*, Fall 1985, pp. 3–10.

[3] Neal H. Rosenthal, "The shrinking middle class: myth or reality?" *Monthly Labor Review*, March 1985, pp. 3–10.

[4] Joyanna T. Moy, "Recent trends in unemployment and the labor force, 10 countries," *Monthly Labor Review*, August 1985, pp. 9–22.

[5] Lawrence, "Sectoral Shifts."

[6] Rosenthal, "The shrinking middle class." Rosenthal examined the linkages between several phenomena—declining employment in smokestack industries, rapid growth of service industries, and so forth—on earnings distribution. He found that, in each instance, when comprehensive data were reviewed, the impact of each phenomenon on the earnings distribution was either negligible or nonexistent.

[7] Rosenthal's data were recalculated for two reasons. First, BLS periodically revises its procedures for estimating median weekly earnings. The median weekly earnings in this article for the detailed occupations are estimated based on $10 centered intervals. Data for the median weekly earnings of full-time workers are based on the "true" median of the sample. The medians are revised because earnings tend to be clustered at certain points, usually around $50 intervals. This clustering can affect the estimated changes in median earnings. Second, the May 1973 data used were revised to include only those responding to the usual weekly earnings question. Rosenthal included all respondents in his calculation. This second revision was necessary for subsequent analysis in this article. The two revisions had a very slight impact, certainly not a qualitative impact.

[8] Lawrence, "Sectoral Shifts."

[9] Lawrence's calculations involved four steps: he (1) centered the earnings of the middle class around the median usual earnings of men ($379) as of 1983; (2) calculated the 1983 employment distribution of full-time workers by usual weekly earnings class; (3) centered the middle class for 1969 around the median usual weekly earnings of men in 1969 ($142) and assumed the earnings brackets were the same percentage of male medium weekly earnings in both 1969 and 1983; and (4) calculated the 1969 employment distribution using the 1969 earnings class. The usual weekly earnings for Lawrence's middle class were $250 to $499 in 1983, and $94 to $187 in 1969. Between 1969 and 1983, the change in male weekly earnings and change in the Consumer Price Index were nearly equal.

Because of his approach, Lawrence might have overstated the decline in the proportion of workers in the bottom earnings group. First, he centered his middle class about the median weekly earnings of men in both 1969 and 1983. He might have centered his middle class about the median weekly earnings for all full-time workers, as we have done in our analysis. Thus, his middle class is not divided evenly between workers with earnings above and below the median for all full-time workers. Further, he uses the male median weekly earnings over time to establish the earnings levels which divide the classes. We used total median weekly earnings. If he had used the median weekly earnings for all full-time workers, the earnings levels which divided the middle and lower earnings groups would have been $10 higher in 1983. With his approach (male earnings), the proportion of workers in the bottom third declined 3 percentage points; with our approach (full-time workers' earnings), the proportion of workers would have increased slightly. Thus, his results would have been qualitatively different with a different median.

The earnings approach (and the occupational approach) was not sensitive to the boundaries chosen to divide the classes of workers or to the number of classes considered. The middle might have been represented by 50 percent of the work force; shifts between 3, 4, or 10 classes might have been considered.

[10] The literature on earnings is extensive, but usually focuses on earnings differences by sex or race. Recent research by the BLS on earnings differences between men and women was published in a series of articles in the June 1984 *Monthly Labor Review*. In one of the articles, Earl Mellor showed that women receive less pay than men in almost all occupational groups which employ both men and women. For most jobs, full-time usual weekly earnings of women in 1982 were 60 to 80 percent of those of men. Readers should be wary of interpreting these differences as evidence of discrimination for many of the reasons discussed by Mellor.

[11] See Lawrence, "Sectoral Shifts"; Richard B. Freeman, "The effect of demographic factors on age-earnings profiles," *Journal of Human Resources, 14*, 1979, pp. 289–318; Finis Welch, "Effects of cohort size on earnings," *Journal of Political Economy 87*, 1979, pp. 565–98; and Louise B. Russell, *The Baby Boom Generation and the Economy* (Washington, The Brookings Institution, 1982).

[12] Howard N Fullerton, Jr., "The 1995 labor force: BLS' latest projections," *Monthly Labor Review*, November 1985, pp. 17–25.

Research Summaries

Weekly earnings in 1985: a look at more than 200 occupations

EARL F. MELLOR

This summary presents 1985 annual average data on the median weekly earnings of workers in more than 200 occupational categories. The data are obtained through the Current Population Survey (CPS), a nationwide sample survey conducted for the Bureau of Labor Statistics by the Bureau of the Census. Covered are wage and salary workers (excluding the incorporated self-employed) who usually work full time (35 hours or more per week).

First published in 1982, this annual series is also available in unpublished form back to 1979.[1] When making year-to-year comparisons, several caveats must be taken into account. One concerns the occupational classification system. The present system, developed for the 1980 census, was introduced into the CPS in 1983.[2] Because the new classification system is vastly different from the previous one, 1983–85 data are not comparable with those available for 1979–82.

Another caveat relates to the procedure currently used to estimate median weekly earnings. Prior to 1983, medians were estimated using the linear interpolation of $50- to $100-wide intervals. Medians for 1983 and 1984 were initially estimated via the interpolation of $10-wide uncentered intervals. This change was introduced to reduce a systematic upward bias resulting from the use of wider uncentered intervals for earnings data, which are subject to a high incidence of rounding by CPS respondents. In 1985, the procedure was changed back to $50-wide intervals, but these were centered on multiples of $50. This newer procedure lessens the sometimes erratic movements in medians caused by having a large number of narrow intervals. The data for 1983 and 1984 have been revised using the new procedure and are available from BLS on request, but earlier medians are still based on the old (pre-1983) procedures.

As in previous years, the data in table 1 are limited to those occupations with at least 50,000 employed wage and salary workers who usually work full time. The table presents median weekly earnings in 230 non-overlapping occupational groupings, and male-female comparisons are shown for 85 such groupings.

Obviously, within each of the occupations shown, there is likely to be a wide range of money earned among individual workers. This is because each occupational group still has many different jobs for which data are not tallied separately. Each occupation has specialties with differences in skill levels, market demand for the jobs, and other variables. Also, workers in each specialty may have different duties, responsibilities, work schedules, and job tenure.

In addition, caution must be used in interpreting differences between groups, particularly when either the number of workers in a job category is small or there are comparatively small differences between earnings medians. This is because the estimates are based on a sample and, accordingly, are subject to sampling errors.

Earl F. Mellor is an economist in the Division of Employment and Unemployment Analysis, Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

FOOTNOTES

[1] Data for 1981 appear in "1981 Weekly Earnings of Men and Women Compared in 100 Occupations" (News Release, March 7, 1982) and in Nancy F. Rytina, "Earnings of men and women: a look at specific occupations," *Monthly Labor Review*, April 1982, pp. 25–31. For 1982 data, see Earl F. Mellor, "Investigating the differences in weekly earnings of women and men," *Monthly Labor Review*, June 1984, pp. 17–28. For 1983 data, see Earl F. Mellor, "Weekly earnings in 1983: a look at more than 200 occupations," *Monthly Labor Review*, January 1985, pp. 54–59; however, these data were subsequently revised. The revised data for 1983 and 1984 are available by either writing to the Bureau of Labor Statistics or calling (202) 523–1371. For more information on the nationwide sample survey from which these earnings data were obtained, see Earl F. Mellor, *Technical Description of the Quarterly Data on Weekly Earnings from the Current Population Survey*, Bulletin 2113 (Bureau of Labor Statistics, 1982), or Earl F. Mellor, "Earnings statistics from the Current Population Survey," *BLS Measures of Compensation*, Bulletin 2239 (Bureau of Labor Statistics, 1986).

[2] The system evolved from the Standard Occupational Classification System which was adopted in 1977 and revised in 1980. See *Standard Occupational Classification Manual* (U.S. Department of Commerce, Office of Federal Statistical Policy and Standards, 1980). The relationship between the 1980 census system and the classification system is shown in *Census of Population: 1980, Classified Index of Industries and Occupations*, Report PHC80-R4, final ed. (U.S. Bureau of the Census, 1983).

[3] For information on the standard error and other limitations of the data, see *Technical Description of the Quarterly Data on Weekly Earnings from the Current Population Survey*, Bulletin 2113 (Bureau of Labor Statistics, 1982). For information on other data series on earnings from the Current Population Survey and other BLS surveys, see *BLS Measures of Compensation*.

Table 1. Median weekly earnings of wage and salary workers who usually work full time in occupations employing 50,000 or more, by sex, 1985 annual averages

[Numbers in thousands]

Occupation	Both sexes		Men		Women		Ratio female/male earnings times 100	Percent female workers
	Employed	Weekly earnings	Employed	Weekly earnings	Employed	Weekly earnings		
Total	77,002	$343	45,589	$406	31,414	$277	68.2	40.8
Managerial and professional specialty occupations	19,361	488	11,078	583	8,302	399	68.4	42.8
Executive, administrative, and managerial occupations	9,328	497	5,836	593	3,492	383	64.6	37.4
Administrators and officials, public administration	411	510	248	584	164	439	75.2	39.9
Financial managers	372	581	237	677	135	400	59.1	36.3
Personnel and labor relations managers	105	540	57	631	48	–	–	45.7
Purchasing managers	101	676	78	714	23	–	–	22.8
Managers, marketing, advertising, and public relations	389	627	301	712	87	413	58.0	22.4
Administrators, education and related fields	424	561	240	639	184	479	75.0	43.4
Managers, medicine and health	94	490	37	–	57	469	–	60.6
Managers, properties and real estate	190	386	116	410	74	323	78.8	38.9
Management-related occupations	2,834	456	1,504	515	1,330	382	74.2	46.9
Accountants and auditors	1,064	458	592	519	472	383	73.8	44.4
Underwriters, and other financial officers	561	468	282	556	278	397	71.4	49.6
Management analysts	78	583	53	693	25	–	–	32.1
Personnel, training, and labor relations specialists	316	454	135	551	181	384	69.7	57.3
Buyers, wholesale and retail trade, except farm products	157	416	79	490	78	310	63.3	49.7
Inspectors and compliance officers, excluding construction	157	459	121	477	35	–	–	22.3
Professional specialty occupations	10,053	481	5,243	571	4,810	408	71.5	47.8
Engineers, architects, and surveyors	1,678	649	1,559	662	119	524	79.2	7.1
Architects	75	488	62	507	12	–	–	16.0
Engineers	1,585	661	1,479	673	107	544	80.8	6.8
Aerospace engineers	87	691	82	699	5	–	–	5.7
Chemical engineers	57	723	53	731	4	–	–	7.0
Civil engineers	201	629	192	643	10	–	–	5.0
Electrical and electronic engineers	520	664	477	672	43	–	–	8.3
Industrial engineers	174	598	157	608	17	–	–	9.8
Mechanical engineers	257	665	244	676	13	–	–	5.1
Mathematical and computer scientists	518	605	361	642	157	512	79.8	30.3
Computer systems analysts and scientists	317	602	228	625	88	523	83.7	27.8
Operations and systems researchers and analysts	157	616	107	663	51	519	78.3	32.5
Natural scientists	327	580	266	599	61	462	77.1	18.7
Chemists, except biochemists	104	588	85	601	20	–	–	19.2
Biological and life scientists	61	506	43	–	18	–	–	29.5
Health diagnosing occupations	243	595	186	633	57	504	79.6	23.5
Physicians	209	607	158	656	51	507	77.3	24.4
Health assessment and treating occupations	1,435	435	238	507	1,197	424	83.6	83.4
Registered nurses	1,010	434	66	492	945	431	87.6	93.6
Pharmacists	120	566	85	600	36	–	–	30.0
Dietitians	71	336	3	–	68	339	–	95.8
Therapists	188	406	53	422	135	400	94.8	71.8
Inhalation therapists	56	391	25	–	32	–	–	57.1
Teachers, college and university	459	581	330	638	129	487	76.3	28.1
Teachers, except college and university	2,873	412	864	478	2,008	394	82.4	69.9
Teachers, prekindergarten and kindergarten	216	276	2	–	214	277	–	99.1
Teachers, elementary school	1,204	412	206	468	998	403	86.1	82.9
Teachers, secondary school	1,074	439	526	485	549	408	84.1	51.1
Teachers, special education	185	393	27	–	158	386	–	85.4
Teachers, not elsewhere classified	193	408	104	460	90	379	82.4	46.6
Counselors, educational and vocational	146	488	71	549	75	425	77.4	51.4
Librarians, archivists, and curators	163	398	27	–	136	390	–	83.4
Librarians	153	391	21	–	132	388	–	86.3
Social scientists and urban planners	193	518	114	580	79	447	77.1	40.9
Economists	82	624	50	715	31	–	–	37.8
Psychologists	86	472	45	–	41	–	–	47.7
Social, recreation, and religious workers	723	357	413	373	309	342	91.7	42.7
Social workers	387	376	143	421	244	356	84.6	63.0
Recreation workers	56	231	23	–	33	–	–	58.9
Clergy	234	338	224	341	10	–	–	4.3
Lawyers and judges	341	724	251	782	89	557	71.2	26.1
Lawyers	317	718	232	776	85	558	71.9	26.8
Writers, artists, entertainers, and athletes	955	417	562	490	393	346	70.6	41.2
Designers	302	437	167	537	135	296	55.1	44.7
Actors and directors	51	487	32	–	19	–	–	37.3
Painters, sculptors, craft artists, and artist printmakers	85	400	50	466	35	–	–	41.2
Photographers	56	346	43	–	12	–	–	21.4
Editors and reporters	175	430	92	480	83	397	82.7	47.4
Public relations specialists	116	460	60	585	56	381	65.1	48.3
Technical, sales, and administrative support occupations	23,425	307	8,803	420	14,622	269	64.0	62.4
Technicians and related support occupations	2,762	398	1,563	472	1,200	331	70.1	43.4
Health technologists and technicians	841	319	167	381	674	311	81.6	80.1
Clinical laboratory technologists and technicians	248	376	68	394	180	367	93.1	72.6
Radiologic technicians	97	371	26	–	70	355	–	72.2
Licensed practical nurses	277	294	11	–	266	293	–	96.0
Engineering and related technologists and technicians	843	417	700	436	143	344	78.9	17.0
Electrical and electronic technicians	286	426	252	436	34	–	–	11.9
Drafting occupations	278	399	229	414	49	–	–	17.6
Surveying and mapping technicians	61	371	56	358	4	–	–	6.6
Science technicians	187	393	129	417	58	318	76.3	31.0
Chemical technicians	89	412	67	420	22	–	–	24.7

Table 1. Continued—Median weekly earnings of wage and salary workers who usually work full time in occupations employing 50,000 or more, by sex, 1985 annual averages

[Numbers in thousands]

Occupation	Both sexes		Men		Women		Ratio female/male earnings times 100	Percent female workers
	Employed	Weekly earnings	Employed	Weekly earnings	Employed	Weekly earnings		
Technicians, except health, engineering, and science	891	486	587	517	324	395	76.4	36.4
Airplane pilots and navigators	55	738	54	743	1	–	–	1.8
Computer programmers	500	502	327	519	173	454	87.5	34.6
Legal assistants	119	347	31	–	89	333	–	74.8
Sales occupations	7,156	335	4,227	431	2,929	226	52.4	40.9
Supervisors and proprietors	2,010	385	1,371	438	639	276	63.0	31.8
Sales representatives, finance and business services	1,333	430	760	507	574	332	65.5	43.1
Insurance sales	365	415	237	478	128	345	72.2	35.1
Real estate sales	282	406	126	507	157	323	63.7	55.7
Securities and financial services sales	200	583	144	674	57	425	63.1	28.5
Advertising and related sales	126	422	59	500	67	357	71.4	53.2
Sales occupations, other business services	360	397	195	489	165	302	61.8	45.8
Sales representatives, commodities, except retail, including sales engineers	1,258	481	1,048	499	210	364	72.9	16.7
Sales workers, retail and personal services	2,539	210	1,041	285	1,498	180	63.2	59.0
Sales workers, motor vehicles and boats	218	393	203	400	15	–	–	6.9
Sales workers, apparel	156	184	34	–	123	171	–	78.8
Sales workers, furniture and home furnishings	98	271	51	311	46	–	–	46.9
Sales workers, radio, television, hi-fi, and appliances	105	315	80	334	25	–	–	23.8
Sales workers, hardware and building supplies	146	250	121	283	26	–	–	17.8
Sales workers, parts	134	255	119	261	15	–	–	11.2
Sales counter clerks	71	200	21	–	50	169	–	70.4
Cashiers	878	178	167	209	711	172	82.3	81.0
Street and door-to-door sales workers	71	298	30	–	41	–	–	57.7
Administrative support occupations, including clerical	13,507	286	3,013	391	10,494	270	69.1	77.7
Supervisors, administrative support	697	420	333	514	365	358	69.6	52.4
Supervisors, general office	404	399	147	550	257	343	62.4	63.6
Supervisors, financial records processing	95	419	31	–	64	380	–	67.4
Supervisors, distribution, scheduling, and adjusting clerks	151	486	125	485	26	–	–	17.2
Computer equipment operators	691	311	253	395	437	278	70.4	63.2
Computer operators	686	311	251	395	435	278	70.4	63.4
Secretaries, stenographers, and typists	3,938	276	92	341	3,846	275	80.6	97.7
Secretaries	3,251	279	58	369	3,193	279	75.6	98.2
Typists	646	259	28	–	617	259	–	95.5
Information clerks	827	242	93	352	734	236	67.0	88.8
Interviewers	123	263	20	–	104	258	–	84.6
Transportation ticket and reservation agents	92	382	33	–	60	309	–	65.2
Receptionists	434	225	13	–	421	224	–	97.0
Records processing occupations, except financial	612	274	116	326	497	268	82.2	81.2
Order clerks	174	346	36	–	138	336	–	79.3
Personnel clerks, except payroll and timekeeping	57	323	4	–	53	319	–	93.0
Library clerks	53	246	11	–	42	–	–	79.2
File clerks	197	234	38	–	159	231	–	80.7
Records clerks	110	286	22	–	88	274	–	80.0
Financial records processing occupations	1,705	275	195	361	1,510	268	74.2	88.6
Bookkeepers, accounting, and auditing clerks	1,311	272	133	331	1,178	267	80.7	89.9
Payroll and timekeeping clerks	161	302	24	–	138	296	–	85.7
Billing clerks	126	264	17	–	109	256	–	86.5
Cost and rate clerks	73	305	20	–	52	285	–	71.2
Duplicating, mail and other office machine operators	55	244	17	–	39	–	–	70.9
Communications equipment operators	182	308	23	–	159	295	–	87.4
Telephone operators	177	302	21	–	156	292	–	88.1
Mail and message distributing occupations	660	429	465	446	196	366	82.1	29.7
Postal clerks, excluding mail carriers	234	457	146	474	88	437	92.2	37.6
Mail carriers, postal service	235	466	203	470	32	–	–	13.6
Mail clerks, excluding postal service	123	240	62	262	62	223	85.1	50.4
Messengers	69	224	54	230	14	–	–	20.3
Material recording, scheduling, and distributing clerks	1,504	305	926	332	578	270	81.3	38.4
Dispatchers	172	321	97	385	75	276	71.7	43.6
Production coordinators	168	384	87	475	81	328	69.1	48.2
Traffic, shipping, and receiving clerks	471	287	352	302	119	243	80.5	25.3
Stock and inventory clerks	475	298	278	324	198	268	82.7	41.7
Weighers, measurers, and checkers	65	276	33	–	32	–	–	49.2
Expediters	89	318	37	–	52	282	–	58.4
Adjusters and investigators	659	312	174	439	485	286	65.1	73.6
Insurance adjusters, examiners, and investigators	209	339	64	455	145	307	67.5	69.4
Investigators and adjusters, except insurance	316	311	80	481	236	285	59.3	74.7
Eligibility clerks, social welfare	59	298	5	–	54	276	–	91.5
Bill and account collectors	75	264	24	–	51	256	–	68.0
Miscellaneous administrative support occupations	1,975	261	328	352	1,647	252	71.6	83.4
General office clerks	489	267	100	322	389	258	80.1	79.6
Bank tellers	357	219	20	–	336	218	–	94.1
Data-entry keyers	307	277	32	–	274	298	–	89.3
Statistical clerks	75	322	21	–	54	321	–	72.0
Teachers' aides	165	196	12	–	153	192	–	92.7
Service occupations	7,910	216	3,947	272	3,963	185	68.0	50.1
Private household occupations	342	132	13	–	330	130	–	96.5
Child care workers, private household	142	89	5	–	137	86	–	96.5
Private household cleaners and servants	164	154	5	–	159	153	–	97.0
Protective service occupations	1,483	381	1,327	391	156	278	71.1	10.5
Supervisors, protective service occupations	127	465	121	494	6	–	–	4.7
Supervisors, police and detectives	70	534	68	540	2	–	–	2.9

Table 1. Continued—Median weekly earnings of wage and salary workers who usually work full time in occupations employing 50,000 or more, by sex, 1985 annual averages

[Numbers in thousands]

Occupation	Both sexes		Men		Women		Ratio female/male earnings times 100	Percent female workers
	Employed	Weekly earnings	Employed	Weekly earnings	Employed	Weekly earnings		
Firefighting and fire prevention occupations	211	436	208	439	3	–	–	1.4
Firefighting occupations	190	437	188	438	1	–	–	.5
Police and detectives	628	424	565	432	63	352	81.5	10.0
Police and detectives, public service	416	452	382	455	34	–	–	8.2
Sheriffs, bailiffs, and other law enforcement officers	75	380	69	406	6	–	–	8.0
Correctional institution officers	137	352	114	364	23	–	–	16.8
Guards	516	248	432	257	84	212	82.5	16.3
Guards and police, excluding public service	480	252	413	257	68	219	85.2	14.2
Service occupations, except protective and household	6,085	203	2,607	230	3,477	188	81.7	57.1
Food preparation and service occupations	2,281	180	1,018	205	1,264	167	81.5	55.4
Supervisors, food preparation and service	177	231	80	284	97	207	72.9	54.8
Bartenders	169	202	88	227	81	177	78.0	47.9
Waiters and waitresses	542	170	119	236	423	159	67.4	78.0
Cooks, except short order	871	186	478	207	392	168	81.2	45.0
Food counter, fountain and related occupations	71	147	17	–	53	143	–	74.6
Kitchen workers, food preparation	66	169	23	–	44	–	–	66.7
Waiters'/waitresses' assistants	102	165	61	159	41	–	–	40.2
Health service occupations	1,219	210	150	242	1,069	207	85.5	87.7
Dental assistants	107	224	3	–	104	223	–	97.2
Health aides, except nursing	247	233	41	–	205	230	–	83.0
Nursing aides, orderlies, and attendants	866	202	106	234	760	199	85.0	87.8
Cleaning and building service occupations, except household	1,884	226	1,253	253	630	195	77.1	33.4
Supervisors, cleaning and building service workers	149	298	102	340	47	–	–	31.5
Maids and housemen	361	188	72	235	289	178	75.7	80.1
Janitors and cleaners	1,329	235	1,039	247	290	205	83.0	21.8
Personal service occupations	701	203	186	240	514	192	80.0	73.3
Hairdressers and cosmetologists	277	201	34	–	243	195	–	87.7
Attendants, amusement and recreation facilities	63	227	35	–	28	–	–	44.4
Child care workers, except private household	140	169	15	–	125	163	–	89.3
Precision production, craft, and repair occupations	10,932	397	10,026	408	906	268	65.7	8.3
Mechanics and repairers	3,897	400	3,752	400	144	392	98.0	3.7
Supervisors, mechanics and repairers	270	520	246	521	24	–	–	8.9
Mechanics and repairers, except supervisors	3,627	393	3,506	393	120	378	96.2	3.3
Vehicle and mobile equipment mechanics and repairers	1,462	351	1,449	352	13	–	–	.9
Automobile mechanics	662	309	658	310	4	–	–	.6
Bus, truck, and stationary engine mechanics	304	384	302	384	2	–	–	.7
Aircraft engine mechanics	86	491	81	498	4	–	–	4.7
Small engine repairers	56	286	56	286	0	–	–	.0
Automobile body and related repairers	147	310	147	310	1	–	–	.7
Heavy equipment mechanics	160	459	159	459	0	–	–	.0
Industrial machinery repairers	524	404	510	406	14	–	–	2.7
Electrical and electronic equipment repairers	648	495	588	499	60	455	91.2	9.3
Electronic repairers, communications and industrial equipment	131	393	122	395	9	–	–	6.9
Data processing equipment repairers	115	500	102	506	13	–	–	11.3
Telephone line installers and repairers	68	523	67	521	2	–	–	2.9
Telephone installers and repairers	227	530	196	539	31	–	–	13.7
Heating, air conditioning, and refrigeration mechanics	208	370	208	370	0	–	–	.0
Miscellaneous mechanics and repairers	747	393	715	399	32	–	–	4.3
Office machine repairers	61	380	58	385	3	–	–	4.9
Millwrights	85	497	83	502	3	–	–	3.5
Construction trades	3,361	393	3,308	394	53	265	67.3	1.6
Supervisors, construction occupations	430	504	426	506	5	–	–	1.2
Construction trades, except supervisors	2,931	377	2,882	378	49	–	–	1.7
Brickmasons and stonemasons	108	349	108	350	0	–	–	.0
Carpet installers	51	295	51	298	1	–	–	2.0
Carpenters	812	337	806	338	6	–	–	.7
Drywall installers	101	380	99	383	2	–	–	2.0
Electricians	547	458	539	458	8	–	–	1.5
Electrical power installers and repairers	102	510	101	508	2	–	–	2.0
Painters, construction and maintenance	257	304	242	306	15	–	–	5.8
Plumbers, pipefitters, and steamfitters	361	431	357	431	4	–	–	1.1
Concrete and terrazzo finishers	67	334	67	334	0	–	–	.0
Insulation workers	52	380	50	383	2	–	–	3.8
Roofers	99	272	97	272	3	–	–	3.0
Structural metalworkers	58	494	57	495	1	–	–	1.7
Extractive occupations	181	501	179	499	1	–	–	.6
Supervisors, extractive occupations	53	679	53	674	1	–	–	1.9
Precision production occupations	3,493	394	2,786	429	706	253	59.0	20.3
Supervisors, production occupations	1,294	468	1,105	490	189	303	61.8	14.6
Precision metalworking occupations	837	416	787	426	51	264	62.0	6.1
Tool and die makers	134	491	131	496	3	–	–	2.2
Machinists	479	409	459	415	19	–	–	4.0
Sheet metal workers	111	415	104	418	7	–	–	6.3
Precision woodworking occupations	69	282	59	294	11	–	–	15.9
Precision textile, apparel, and furnishings machine workers	127	242	68	279	59	211	75.6	46.5
Precision workers, assorted materials	489	273	199	326	290	246	75.6	59.3
Electrical and electronic equipment assemblers	319	254	90	281	229	246	87.5	71.8
Precision food production occupations	329	266	255	317	74	198	62.5	22.5
Butchers and meatcutters	235	297	195	323	40	–	–	17.0
Bakers	69	267	48	–	21	–	–	30.4

Table 1. Continued—Median weekly earnings of wage and salary workers who usually work full time in occupations employing 50,000 or more, by sex, 1985 annual averages

[Numbers in thousands]

Occupation	Both sexes		Men		Women		Ratio female/male earnings times 100	Percent female workers
	Employed	Weekly earnings	Employed	Weekly earnings	Employed	Weekly earnings		
Precision inspectors, testers, and related workers	132	409	102	448	30	–	–	22.7
Inspectors, testers, and graders	126	413	99	448	27	–	–	21.4
Plant and system operators	217	484	211	484	6	–	–	2.8
Stationary engineers	99	495	97	493	2	–	–	2.0
Operators, fabricators, and laborers	14,067	295	10,585	325	3,482	216	66.5	24.8
Machine operators, assemblers, and inspectors	7,181	287	4,403	341	2,778	216	63.3	38.7
Machine operators and tenders, except precision	4,741	272	2,839	326	1,902	207	63.5	40.1
Metalworking and plastic working machine operators	447	336	370	354	77	265	74.9	17.2
Lathe and turning machine operators	67	339	60	349	8	–	–	11.9
Punching and stamping press machine operators	117	320	85	340	32	–	–	27.4
Grinding, abrading, buffing, and polishing machine operators	132	318	115	331	17	–	–	12.9
Metal and plastic processing machine operators	157	304	117	345	39	–	–	24.8
Molding and casting machine operators	98	278	63	342	35	–	–	35.7
Woodworking machine operators	116	244	104	247	12	–	–	10.3
Sawing machine operators	77	237	72	239	5	–	–	6.5
Printing machine operators	380	329	288	368	92	247	67.1	24.2
Printing machine operators	258	339	223	362	35	–	–	13.6
Typesetters and compositors	57	284	17	–	39	–	–	68.4
Textile, apparel, and furnishings machine operators	1,148	192	240	243	908	182	74.9	79.1
Winding and twisting machine operators	72	221	16	–	56	217	–	77.8
Textile sewing machine operators	686	178	73	217	613	175	80.6	89.4
Pressing machine operators	117	198	41	–	76	173	–	65.0
Laundering and drycleaning machine operators	110	195	39	–	71	178	–	64.5
Machine operators, assorted materials	2,473	302	1,709	334	764	234	70.1	30.9
Packaging and filling machine operators	350	248	139	283	211	230	81.3	60.3
Mixing and blending machine operators	121	328	113	331	7	–	–	5.8
Separating, filtering, and clarifying machine operators	51	441	45	–	6	–	–	11.8
Painting and paint spraying machine operators	179	298	151	310	28	–	–	15.6
Furnace, kiln, and oven operators, excluding food	102	406	98	406	4	–	–	3.9
Slicing and cutting machine operators	194	274	152	304	43	–	–	22.2
Photographic process machine operators	78	261	34	–	43	–	–	55.1
Fabricators, assemblers, and hand working occupations	1,653	316	1,165	361	488	239	66.2	29.5
Welders and cutters	533	371	506	377	27	–	–	5.1
Assemblers	979	298	583	355	397	243	68.5	40.6
Production inspectors, testers, samplers, and weighers	787	311	398	388	389	250	64.4	49.4
Production inspectors, checkers, and examiners	629	321	313	406	315	255	62.8	50.1
Production testers	62	354	39	–	23	–	–	37.1
Graders and sorters, except agricultural	86	213	37	–	49	–	–	57.0
Transportation and material moving occupations	3,648	360	3,459	369	189	252	68.3	5.2
Motor vehicle operators	2,511	343	2,357	353	154	246	69.7	6.1
Truckdrivers, heavy	1,526	363	1,501	366	25	–	–	1.6
Truckdrivers, light	425	275	395	280	30	–	–	7.1
Driver-sales workers	179	399	170	407	9	–	–	5.0
Busdrivers	210	344	136	403	74	262	65.0	35.2
Taxicab drivers and chauffeurs	94	262	87	266	7	–	–	7.4
Transportation occupations, except motor vehicles	204	559	201	563	3	–	–	1.5
Rail transportation occupations	145	599	143	602	2	–	–	1.4
Locomotive operating occupations	57	582	56	587	1	–	–	1.8
Water transportation occupations	59	463	58	466	1	–	–	1.7
Material moving equipment operators	932	360	900	364	32	–	–	3.4
Operating engineers	142	395	138	393	4	–	–	2.8
Crane and tower operators	89	438	89	438	0	–	–	.0
Excavating and loading machine operators	96	385	94	388	1	–	–	1.0
Grader, dozer, and scraper operators	82	357	80	362	2	–	–	2.4
Industrial truck and tractor equipment operators	369	318	360	319	9	–	–	2.4
Handlers, equipment cleaners, helpers, and laborers	3,238	251	2,724	261	514	209	80.1	15.9
Helpers, construction and extractive occupations	140	216	137	217	3	–	–	2.1
Helpers, construction trades	121	216	118	217	3	–	–	2.5
Construction laborers	583	276	567	279	16	–	–	2.7
Production helpers	73	281	57	285	16	–	–	21.9
Freight, stock, and material handlers	968	254	818	264	150	205	77.7	15.5
Garbage collectors	53	247	53	250	1	–	–	1.9
Stock handlers and baggers	347	217	263	229	84	181	79.0	24.2
Machine feeders and offbearers	85	258	58	269	27	–	–	31.8
Garage and service station related occupations	177	198	170	200	7	–	–	4.0
Vehicle washers and equipment cleaners	160	205	144	203	16	–	–	10.0
Hand packers and packagers	236	222	86	247	150	215	87.0	63.6
Laborers, except construction	867	273	715	291	152	207	71.1	17.5
Farming, forestry, and fishing occupations	1,288	212	1,150	216	138	185	85.6	10.7
Farm operators and managers	65	291	58	309	7	–	–	10.8
Farm managers	55	303	50	317	5	–	–	9.1
Other agricultural and related occupations	1,145	207	1,016	210	129	186	88.6	11.3
Farm occupations, except managerial	663	195	587	198	76	176	88.9	11.5
Farm workers	606	193	542	195	64	178	91.3	10.6
Related agricultural occupations	482	228	430	232	53	204	87.9	11.0
Supervisors, related agricultural occupations	80	300	79	302	1	–	–	1.3
Groundskeepers and gardeners, except farm	354	218	333	220	21	–	–	5.9
Forestry and logging occupations	55	269	52	276	2	–	–	3.6

NOTE: Dashes indicate median, percent, or ratio not shown where base is less than 50,000.

Estimating the number of undocumented aliens

JEFFREY S. PASSEL

Prior to January 1986, the Census Bureau's postcensal population estimates included no allowance for undocumented immigration.[1] Even though there was widespread recognition of the phenomenon, the only estimates of the magnitude of undocumented immigration, particularly of the annual flow, were based on little more than speculation. Research conducted at the Census Bureau over the last several years[2] has shown that undocumented aliens appearing in censuses and surveys can provide a basis for measuring at least a portion of undocumented migration to the United States.

Estimates of the number of undocumented aliens included in the 1980 census were derived by comparing two different sets of estimates:[3] (1) estimates of the total number of aliens included in the 1980 census: and (2) estimates of the number of aliens residing legally in the United States at the census date, derived primarily from the Immigration and Naturalization Service (INS) data. The difference between the two estimates is assumed to be the result of undocumented aliens being included in the 1980 census.

Both sets of data used to derive the estimates—1980 census data on the foreign-born population and 1980 alien registration data from INS—required a number of corrections and modifications to account for known deficiencies. The census data were corrected for nonreporting of country of birth, misreporting of citizenship status, and misreporting of nativity. The INS data were corrected for underregistration and nonreporting of country of birth.

A comparison of the independently derived estimates of the legally resident population on April 1, 1980, with the 1980 census count of aliens shows that 2,057,000 undocumented aliens were included in the 1980 census. Of these, 1,131,000, or 55 percent, were born in Mexico. No single country other than Mexico accounts for as much as 5 percent of the total. An estimated 1,517,000, or 75 percent, of the undocumented immigrants counted in the census entered the United States during the 1970's, with 946,000 (or 46 percent) entering during the 5 years prior to the 1980 census.

A supplement to the April 1983 Current Population Survey (CPS) provided data on country of birth, year of immigration, and citizenship that were used to estimate growth of the undocumented alien population since the 1980 census.[4] An estimate of the foreign-born population residing legally in the country in 1983 was first developed by carrying forward the estimate for 1980 by adding legal immigration and by subtracting mortality and emigration during the intervening period. The difference between the estimated legally resident foreign-born population and the total foreign-born population in the April 1983 CPS gives the number of undocumented aliens in 1983. Because the CPS sample is smaller than the census and because of other inherent limitations, the 1983 estimate of undocumented aliens is less precise than the estimate for 1980. In spite of such limitations, the research shows that the undocumented alien population grew by between 100,000 and 300,000 per year between 1980 and 1983.

On the basis of these studies, the Census Bureau's postcensal estimates have been revised to allow for net annual undocumented immigration of 200,000 for every year since 1980. Approximately 70 percent of the undocumented immigrants are Hispanic. The items needed to develop further estimates of undocumented aliens were included in a supplement to the June 1986 CPS. On the basis of these data, the Census Bureau plans to update the estimates of growth in the undocumented alien population and, if necessary, revise the estimates of net annual undocumented immigration. Until the research based on the June 1986 CPS supplement is completed, the figure of 200,000 will continue to be used for net annual undocumented immigration. ☐

Jeffrey S. Passel is chief of the Population Analysis Staff, Population Division, Bureau of the Census. This report is drawn from "Changes in the Estimation Procedure in the Current Population Survey Beginning January 1986," *Employment and Earnings*, February 1986.

———*FOOTNOTES*———

[1] Various terms have been used to refer to this group of noncitizens present in the United States who entered illegally or who violated their conditions of entry. In addition to undocumented immigrants, some examples include illegal aliens, undocumented workers, nonlegal residents, and illegal entrants.

[2] Robert Warren and Jeffrey S. Passel, "A Count of the Uncountable: Estimates of Undocumented Aliens Counted in the 1980 United States Census, forthcoming in *Demography*"; Jeffrey S. Passel and Karen A. Woodrow, "Geographic Distribution of Undocumented Immigrants: Estimates of Undocumented Aliens Counted in the 1980 Census by State," *International Migration Review* 18, Fall 1984, pp. 642–71; Passel and Woodrow, "Growth of the Undocumented Alien Population in the United States, 1979–1983, as Measured by the Current Population Survey and the Decennial Census," paper presented at the 1985 annual meeting of the Population Association of America, Boston, MA, March 1985.

[3] Details of the estimation procedure can be found in "A Count of the Uncountable." It must be stressed that the research regarding undocumented aliens included in the 1980 census did not compromise the confidentiality of U.S. census data that is required by law. No attempt was made to determine the legal status of individual aliens. The estimates were developed by comparing statistical aggregates, not by determining the legal status of individuals.

[4] The estimation procedures and underlying assumptions are described in "Growth of the Undocumented Alien Population."

Major Agreements Expiring Next Month

This list of selected collective bargaining agreements expiring in October is based on information collected by the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more. Private industry is arranged in order of Standard Industrial Classification.

Industry or activity	Employer and location	Labor organization[1]	Number of workers
Private			
Construction	Southeastern States Boilermaker Employers (Interstate)	Boilermakers	7,000
	Independent Contractors (Southern and Western Florida)	Operating Engineers	1,200
Food products	Keebler Co. (Interstate)	Bakery, Confectionery and Tobacco Workers	3,550
	Hershey Foods Corp. (Pennsylvania)	Bakery, Confectionery and Tobacco Workers	2,800
Paper	James River Corp., Dixie Northern Division (Naheola, AL)	Paperworkers	1,300
Stone, clay, and glass products	Owens-Illinois, Inc. (Vineland, NJ)	Flint Glass Workers	1,600
	Anchor Hocking Corp. (Lancaster, OH)	Flint Glass Workers	4,000
	Owens-Illinois, Inc. (Toledo, OH)	Flint Glass Workers	1,200
Primary metals	Allegheny Ludlum Industries, Inc. (Interstate)	Steelworkers	5,400
	Lukens Steel Co. (Coatesville, PA)	Steelworkers	1,400
	Lone Star Steel Co. (Texas)	Steelworkers	2,300
	Laclede Steel Co. (Alton, IL)	Steelworkers	2,000
	Cyclops Corp., Empire-Detroit Steel Division (Mansfield, OH)	Steelworkers	1,100
Fabricated metal products	Kohler Co. (Wisconsin)	Auto Workers	3,000
Machinery	Koppers Co., Inc., Metal Products Division (Baltimore, MD)	Machinists	1,350
	Outboard Marine Corp., Johnson Outboard Division (Waukegan, IL)	Marine and Machinists Association (Ind.)	1,700
Electrical products	Bendix Corp. (Sidney, NY)	Machinists	2,100
Transportation equipment	Boeing Co. (Interstate)	Machinists	26,000
	General Dynamics Corp., Quincy Shipbuilding Division (Quincy, MA)	Marine and Shipbuilding Workers	2,300
	Boeing Co., Boeing Vertol Division (Philadelphia, PA)	Auto Workers	2,400
	Lockheed-Georgia Co. (Interstate)	Machinists	10,000
	Lockheed Aircraft Corp., Lockheed-California Co. (California)	Machinists	10,000
	Lockheed Aircraft Corp., Missile & Space Division (California)	Machinists	5,000
	McDonnell Douglas Corp. (California)	Machinists	3,500
	McDonnell Douglas Corp. (California)	Auto Workers	4,800
	McDonnell Douglas Corp. (Arkansas and Oklahoma)	Auto Workers	1,800
Transit	Greyhound Lines, Inc. (Interstate)	Transit Union	12,700
Air transportation	United Airlines, ground service (Interstate)	Machinists	15,500
Retail trade	The Great Atlantic and Pacific Tea Co. (New York)	Food and Commercial Workers	8,800
	Jewel Food Stores (Illinois and Indiana)	Retail, Wholesale and Department Store	18,000
	Kroger Co. (Cincinnati, OH)	Food and Commercial Workers	3,300
	Giant Eagle Food Stores (Pittsburgh, PA)	Food and Commercial Workers	3,500
	Kohl's Food Stores (Wisconsin)	Food and Commercial Workers	3,000
Restaurants	East Bay Restaurant Association (San Francisco, CA)	Hotel Employees and Restaurant Employees	2,000
	On-Sale Liquor Store Dealers (Minneapolis, MN)	Hotel Employees and Restaurant Employees	1,500
Hospitals	Kaiser Permanente (Northern California)	Service Employees	6,400
Public			
Education	California: Los Angeles Community College faculty	State, County and Municipal Employees	1,800
	Tennessee: Memphis Board of Education, custodial and cafeteria employees	Teachers	4,800

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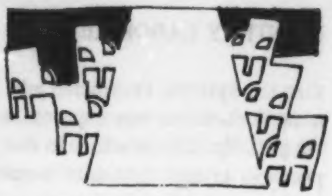
[1] Affiliated with AFL-CIO except where noted as independent (Ind.).

Developments in Industrial Relations



AT&T, IBEW lead communications contracts

The first round of bargaining in the telephone communicatons industry since the court-ordered breakup of the Bell System led off with a settlement between American telephone & Telegraph Co. and the International Brotherhood of Electrical Workers (IBEW). Prior to 1984, AT&T settlements with the IBEW and the Communications Workers (CWA) set a pattern for settlements between the two unions and 22 operating companies. The companies retained their identities but now are formed into seven regional firms.

Despite the auspicious leadoff settlement in the 1986 negotiations, 155,000 CWA-represented workers struck six AT&T units. The major issues leading to the stoppage reportedly were company demands for elimination of the automatic cost-of-living pay adjustment clause, elimination of incentive pay for manufacturing workers, and replacement of some high paid technicians jobs with lower paid technician assistants jobs.

AT&T and the CWA settled on national issues in mid-June, but the workers remained out pending completion of negotiations on other issues at two units. Later in the month, AT&T Information Systems and the CWA settled for 35,000 workers, following a settlement for a unit of 12,000 workers performing government work.

The 3-year IBEW contract, which was later automatically modified to contain additional terms won by the CWA, provided for four new programs to increase worker job security, reflecting their concern over the job losses resulting from the more competitive atmosphere in the communications industry following the breakup of the Bell system.

Under the first of the new programs, the company will publish annual Opportunities Outlook Reports and Placement Reports. These will inform employees about emerging jobs and qualifying knowledge and skills. The knowledge and skills will be offered under a training and retraining program financed by AT&T and administered by an AT&T-IBEW National Partnership Committee. Relevant training gained by employees under this program will be considered by the company in selecting workers for future job openings.

The third facet of increased job security is a Transfer Consideration Plan to enable workers to make their career interests and choices known to the company and to ensure that the interests and choices are considered in selecting workers for jobs. A feature of this plan is a provision permitting workers to transfer among the AT&T divisions.

The fourth approach is the establishment of an Employment Opportunities Review System under which current and laid-off employees will be informed of, and can apply for, jobs which would have been filled by new hires.

In the wage area, rates at the top of the progression schedule (which covers about 90 percent of the employees) for each grade were increased by 2 percent, intermediate steps were increased by smaller amounts, and starting rates were not changed. The increase was effective June 1, 1986, and will be followed by a May 31, 1987, and May 29, 1988, increase in rates ranging from 3 percent at the top progression step down to nothing in the starting step. All employees on the payroll at the time of an increase—including those in starting steps—were assured a raise of at least $1 a week.

The provision for automatic annual cost-of-living pay adjustments was retained in the contract but will be inoperative. Apparently, the union pressed for retention of the language to increase its chances of regaining an operating provision in the future. Under the 1983 agreements, workers represented by the IBEW (and those represented by the CWA) received adjustments in August of 1984 and 1985 totaling about $3.70 a week plus 4.5 percent of individual wage rates.

The number of pay grades was reduced to three, from 10, at manufacturing plants in Omaha, NE, Shreveport, LA, Little Rock, AR, Columbus, OH, Montgomery, IL, and Denver, CO, resulting in additional pay increases for some employees. Also, wage incentives were discontinued at these plants. In exchange, employees received lump-sum payments (up to $7,000, varying by plant location or job grade) or increases in base pay rates.

In a move to reduce costs, the parties established a "Technician Assistant" job to perform certain "menial job functions" previously performed by highly paid "Systems Technicians." The Technician Assistants will start at $200 a week and progress to $360 a week over a 30-month period. At the time of settlement, the maximum was $633 for Systems Technicians. In a related action, the parties also established a "Senior Technician" job, paying 5 percent more

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"Developments in Industrial Relations" is prepared by George Ruben of the Division of Developments in Labor-Management Relations, Bureau of Labor Statistics, and is largely based on information from secondary sources.

than the Systems Technician job. Because a surplus of Systems Technicians was expected to develop, AT&T agreed to temporarily offer workers in the job category increases in pensions as an inducement to retire.

Other terms included—

- A 4-percent increase in pensions effective October 1, 1986, for employees retiring after May 31, 1986, and a 4-percent increase on October 1, 1988, for those retiring on or after that date.
- A 4.5-percent increase in pensions effective January 1, 1988, for all employees who retired prior to January 1, 1985. Those retiring between January 1, 1985, and January 1, 1988, will receive a prorated portion of the 4.5-percent increase.
- Addition of a new top wage bracket of $700 or more per week to the Savings and Security Plan, permitting allotments of up to $40 a week. All participants may now designate part or all of their allotment as "pre-tax" allotments under Section 401(k) of the Internal Revenue Code.
- Revision of the medical plan to cover extended health care facilities, home health care agencies, birthing centers, and chemical dependency.
- A $250 increase, to $1,000, in the annual limit on covered dental charges.

Following the settlements with AT&T, the unions' bargaining attention shifted to the seven regional operating companies and the major question was to what extent the companies would follow the terms of the AT&T accords. Contracts at the regional companies were generally scheduled to expire on August 9, 1986 (the same as the original expiration date at AT&T). Early in 1986, AT&T and the CWA and IBEW had moved their contract expiration date to May 31, 1986.

The first accord at an operating company came in late June, when Illinois Bell Telephone Co. and the IBEW settled for 12,800 installation and repair technicians, data processors, and marketing and sales employees. Bargaining was continuing for 2,300 directory assistance operators represented by the CWA.

The 3-year Illinois Bell-IBEW accord provided for an initial wage increase and a $400 lump-sum payment for an average of 2.5 percent. In the second and third years, all employees will receive 2-percent pay increases. The cost-of-living pay adjustment formula was continued, but the annual adjustments will occur only if the CPI rises more than 2 percent during a 12-month period and is subject to a 5.5-percent limit on the rise.

Other terms included—

- A "success sharing plan" under which employees will receive annual lump-sum payments of at least 1 percent (of earnings) and as much as 2 percent, using a formula based on the company's return on equity and measures of customer satisfaction.
- A 4-percent increase in pensions in 1987 and 1989.
- Continuation of job training programs that have been successful in helping make job transitions, according to the company.
- An expanded health care program called "healthchoice" offering employees the choice of a preferred provider plan that eliminate deductibles.

Illinois Bell is part of Ameritech, one of the two regional operating companies that decided to have its component companies bargain individually with the unions. The other regional company using this approach is U.S. WEST. The five regional companies bargaining as a unit with the unions were NYNEX, Bell South, Bell Atlantic, Pacific Telesis, and Southwestern Bell.

Auto Workers, Caterpillar agree on concessions

The Auto Workers agreed to a 28-month contract with Caterpillar, Inc., that essentally froze wages and included changes in the job structure intended to hold down labor costs, despite an increase in profits at the company. (Caterpillar earned a $139 million profit during the second quarter of 1986, up from $50 million in the second quarter of 1985.) In return, Caterpillar agreed to establish a job security program and an employee development and training program to help reduce the number of workers on layoff. The accord covered 16,600 active and 13,000 laid-off workers in six States. Much of Caterpillar's problems in selling its construction equipment and diesel engines result from increasing penetration of U.S. market by foreign manufacturers.

Under the new Protected Employee Group program, 90 percent of the employees in the bargaining unit will be protected against layoffs resulting from economic conditions or marketplace changes, "sourcing" decisions, introduction of new technology, productivity improvements, and consolidation of operations. Exclusions from the job guarantee include temporary layoffs of up to 6 weeks a year; work force cuts resulting from labor disputes or sale or cessation of operations; and layoffs resulting from events beyond the company's control. Caterpillar will commit a total of $21 million to this program and to the job retraining program, which will also use any available financial support from Federal and State governments.

The retraining program is aimed at providing new skills for workers. It will particularly aid senior employees who in the past might have been laid off because they lacked skills needed to move into other jobs. Reportedly, 1,000 to 1,200 of such laid-off employees will be retrained and rehired during the next 18 months.

The provisions for automatic quarterly cost-of-living pay adjustments was continued at 1-cent-an-hour for each 0.26-point movement in the BLS CPI-W (1967=100), subject to a total diversion of 23 cents an hour over the term. The diverted money will be used to help pay for the job training program and other contract provisions.

Current employees will receive a $180 immediate lump-sum payment, and those returning from layoff by July 10, 1987, will receive this payment when they resume work.

For current employees, normal pension rates were increased by $3.05 a month for each year of credited service; the "30-and-out" pension was increased to as much as $1,205 a month; and, if Caterpillar requests employees to retire early to reduce employment levels, the company has the option of adding a $300 a month inducement to regular early pensions. All current retirees will receive a $1 a month increase in their benefit rate plus $200 payments in December of 1986 and 1987.

Other provisions included a 4-cent-an-hour increase in the company's maximum financing of Supplemental Unemployment Benefits, which will help to eliminate the reduction in benefits being suffered by laid-off employees because of the large number drawing from the fund; an additional paid holiday, the birthday of Dr. Martin Luther King, Jr.; and changes in the profit-sharing plan that will raise payouts by 75 percent, according to the union.

Elsewhere in the industry, Deere & Co. and the Auto Workers agreed to extend their contract to October 17, 1986, from May 30, 1986, to await the outcome of the Caterpillar talks. (After the Caterpillar settlement, Deere and the UAW changed their expiration date to late August.) Deere, the Nation's largest farm equipment manufacturer, reported a $33.4 million loss during the quarter ending April 30, and was in the process of reducing operations. The union's contracts with J.I. Case Co. for its original farm equipment operations and for those it purchased from International Harvester Co. (now Navistar International Corp.) in 1985 expire in February 1987. Navistar now manufacturers only trucks. Its contract with the Auto Workers was scheduled to expire September 30, 1986.

Strike against Weyerhaeuser ends

A 6-week strike against Weyerhaeuser Co.'s forest product operations in Oregon and Washington ended when members of two unions approved new contracts that cut wages more than 20 percent. One of the unions, the Woodworkers, settled first for 6,200 employees it represents at logging operations, followed by the Lumber Production and Industrial Workers unit of the Carpenters union, which agreed to similar terms for 1,000 workers it represents at lumber mills. It was not immediately clear if other forest products firms in the Pacific Northwest would settle with the unions on similar terms, reflecting the difficulties the employers (and employees) have been experiencing in recent years as a result of increasing competition from lower cost operators in the region, in the South, and in Canada.

The 2-year Weyerhaeuser contract calls for an average pay cut of $2.90 an hour and benefit cuts of about $1. Prior to the settlements, mill workers averaged $18.19 an hour in wages and benefits and loggers averaged $22.36, according to the company.

The compensation cut was about the same as in an earlier company offer the workers had overwhelmingly rejected. A major difference that influenced the vote on the second accord was the dropping of a company proposal that promotions and job retention be based on employee "competence," rather than seniority.

During the last 20 years, collective bargaining had been relatively stable in the industry, with the larger companies settling with the unions on uniform terms that were then extended to other companies. In 1983, the larger companies and the unions agreed on a wage and benefit package, but Louisiana-Pacific Corp. refused to follow the pattern and countered a union strike by hiring replacements and continuing operations. Eventually, the unions lost the right to represent workers at the company's western operations. In late 1985, Potlatch Corp. closed certain unprofitable operations in Idaho, reopening them only after 850 members of the Woodworkers union agreed to compensation cuts.

The 1986 round of bargaining was drastically changed when the pattern-setting Western States Wood Products Employers Association (also known as the "Big Seven") broke up and announced that the companies would bargain individually, and in some cases, on a mill-by-mill basis.

To counter this fragmented approach, the two unions attempted to coordinate their bargaining efforts and demands by forming a Forest Products Joint Bargaining Board. One of the Board's goals was to move toward eliminating the compensation differential between regions by winning larger increases for southern workers in negotiations scheduled for 1987.

Copper industry gains labor costs reductions

The copper mining and processing industry, plagued by severe financial problems resulting from worldwide overproduction, gained some reductions in labor costs in midyear settlements. Kennecott, the domestic industry's largest producer, indicated that lower costs would enable it to reopen its large Bingham Canyon, UT, mine and recall 2,000 employees who lost their jobs when operations shut down in 1985. The 14 unions attempted to tailor each of the copper accords to the condition of the company. The unions, led by the Steelworkers, comprised the Nonferrous Industry Coordinating Committee. About 8,000 active and 5,000 laid-off workers were covered by the settlements, compared with about 25,000 active employees in the late 1970's.

The first settlement, which occurred just before the contract expiration date for all the major companies, involved 3,000 employees of Newmont Mining Corp.'s Magma Copper Co. and Pinto Valley Copper Co. facilities in Arizona. It provided for a pay cut of 20 percent, resulting in hourly rate ranges of $9 to $12.60 at Magma and $8.88 to $13 at Pinto Valley. The cut, which reportedly averaged $2.82 an hour, could be alleviated or eliminated under a new bonus plan contingent on rises in copper prices. In 1987, the quarterly payments will be calculated at 10 cents per hour for each one-cent rise in the price of a pound of copper above 70 cents, an extra 15 cents for each one-cent rise above 80 cents, and an additional 25 cents for each one-cent rise above 90 cents, up to $1. In 1988, the formula will be 15 cents for each one-cent rise from 71 to 90 cents and 25 cents for each one-cent rise from 91 cents to $1. Employees may take the money in cash or in a 401(k) savings plan, or a combination of the two. At the time of settlement, the price of copper was 63 cents a pound.

Other wage terms included termination of the provision for automatic cost-of-living pay adjustments, which had provided the only pay increase under the prior contract.

Benefits also were standardized at the two companies, resulting in pension improvements at Magma and health insurance improvements at Pinto Valley. A new health insurance cost containment plan requires deductible and co-insurance payments by the workers.

Newmont estimated that the employee sacrifices would cut labor costs to less than 50 percent of production costs, from 52 percent. The company lost $34.2 million in 1985.

The second settlement in the bargaining round involved 1,650 ASARCO employees who agreed to a 3-year contract that called for an initial wage cut of $3.50 an hour. In the second year, there will be a 75-cent-an-hour wage increase, followed by a $1 increase in the final year. As at Newmont, the cost-of-living provision was terminated. Benefits were unchanged, except for adoption of annual health insurance deductibles of $100 for single employees and $300 for families. The ASARCO operations are located in Texas, Arizona, Washington, and New Jersey.

Kennecott Corp. took the firmest stand against the unions, contending that it required a larger cut than the other companies because its compensation levels were $4-$5 an hour higher. Kennecott said its wage and benefit costs averaged $24 an hour, and asked for an $8 reduction.

Under the 4-year contract, compensation was reduced by $5.40 an hour or about 22 percent. The wage portion of compensation, which averaged about $13.50, was cut an average of $3.22. Cost-of-living adjustments also were terminated. The terms for the 1,500 active and 5,000 laid-off employees included a $1,000 lump-sum payment to active employees within 60 days.

Employees will now be required to pay 20 percent of health insurance premium costs and $350 annual deductibles if they are single and $700 if married. Deductibles also were instituted for dental coverage, vision coverage was eliminated, vacation pay was reduced, and a number of local contracts were consolidated to cut costs by eliminating or changing work rules. At the time of settlement, Kennecott reportedly had 1,500 contracts with 41 local unions.

Another major producer, Phelps Dodge Corp., was not involved in the negotiations because the unions were decertified as bargaining agents earlier in the year. The events leading to the employee vote to terminate union representation began in 1983, when Phelps Dodge refused to accept the settlement pattern of the other companies, leading to a strike that eventually proved unsuccessful as the company moved toward full output by hiring replacement workers.

Alcoa-Reynolds contracts

In similar settlements, the Aluminum Co. of America and Reynolds Metals Co. gained some labor cost reductions from the United Steelworkers and the Aluminum, Brick and Glass Workers, but the reductions were less than that negotiated last year by Kaiser Aluminum and Chemicals Corp. (See *Monthly Labor Review*, June 1985, p. 50.)

The new Alcoa-Reynolds contracts provide for a 95-cent-an-hour reduction in labor compensation, which reportedly totaled about $24, including $13 in pay. Both unions agreed to eliminate extended vacations—10 weeks of paid time off employees had received once every 7 years instead of the regular annual vacation for that year. (Employees will be paid for the amount of time off they had accrued at the time of termination.) The unions also agreed to eliminate vacation bonuses—amounts ranging from $30 to $112.50 per week (varying by the time of year when vacation is taken) added to regular vacation pay as an inducement to vacation at times other than the traditional summer months. (This provision had been suspended during the final 2 years of the 1983 contracts.)

The balance of the 95-cent reduction was attained differently by the two unions. For employees represented by the Steelworkers, changes included reducing the existing cost-of-living pay allowance to 32.6 cents, from 63 cents. For employees represented by the Aluminum Workers, only 2.4 cents was cut from the 56-cent cost-of-living allowance, but they gave up a $700 annual allocation from the company that had been used to cover their health insurance deductible and co-insurance payments, with any unused portion of the $700 paid to them at yearend.

There was no provision for specified wage increases, but both contracts provided for the continuation of quarterly cost-of-living adjustments, calculated at 1-cent-an-hour for each 0.3-index point rise in the BLS CPI-W (1967=100) in excess of 3 percent a year. Previously, the calculation rate was 1 cent for each 0.26-point rise in excess of 2.3 percent a year for the Aluminum Workers and in excess of 1.5 percent a year for the Steelworkers.

All four agreements provide for joint committees to consider the possibility of establishing profit-sharing plans.

The Aluminum Workers represent 8,000 workers at Alcoa and 6,000 at Reynolds, and the Steelworkers represent 7,000 at Alcoa and 3,600 at Reynolds. The unions, which coordinated their bargaining, began a walkout on June 1, but limited it to Alcoa because of the company's "belligerent attitude" and because it is the "major company in the industry," according to a Steelworkers official. Members of both unions began returning to work after a tentative settlement on July 2. In Massena, NY, and Warrick, IN, 3,500 Aluminum Workers stayed out longer over local issues.

States not allowed to quit Social Security system

A recent decision of the Supreme Court held that States may not pull their employees out of the Social Security system. The case was initiated by the State of California, several State agencies, taxpayers, and a group called Public Agencies Opposed to Social Security Entrapment, which challenged a 1983 law prohibiting a State or any of its agencies from withdrawing from the system. The parties contended that the amendment to the Social Security Act violated a 1951 amendment that gave them the right to stay outside the system and, if they joined, to withdraw after 10 years' participation, after giving 2 years' notice. The amendment negated notices California had filed on behalf of about 70 political units for 34,000 employees.

In the unanimous opinion, written by Justice Lewis F. Powell, Jr., the Court said the 1983 law "simply was part of a regulatory program over which Congress retained authority to amend in the exercise of its power to provide for the general welfare."

In seeking a review of a Federal district judge's finding that the amendment was unconstitutional, the Federal Government had argued that the benefit rights of 9 million State and local government employees would be threatened if such withdrawals were permitted, and that the entire system would be threatened if such withdrawals were permitted to continue. Government entities that have withdrawn or attempted to withdraw have contended they could obtain better benefits at lower costs by other means, such as State-backed pension plans.

The decision in the case, *Bowen, Secretary of Health and Human Services et al vs. Public Agencies Opposed to Social Security Entrapment et al,* does not apply to political units not now in the system, unless they choose to join.

Supreme Court hears sexual harassment case

The Supreme Court unanimously ruled that sexual harassment of an employee by a supervisor violates Title 7 of the Civil Rights Act of 1964, which prohibits racial and sexual discrimination. In one opinion, written by Justice William H. Rehnquist and joined by four other justices, the Court held that sexual harassment that is "sufficiently severe or pervasive" to create "a hostile or abusive work environment" is a violation even if the sexual demands are not tied to employment benefits.

However, Rehnquist said companies are not "always automatically liable for sexual harassment by their supervisors." According to his reasoning, an employer's lack of knowledge of sexual harassment by a supervisor "does not necessarily insulate that employer from liability," but he did not issue a precise rule on employer liability. Rehnquist also said the appellate court had erred in prohibiting the defendant from presenting testimony intended to show that the employee's dress and conversation invited advances by the supervisor.

Justice Thurgood Marshall, joined by three other justices, agreed that "workplace sexual harassment is illegal," but disagreed on the issue of employer liability. Marshall contended that employers should be held liable for sexual harassment by their employees "regardless of lack of knowledge or any other mitigating factor." This position, which backed the guidelines adopted by the Equal Employment Opportunity Commission (EEOC) in 1980, was opposed by the present EEOC and the Department of Justice. In a joint brief, they argued that penalties should be imposed only on employers who know or should know of sexually offensive conditions or who do not provide reasonable means for bringing complaints to the employers' attention and seek remedies.

The case, *Meritor Savings Bank v. Vinson,* arose when Mechelle Vinson accused her supervisor, Sidney L. Taylor, of pressuring her into a sexual relationship. Taylor denied the charge, and the Washington, DC, bank contended that it was not aware of any sexual harassment by Taylor. A federal district judge ruled in favor of the defendants, but this decision was reversed by the U.S. Court of Appeals for the District of Columbia, leading to the Supreme Court appeal.

Military pension formula revised

President Ronald Reagan signed the Military Retirement Reform Act of 1986, intended to induce members of the Armed Forces to prolong their careers by revising the pension formula. The new formula applies to people entering the Armed Forces after August 1, 1986, and attaining the existing minimum 20 years' service required for normal retirement.

Under the new formula, those retiring at or after age 62 with 20 years' service will receive a pension equal to 40 percent of their average annual basic pay during their highest three consecutive years. Those with longer service will receive an additional 2.5 percent of the average annual basic pay figure for each year in excess of 20, up to a maximum pension of 75 percent after 30 years or more of service.

Those retiring before age 62 will receive a benefit ranging from 40 percent for 20 years' service to 75 percent for 30 years. When these retirees attain age 62, their pensions will automatically increase to the amount they would have received by retiring at age 62 with the same length of service.

In another change, service members retiring before age 62 will receive automatic annual percentage adjustments in their pension equal to any rise in the BLS-Consumer Price

Index over a 12-month period, less 1 percentage point. On attaining age 62, their benefit rate will be restored to the amount they would have received if the 1-percentage point withholding had not occurred. Thereafter, any annual increases under the provision will again be reduced by 1 percentage point.

Those retiring at age 62 or later will continue to receive the full amount of any annual increases. Previously, all retirees received the full amount of any annual increases, regardless of age.

Previously, age was not a factor in calculating pensions, which ranged from 50 percent after 20 years service to 75 percent after 30 years or more.

New York City imposes residency requirements

New York City joined the list of cities imposing residency requirements on municipal employees when the city council approved a bill requiring employees hired on or after September 1, 1986, to be residents or to move into the city within 90 days. Ultimately, the requirement will apply to 80,000 city employees. It does not apply to 180,000 employees in the city's uniformed services or in independent agencies created by the State.

In 1978, the city council had adopted a bill requiring all municipal employees to reside in the city. However, in 1980 the State's Court of Appeals held that the city did not have jurisdiction over the independent agencies and that the city's law was superseded by a State law requiring the uniformed employees to reside in the city's five boroughs or in six nearby New York counties.

While the city council was approving the new 1986 residency requirement, the State legislature approved a bill permitting uniformed employees who have been living in New York State but outside of New York City and the six nearby counties to remain where they are. The bill also requires city employees living outside the State to move into the metropolitan area within 1 year. Those hired for the uniformed services in the future will have to reside in the city or the six nearby counties.

A number of major cities have adopted employee residency requirements, including Boston, Philadelphia, Chicago, Detroit, Cleveland, and Buffalo. Generally, backers contend such requirements are proper because the employees serve the public better if they reside where they work, the employees are more readily available for emergency situations, and they aid the city's economy by spending part of their pay locally.

Critics generally contend that residency requirements unfairly limit where employees may live and are particularly onerous for low-income employees.

Hospital contracts

A 3-month strike against hospitals in Kentucky, West Virginia, and Virginia ended when members of the United Steelworkers union approved a 3-year contract with the Appalachian Regional Hospitals, operator of the nine institutions (employees remained on strike at another institution in Man, wv). Two of the hospitals settled in mid-June, and the others settled at the end of the month, breaking the tradition of negotiating master contracts covering all 10 hospitals.

Wage terms were the same at all locations: an increase of 3.9 percent or an average of 28 cents an hour in the first year, 3.7 percent or 26 cents in the second year, and 3.5 percent or 25 cents in the final year.

There were no changes in benefits, but there were numerous changes in job bumping, seniority, and absenteeism provisions. According to an official of the hospital agency, some of the 1,850 licensed practical nurses and clerical, technical, and service employees might not be recalled because the hospitals operated efficiently during the stoppage and some patients had been lost to competing hospitals.

In Philadelphia, 5,000 workers engaged in sit-down strikes lasting about 4 hours before settling with eight hospitals and several clinics. The nurses, aides, orderlies, and other employees won wage increases of 5 percent in the first year, 4 percent in the second year, and 3 percent in the final year. Prior to the settlement, pay reportedly averaged $8.50 an hour.

Benefit changes negotiated by the National Union of Hospital and Health Care Employees include a reduction in the surcharge the hospitals had been applying to employees' medical bills in order to cut a fund surplus; a 12.2-percent (of payroll) employer payment to the fund (formerly 12 percent), subject to a further increase in the third year if required to maintain current benefit levels; adoption of a program to contain cost increases for medical care; and adoption of a preferred provider organization among the hospitals guaranteeing that workers will be treated without cost in the hospital where they are employed.

The union said that hospitals also generally agreed to a number of "social" demands, such as giving 6 months' notice of cuts or elimination of service; formation of joint committees to find alternative uses for underutilized beds; giving union and community leaders a voice in adding or terminating hospital services; prohibiting volunteers from performing duties of employees in the bargaining unit; and establishing committees to control the use of part-time employees.

Food and Commercial Workers settlements

In New York State, a 3-year settlement between P&C Food Markets, Inc., and United Food and Commercial Workers Local 1 does not provide for a wage increase in the first year, but the 4,200 workers will receive lump-sum payments later. The payments—quarterly in the second year and semiannual in the third—will be calculated at 30 cents for each work, vacation, and holiday hour for full-time employees and at 15 cents for part-time employees. At the time of settlement, pay rates were $11.85 an hour for top-rated meatcutters. Top rates for clerks were $10.325 an hour for those hired before May 23, 1983, and $8.80 for those hired later.

Cost-reducing changes won by the 66 stores included elimination of the cost-of-living pay adjustment clause; reduced premium pay for some holiday, weekend, and overtime work; and eligibility of part-timers for health insurance after 6 months' service (formerly 3 months).

In north central Pennsylvania, the United Food and Commercial Workers and Riverside Supermarkets agreed on wage cuts in exchange for a moratorium on closing any of the 22 stores during the 3-year contract term. The company had closed 20 stores and laid off 1,800 employees during the last 2 years, citing intense competition from nonunion grocery stores with lower labor costs.

The maximum pay cut of 89 cents an hour (to $11.03) applied to meat department managers. The cut was 77 cents (to $9.64) for top-rated meat cutters, and 69 cents (to $8.63) for top rated grocery clerks. Pay was not reduced for workers in the lowest grades.

All employees except courtesy clerks will receive 10-cent wage increases in May and November of 1988.

Job and wage security provided for New UPI workers

New UPI, Inc., the successor to financially troubled United Press International, negotiated a 1-year contract that provides job and wage protection for the 750 employees remaining in the bargaining unit. Since 1984, when the union agreed to a 25-percent pay cut to aid the news service, which is operating under protection of the bankruptcy court, hundreds of employees have lost their jobs.

Under the accord, which expires April 20, 1987, wages are set at 105 percent of the levels in effect immediately prior to the cut; company debts to the union and the employees will be paid in full (compared with 40 percent to most other creditors); the company will not reduce the number of full-time permanent employees in the unit during the agreement term, and will consider the possibility of increasing the work force; a profit-sharing plan will be established; and the company will invest $15 million in new equipment over the next 2½ years. ☐

ERRATA

In the research summary "Displaced workers: one year later," which appeared in the July issue, the last sentence beginning on p. 40 contains an incorrect figure. The sentence should read:

> Among the unemployed of January 1984, 50 percent or more of both white and Hispanic workers were employed in 1985, compared with 42 percent of black workers.

In table 2, p. 41, two labor force classifications were transposed (the data are correct as shown). The top classification of the second category should read "From unemployed to—" and the top classification of the third category "From not in labor force to—." The correct table appears below.

Table 2. Labor force transition rates for displaced workers by sex, race, and Hispanic origin, January 1984 to January 1985
[Percent]

Labor force category	Displaced workers, 20 years and over[1]						Others, 20 years and over
	Total	Men	Women	White	Black	Hispanic origin[2]	
From employed to—							
Employed	87.9	88.8	85.9	87.8	88.1	80.8	89.4
Unemployed	7.8	9.2	4.6	7.7	8.4	11.5	3.0
Not in labor force	4.3	1.8	9.5	4.5	3.5	8.5	7.6
From unemployed to—							
Employed	53.0	53.5	52.1	55.3	42.4	50.0	47.8
Unemployed	27.5	31.8	18.7	24.3	42.4	15.0	26.3
Not in labor force	19.5	14.6	28.8	20.3	15.2	35.0	25.9
From not in labor force to—							
Employed	19.8	17.1	21.8	19.5	15.3	32.0	10.8
Unemployed	5.5	8.9	2.7	4.2	12.6	4.0	2.5
Not in labor force	74.8	73.7	75.5	76.3	72.1	64.0	86.7

[1] Data refer to persons age 20 and over with tenure of 3 years or more who lost or left a job between January 1979 and January 1984 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

[2] Hispanics are included in both the white and black population groups.

NOTE: The transition rate represents the proportion of workers in the first labor force category in January 1984 who were in the second labor force category in January 1985.

Book Reviews

Building bridges

Employing Bureaucracy: Managers, Unions, and the Transformation of Work in American Industry, 1900–1945. By Sanford M. Jacoby. New York, Columbia University Press, 1985. 377 pp. $35.

In the late 1970's, many industrial relations scholars proclaimed that labor history and industrial relations had little in common, and that the former was of little use in formulating public policy. Cross-disciplinary interest in labor and economic history, however, has experienced a marked revival in popularity, most recently exemplified by the joint sessions held at the respective annual meetings of the Industrial Relations Research Association and the American Historical Association. Sanford M. Jacoby, Professor of Industrial Relations at the UCLA Graduate School of Management, has contributed to the revival with this excellent historical analysis of the evolution of the American labor market through the interactions of employers, workers, and the Federal Government. Jacoby states that a primary purpose of this book is "to rebuild the bridge between labor economics and economic history."

Jacoby takes the reader on a chronological journey that begins before the turn of the century through the World War II period, analyzing the macroeconomic, social, and political forces that influenced and directed our internal labor market. The first chapters revolve around efforts to stabilize industry in the late 19th and early 20th centuries, acknowledged as the formative period of modern industrial capitalism, through social and economic planning. Industrial engineers, social welfare workers, political reformers, liberal trade unionists, and progressive employers led this search for order by focusing on the problems of American workers—job alienation, unemployment and job security, labor turnover and unrest—and in implementing corrective workplace innovations—employee stock ownership plans, work-sharing plans, pension plans, and fringe benefits. This collectively fit under the umbrella of personnel management, a fairly new and unwelcomed concept to the generic employer of the early 1900's. In fact, it took the crises of war and depression, thoroughly covered in the second segment of the book, to dislodge most employers from a market oriented and incongruous employment system to a professional personnel management structure as an intrinsic part of corporate employment policy.

Between world conflict and economic malaise, the average employer unsuccessfully fought for a regression to the status quo of pre-World War I. At the center of this struggle was the factory foreman, and Jacoby highlights his metamorphosis from shop floor autocrat to marginal manager in the production process. He also illustrates that foremen allied with production and marketing managers in opposition to the new managerial order and for retention of the production oriented but dehumanizing "drive system" of labor relations. As Jacoby also notes, the wounds of propersonnel management advocates were often self-inflicted; philosophical divisions within ranks were deleterious to the cause.

The central theme of *Employing Bureaucracy* is that the transformation of the workplace was not the result of a free labor market but a reaction to it. Sophisticated personnel practices (that is, structured work rules, job classifications, and other bureaucratic facets of corporate employment policy) developed from employer responses to trade union pressures and equitable government legislation. For example, Jacoby illustrates that personnel departments flourished following enactment of the National Industrial Recovery Act (NRA), and subsequent Wagner Act, in direct correlation to the institutionalization of collective bargaining through the labor adjustment machinery created by the legislation; this followed patterns set in the World War I period, when similar adjustment mechanisms tried to prevent production defeating disputes in a tight labor market.

In tracing the evolution of this phase of the work process, the author provides a well constructed and meticulously researched narrative on the related segments of trade unionism, welfare capitalism, Taylorism, and vocational education. If you want to read about ethno-cultural divisions in the workplace, rank and file militancy, or class collaboration, you will have to look elsewhere. Jacoby eschews Marxist and other radical theories for traditional industrial relations history. Undoubtedly, some reviewers will criticize this and cite the lack of new information or theory as shortcomings of the book. But, while some information has been studied and published previously, the holistic value of the work is significant. With the exception of works like Daniel Nelson's *Workers and Managers: Origins of the New Factory System in the United States,* labor history has lacked this type of study in recent years.

It would have been interesting if Jacoby had touched on and at least compared the theories of more radical labor scholars to his own, for example, in regard to some of the Keynesian-corporatist paradigms postulated in explaining the failure of true working class solidarity in the United States. If there is criticism of the book, this would have to be included as a minor point. *Employing Bureaucracy,* therefore, should be read in conjunction with such neo-Marxist interpretations as *Segmented Work, Divided Workers,* by Daniel Gordon, Richard Edwards, and Michael Reich. A good non-Marxist complement to the book, analyzing some of the same material, is *The Second Industrial Divide* by Michael Piore and Charles Sabel.

As the author notes, history is an imperfect guide for public policy, but any study of labor market transitions without institutional memory is seriously flawed. In an alleged era of industrial transition marked by concessionary negotiations, employer demands for more flexible work patterns, and worker participation in managerial decisionmaking, industrial relations policymakers should understand that these are all products of a historical progression. Labor's house has many rooms, but in recent years access between them has been blocked. Perhaps this book will help to open some doors, even if few scholars choose to enter.

—HENRY P. GUZDA
Bureau of Labor Management Relations
and Cooperative Programs
U.S. Department of Labor

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ERRATA

In "Labor and management continue to comb mutual problems," by George Ruben, *Monthly Lab Review*, January 1986, the discussion of the contra between the Clothing and Textile Workers Union a the shirt, cotton garments, and pants industry contai incorrect dates (page 9, second column, four paragraph). The second sentence should read:

> The 3-year accord provided for a lump-sum payment of $500 by December of 1985,followed by payments in December of 1986 and 1987 equal to 6.5 percent of individual employee's earnings (exclusive of any lump-sum payment) during the preceding 12 months.

The contract between the Clothing and Texti Workers Union and the men's and boys' tailor clothing industry was for 2 years, not 3 years reported in the article.

Current Labor Statistics

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Schedule of release dates for BLS statistical series

Series	Release date	Period covered	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	September 5	August	October 3	September	November 7	October	1; 4–21
Producer Price Index	September 12	August	October 10	September	November 14	October	2; 33–35
Consumer Price Index	September 23	August	October 23	September	November 25	October	2; 30–32
Real earnings	September 23	August	October 23	September	November 25	October	14–17
Major collective bargaining settlements	...	...	October 27	1st 9 months	...	...	3; 25–28
Employment Cost Index	...	...	October 28	3rd quarter	...	...	1–3; 22–24
Productivity and costs: Nonfarm business and manufacturing	...	...	October 29	3rd quarter	...	...	2; 42–44
U.S. Import and Export Price Indexes	...	...	October 30	3rd quarter	...	...	36–41
Occupational injuries and illnesses	...	...	...	...	November 13	1985	48

NOTES ON CURRENT LABOR STATISTICS

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics: series on labor force, employment, unemployment, collective bargaining settlements, consumer, producer, and international prices, productivity, international comparisons, and injury and illness statistics. In the notes that follow, the data in each group of tables are briefly described, key definitions are given, notes on the data are set forth, and sources of additional information are cited.

General notes

The following notes apply to several tables in this section:

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect on the data of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might prevent short-term evaluation of the statistical series. Tables containing data that have been adjusted are identified as "seasonally adjusted." (All other data are not seasonally adjusted.) Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. (Seasonally adjusted data appear in tables 1–3, 4–10, 13, 14, 17, and 18.) Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are seasonally adjusted with a procedure called X–11 ARIMA, which was developed at Statistics Canada as an extension of the standard X–11 method previously used by BLS. A detailed description of the procedure appears in *The X–11 ARIMA Seasonal Adjustment Method* by Estela Bee Dagum (Statistics Canada, Catalogue No. 12–564E, February 1980). The second change is that seasonal factors are calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at midyear for the July-December period. However, revisions of historical data continue to be made only at the end of each calendar year.

Seasonally adjusted labor force data in tables 1 and 4–10 were revised in the February 1986 issue of the *Review*, to reflect experience through 1985.

Annual revisions of the seasonally adjusted payroll data shown in tables 13, 14, and 18 were made in the July 1986 *Review* using the X–11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in table 42 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the Hourly Earnings Index in table 17—are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is $2 ($3/150 × 100 = $2). The $2 (or any other resulting values) are described as "real," "constant," or "1967" dollars.

Additional information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. News releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule preceding these general notes. More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in *Employment and Earnings*, a monthly publication of the Bureau. More data from the household survey are published in the two-volume data book—*Labor Force Statistics Derived From the Current Population Survey*, Bulletin 2096. More data from the establishment survey appear in two data books—*Employment, Hours, and Earnings, United States*, and *Employment, Hours, and Earnings, States and Areas*, and the annual supplements to these data books. More detailed information on employee compensation and collective bargaining settlements is published in the monthly periodical, *Current Wage Developments*. More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report*, and *Producer Prices and Price Indexes*. Detailed data on all of the series in this section are provided in the *Handbook of Labor Statistics*, which is published biennally by the Bureau. BLS bulletins are issued covering productivity, injury and illness, and other data in this section. Finally, the *Monthly Labor Review* carries analytical articles on annual and longer term developments in labor force, employment, and unemployment; employee compensation and collective bargaining; prices; productivity; international comparisons; and injury and illness data.

Symbols

p = preliminary. To increase the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally, this revision reflects the availability of later data but may also reflect other adjustments.
n.e.c. = not elsewhere classified.
n.e.s. = not elsewhere specified.

COMPARATIVE INDICATORS
(Tables 1–3)

Comparative indicators tables provide an overview and comparison of major BLS statistical series. Consequently, although many of the included series are available monthly, all measures in these comparative tables are presented quarterly and annually.

Labor market indicators include employment measures from two major surveys and information on rates of change in compensation provided by the Employment Cost Index (ECI) program. The labor force participation rate, the employment-to-population ratio, and unemployment rates for major demographic groups based on the Current Population ("household") Survey are presented, while measures of employment and average weekly hours by major industry sector are given using nonagricultural payroll data. The Employment Cost Index (compensation), by major sector and by bargaining status, is chosen from a variety of BLS compensation and wage measures because it provides a comprehensive measure of employer costs for hiring labor, not just outlays for wages, and it is not affected by employment shifts among occupations and industries.

Data on **changes in compensation, prices, and productivity** are presented in table 2. Measures of rates of change of compensation and wages from the Employment Cost Index program are provided for all civilian nonfarm workers (excluding Federal and household workers) and for all private nonfarm workers. Measures of changes in: consumer prices for all urban consumers; producer prices by stage of processing; and the overall export and import price indexes are given. Measures of productivity (output per hour of all persons) are provided for major sectors.

Alternative measures of wage and compensation rates of change, which reflect the overall trend in labor costs, are summarized in table 3. Differences in concepts and scope, related to the specific purposes of the series, contribute to the variation in changes among the individual measures.

Notes on the data

Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data. For detailed descriptions of each data series, see BLS *Handbook of Methods*, Volumes I and II, Bulletins 2134–1 and 2134–2 (Bureau of Labor Statistics, 1982 and 1984, respectively), as well as the additional bulletins, articles, and other publications noted in the separate sections of the *Review*'s "Current Labor Statistics Notes." Historical data for many series are provided in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). Users may also wish to consult *Major Programs, Bureau of Labor Statistics*, Report 718 (Bureau of Labor Statistics, 1985).

EMPLOYMENT DATA

(Tables 1; 4–21)

Household survey data

Description of the series

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 59,500 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons include (1) all civilians who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. Members of the Armed Forces stationed in the United States are also included in the employed total. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **overall unemployment rate** represents the number unemployed as a percent of the labor force, including the resident Armed Forces. The **civilian unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **labor force** consists of all employed or unemployed civilians plus members of the Armed Forces stationed in the United States. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons who are retired, those engaged in their own housework, those not working while attending school, those unable to work because of long-term illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy, and members of the Armed Forces stationed in the United States. The **labor force participation rate** is the proportion of the noninstitutional populaton that is in the labor force. The **employment-population ratio** is total employment (including the resident Armed Forces) as a percent of the noninstitutional population.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 4–10 are seasonally adjusted, based on the seasonal experience through December 1985.

Additional sources of information

For detailed explanations of the data, see BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 1, and for additional data, *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). A detailed description of the Current Population Survey as well as additional data are available in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*. Historical data from 1948 to 1981 are available in *Labor Force Statistics Derived from the Current Population Survey: A Databook*, Vols. I and II, Bulletin 2096 (Bureau of Labor Statistics, 1982).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

Establishment survey data

Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by more than 250,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

An **establishment** is an economic unit which produces goods or services (such as a factory or store) at a single location and is engaged in one type of economic activity.

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include working supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 12–17 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in the following industries: transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and

services. These groups account for about four-fifths of the total employment on private nonagricutural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earner and Clerical Workers (CPI-W). The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

The Diffusion Index, introduced in the May 1983 *Review*, represents the percent of 185 nonagricultural industries in which employment was rising over the indicated period. One-half of the industries with unchanged employment are counted as rising. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. The diffusion index is useful for measuring the dispersion of economic gains or losses and is also an economic indicator.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of May 1986 data, published in the July 1986 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Unadjusted data have been revised back to April 1984; seasonally adjusted data have been revised back to January 1981. These revisions were published in the *Supplement to Employment and Earnings* (Bureau of Labor Statistics, 1986). Unadjusted data from April 1985 forward, and seasonally adjusted data from January 1982 forward are subject to revision in future benchmarks.

In the establishment survey, estimates for the 2 most recent months are based on incomplete returns and are published as preliminary in the tables (13 to 16 in the *Review*). When all returns have been received, the estimates are revised and published as final in the third month of their appearance. Thus, August data are published as preliminary in October and November and as final in December. For the same reason, quarterly establishment data (table 1) are preliminary for the first 2 months of publication and final in the third month. Thus, second quarter data are published as preliminary in August and September and as final in October.

Additional sources of information

Detailed data from the establishment survey are published monthly in the BLS periodical, *Employment and Earnings*. Earlier comparable unadjusted and seasonally adjusted data are published in *Employment, Hours, and Earnings, United States, 1909–84*, Bulletin 1312–12 (Bureau of Labor Statistics, 1985) and its annual supplement. For a detailed discussion of the methodology of the survey, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 2. For additional data, see *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

Unemployment data by State

Description of the series

Data presented in this section are obtained from two major sources—the Current Population Survey (CPS) and the Local Area Unemployment Statistics (LAUS) program, which is conducted in cooperation with State employment security agencies.

Monthly estimates of the labor force, employment, and unemployment for States and sub-State areas are a key indicator of local economic conditions and form the basis for determining the eligibility of an area for benefits under Federal economic assistance programs such as the Job Training Partnership Act and the Public Works and Economic Development Act. Insofar as possible, the concepts and definitions underlying these data are those used in the national estimates obtained from the CPS.

Notes on the data

Data refer to State of residence. Monthly data for 11 States—California, Florida, Illinois, Massachusetts, Michigan, New York, New Jersey, North Carolina, Ohio, Pennsylvania, and Texas—are obtained directly from the CPS, because the size of the sample is large enough to meet BLS standards of reliability. Data for the remaining 39 States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates for the 11 States are revised to new population controls. For the remaining States and the District of Columbia, data are benchmarked to annual average CPS levels.

Additional sources of information

Information on the concepts, definitions, and technical procedures used to develop labor force data for States and sub-State areas as well as additional data on sub-States are provided in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*, and the annual report, *Geographic Profile of Employment and Unemployment* (Bureau of Labor Statistics). See also *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 4.

COMPENSATION AND WAGE DATA

(Tables 1–3; 22–29)

COMPENSATION AND WAGE DATA are gathered by the Bureau from business establishments, State and local governments, labor unions, collective bargaining agreements on file with the Bureau, and secondary sources.

Employment Cost Index

Description of the series

The **Employment Cost Index** (ECI) is a quarterly measure of the rate of change in compensation per hour worked and includes wages, salaries, and employer costs of employee benefits. It uses a fixed market basket of labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over time in employer costs of employing labor. The index is not seasonally adjusted.

Statistical series on total compensation costs and on wages and salaries are available for private nonfarm workers excluding proprietors, the self-employed, and household workers. Both series are also available for State and local government workers and for the civilian nonfarm economy, which consists of private industry and State and local government workers combined. Federal workers are excluded.

The Employment Cost Index probability sample consists of about 2,200 private nonfarm establishments providing about 12,000 occupational observations and 700 State and local government establishments providing

3,500 occupational observations selected to represent total employment in each sector. On average, each reporting unit provides wage and compensation information on five well-specified occupations. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Fixed employment weights from the 1980 Census of Population are used each quarter to calculate the indexes for civilian, private, and State and local governments. These fixed weights, also used to derive all of the industry and occupation series indexes, ensure that changes in these indexes reflect only changes in compensation, not employment shifts among industries or occupations with different levels of wages and compensation. For the bargaining status, region, and metropolitan/nonmetropolitan area series, however, employment data by industry and occupation are not available from the census. Instead, the 1980 employment weights are reallocated within these series each quarter based on the current sample. Therefore, these indexes are not strictly comparable to those for the aggregate, industry, and occupation series.

Definitions

Total compensation costs include wages, salaries, and the employer costs for employee benefits.

Wages and salaries consist of earnings before payroll deductions, including production bonuses, incentive earnings, commissions, and cost-of-living adjustments.

Benefits include the cost to employers for paid leave, supplemental pay (including nonproduction bonuses), insurance, retirement and savings plans, and legally required benefits (such as social security, workers' compensation, and unemployment insurance).

Excluded from wages and salaries and employee benefits are such items as payment-in-kind, free room and board, and tips.

Notes on the data

The Employment Cost Index data series began in the fourth quarter of 1975, with the quarterly percent change in wages and salaries in the private nonfarm sector. Data on employer costs for employee benefits were included in 1980 to produce, when combined with the wages and salaries series, a measure of the percent change in employer costs for employee total compensation. State and local government units were added to the ECI coverage in 1981, providing a measure of total compensation change in the *civilian* nonfarm economy (excluding Federal employees). Historical indexes (June 1981=100) of the quarterly rates of change are presented in the May issue of the BLS monthly periodical, *Current Wage Developments*.

Additional sources of information

For a more detailed discussion of the Employment Cost Index, see the *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 11, and the following *Monthly Labor Review* articles: "Employment Cost Index: a measure of change in the 'price of labor'," July 1975; "How benefits will be incorporated into the Employment Cost Index," January 1978; "Estimation procedures for the Employment Cost Index," May 1982; and "Introducing new weights for the Employment Cost Index," June 1985.

Data on the ECI are also available in BLS quarterly press releases issued in the month following the reference months of March, June, September, and December; and from the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

Collective bargaining settlements

Description of the series

Collective bargaining settlements data provide statistical measures of negotiated adjustments (increases, decreases, and freezes) in compensation (wages and benefits costs) and wages alone, quarterly for private industry and semiannually for State and local government. Compensation measures cover all collective bargaining situations involving 5,000 workers or more and wage measures cover all situations involving 1,000 workers or more. These data, covering private nonagricultural industries and State and local governments, are calculated using information obtained from bargaining agreements on file with the Bureau, parties to the agreements, and secondary sources, such as newspaper accounts. The data are not seasonally adjusted.

Settlement data are measured in terms of future specified adjustments: those that will occur within 12 months after contract ratification—first year—and all adjustments that will occur over the life of the contract expressed as an average annual rate. Adjustments are worker weighted. Both first-year and over-the-life measures exclude wage changes that may occur under cost-of-living clauses that are triggered by future movements in the Consumer Price Index.

Effective wage adjustments measure all adjustments occurring in the reference period, regardless of the settlement date. Included are changes from settlements reached during the period, changes deferred from contracts negotiated in earlier periods, and changes under cost-of-living adjustment clauses. Each wage change is worker weighted. The changes are prorated over all workers under agreements during the reference period yielding the average adjustment.

Definitions

Wage rate changes are calculated by dividing newly negotiated wages by the average hourly earnings, excluding overtime, at the time the agreement is reached. Compensation changes are calculated by dividing the change in the value of the newly negotiated wage and benefit package by existing average hourly compensation, which includes the cost of previously negotiated benefits, legally required social insurance programs, and average hourly earnings.

Compensation changes are calculated by placing a value on the benefit portion of the settlements at the time they are reached. The cost estimates are based on the assumption that conditions existing at the time of settlement (for example, methods of financing pensions or composition of labor force) will remain constant. The data, therefore, are measures of negotiated changes and not of total changes in employer cost.

Contract duration runs from the effective date of the agreement to the expiration date or first wage reopening date, if applicable. Average annual percent changes over the contract term take account of the compounding of successive changes.

Notes on the data

Care should be exercised in comparing the size and nature of the settlements in State and local government with those in the private sector because of differences in bargaining practices and settlement characteristics. A principal difference is the incidence of cost-of-living adjustment (COLA) clauses which cover only about 2 percent of workers under a few local government settlements, but cover 50 percent of workers under private sector settlements. Agreements without COLA's tend to provide larger specified wage increases than those with COLA's. Another difference is that State and local government bargaining frequently excludes pension benefits which are often prescribed by law. In the private sector, in contrast, pensions are typically a bargaining issue.

Additional sources of information

For a more detailed discussion on the series, see the *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 10. Comprehensive data are published in press releases issued quarterly (in January, April, July, and October) for private industry, and semi-

annually (in February and August) for State and local government. Historical data and additional detailed tabulations for the prior calendar year appear in the April issue of the BLS monthly periodical, *Current Wage Developments*.

Work stoppages

Description of the series

Data on **work stoppages** measure the number and duration of major strikes or lockouts (involving 1,000 workers or more) occurring during the month (or year), the number of workers involved, and the amount of time lost because of stoppage.

Data are largely from newspaper accounts and cover only establishments directly involved in a stoppage. They do not measure the indirect or secondary effect of stoppages on other establishments whose employees are idle owing to material shortages or lack of service.

Definitions

Number of stoppages: The number of strikes and lockouts involving 1,000 workers or more and lasting a full shift or longer.

Workers involved: The number of workers directly involved in the stoppage.

Number of days idle: The aggregate number of workdays lost by workers involved in the stoppages.

Days of idleness as a percent of estimated working time: Aggregate workdays lost as a percent of the aggregate number of standard workdays in the period multiplied by total employment in the period.

Notes on the data

This series is not comparable with the one terminated in 1981 that covered strikes involving six workers or more.

Additional sources of information

Data for each calendar year are reported in a BLS press release issued in the first quarter of the following year. Monthly data appear in the BLS monthly periodical, *Current Wage Developments*. Historical data appear in the BLS *Handbook of Labor Statistics*.

Other compensation data

Other BLS data on pay and benefits, not included in the Current Labor Statistics section of the *Monthly Labor Review*, appear in and consist of the following:

Industry Wage Surveys provide data for specific occupations selected to represent an industry's wage structure and the types of activities performed by its workers. The Bureau collects information on weekly work schedules, shift operations and pay differentials, paid holiday and vacation practices, and information on incidence of health, insurance, and retirement plans. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Monthly Labor Review*.

Area Wage Surveys annually provide data for selected office, clerical, professional, technical, maintenance, toolroom, powerplant, material movement, and custodial occupations common to a wide variety of industries in the areas (labor markets) surveyed. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Review*.

The National Survey of Professional, Administrative, Technical, and Clerical Pay provides detailed information annually on salary levels and distributions for the types of jobs mentioned in the survey's title in private employment. Although the definitions of the jobs surveyed reflect the duties and responsibilities in private industry, they are designed to match specific pay grades of Federal white-collar employees under the General Schedule pay system. Accordingly, this survey provides the legally required information for comparing the pay of salaried employees in the Federal civil service with pay in private industry. (See Federal Pay Comparability Act of 1970, 5 U.S.C. 5305.) Data are published in a BLS news release issued in the summer and in a bulletin each fall; summaries and analytical articles also appear in the *Review*.

Employee Benefits Survey provides nationwide information on the incidence and characteristics of employee benefit plans in medium and large establishments in the United States, excluding Alaska and Hawaii. Data are published in an annual BLS news release and bulletin, as well as in special articles appearing in the *Review*.

PRICE DATA
(Tables 2; 30–41)

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Consumer Price Indexes

Description of the series

The **Consumer Price Index** (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI–W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all urban consumer index (CPI–U) introduced in 1978 is representative of the 1972–73 buying habits of about 80 percent of the noninstitutional population of the United States at that time, compared with 40 percent represented in the CPI–W. In addition to wage earners and clerical workers, the CPI–U covers professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items are kept essentially unchanged between major revisions so that only price changes will be measured. All taxes directly associated with the purchase and use of items are included in the index.

Data collected from more than 24,000 retail establishments and 24,000 tenants in 85 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 28 major urban centers are presented in table 31. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

Notes on the data

In January 1983, the Bureau changed the way in which homeownership costs are measured for the CPI–U. A rental equivalence method replaced the

asset-price approach to homeownership costs for that series. In January 1985, the same change was made in the CPI-W. The central purpose of the change was to separate shelter costs from the investment component of homeownership so that the index would reflect only the cost of shelter services provided by owner-occupied homes.

Additional sources of information

For a discussion of the general method for computing the CPI, see *BLS Handbook of Methods, Volume II, The Consumer Price Index*, Bulletin 2134–2 (Bureau of Labor Statistics, 1984). The recent change in the measurement of homeownership costs is discussed in Robert Gillingham and Walter Lane, "Changing the treatment of shelter costs for homeowners in the CPI," *Monthly Labor Review*, June 1982, pp. 9–14.

Additional detailed CPI data and regular analyses of consumer price changes are provided in the *CPI Detailed Report*, a monthly publication of the Bureau. Historical data for the overall CPI and for selected groupings may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

Producer Price Indexes

Description of the series

Producer Price Indexes (PPI) measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 60,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The stage of processing structure of Producer Price Indexes organizes products by class of buyer and degree of fabrication (that is, finished goods, intermediate goods, and crude materials). The traditional commodity structure of PPI organizes products by similarity of end use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

Since January 1976, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

Notes on the data

Beginning with the January 1986 issue, the *Review* is no longer presenting tables of Producer Price Indexes for commodity groupings, special composite groups, or SIC industries. However, these data will continue to be presented in the Bureau's monthly publication *Producer Price Indexes*.

The Bureau has completed the first major stage of its comprehensive overhaul of the theory, methods, and procedures used to construct the Producer Price Indexes. Changes include the replacement of judgment sampling with probability sampling techniques; expansion to systematic coverage of the net output of virtually all industries in the mining and manufacturing sectors; a shift from a commodity to an industry orientation; the exclusion of imports from, and the inclusion of exports in, the survey universe; and the respecification of commodities priced to conform to Bureau of the Census definitions. These and other changes have been phased in gradually since 1978. The result is a system of indexes that is easier to use in conjunction with data on wages, productivity, and employment and other series that are organized in terms of the Standard Industrial Classification and the Census product class designations.

Additional sources of information

For a discussion of the methodology for computing Producer Price Indexes, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 7.

Additional detailed data and analyses of price changes are provided monthly in *Producer Price Indexes*. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

International price indexes

Description of the series

The BLS **International Price Program** produces quarterly export and import price indexes for nonmilitary goods traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national income accounts: it includes corporations, businesses, and individuals but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents. With publication of an all-import index in February 1983 and an all-export index in February 1984, all U.S. merchandise imports and exports now are represented in these indexes. The reference period for the indexes is 1977 = 100, unless otherwise indicated.

The product universe for both the import and export indexes includes raw materials, agricultural products, semifinished manufactures, and finished manufactures, including both capital and consumer goods. Price data for these items are collected quarterly by mail questionnaire. In nearly all cases, the data are collected directly from the exporter or importer, although in a few cases, prices are obtained from other sources.

To the extent possible, the data gathered refer to prices at the U.S. border for exports and at either the foreign border or the U.S. border for imports. For nearly all products, the prices refer to transactions completed during the first 2 weeks of the third month of each calendar quarter—March, June, September, and December. Survey respondents are asked to indicate all discounts, allowances, and rebates applicable to the reported prices, so that the price used in the calculation of the indexes is the actual price for which the product was bought or sold.

In addition to general indexes of prices for U.S. exports and imports, indexes are also published for detailed product categories of exports and imports. These categories are defined by the 4- and 5-digit level of detail of the Standard Industrial Trade Classification System (SITC). The calculation of indexes by SITC category facilitates the comparison of U.S. price trends and sector production with similar data for other countries. Detailed indexes are also computed and published on a Standard Industrial Classification (SIC-based) basis, as well as by end-use class.

Notes on the data

The export and import price indexes are weighted indexes of the Laspeyres type. Price relatives are assigned equal importance within each weight category and are then aggregated to the SITC level. The values assigned to each weight category are based on trade value figures compiled

by the Bureau of the Census. The trade weights currently used to compute both indexes relate to 1980.

Because a price index depends on the same items being priced from period to period, it is necessary to recognize when a product's specifications or terms of transaction have been modified. For this reason, the Bureau's quarterly questionnaire requests detailed descriptions of the physical and functional characteristics of the products being priced, as well as information on the number of units bought or sold, discounts, credit terms, packaging, class of buyer or seller, and so forth. When there are changes in either the specifications or terms of transaction of a product, the dollar value of each change is deleted from the total price change to obtain the "pure" change. Once this value is determined, a linking procedure is employed which allows for the continued repricing of the item.

For the export price indexes, the preferred pricing basis is f.a.s. (free alongside ship) U.S. port of exportation. When firms report export prices f.o.b. (free on board), production point information is collected which enables the Bureau to calculate a shipment cost to the port of exportation. An attempt is made to collect two prices for imports. The first is the import price f.o.b. at the foreign port of exportation, which is consistent with the basis for valuation of imports in the national accounts. The second is the import price c.i.f. (cost, insurance, and freight) at the U.S. port of importation, which also includes the other costs associated with bringing the product to the U.S. border. It does not, however, include duty charges.

Additional sources of information

For a discussion of the general method of computing International Price Indexes, see BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 8.

Additional detailed data and analyses of international price developments are presented in the Bureau's quarterly publication *U.S. Import and Export Price Indexes* and in occasional *Monthly Labor Review* articles prepared by BLS analysts. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

PRODUCTIVITY DATA
(Tables 2; 42–47)

U. S. productivity and related data

Description of the series

The productivity measures relate real physical output to real input. As such, they encompass a family of measures which include single factor input measures, such as output per unit of labor input (output per hour) or output per unit of capital input, as well as measures of multifactor productivity (output per unit of labor and capital inputs combined). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

Corresponding indexes of hourly compensation, unit labor costs, unit nonlabor payments, and prices are also provided.

Definitions

Output per hour of all persons (labor productivity) is the value of goods and services in constant prices produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the value of goods and services in constant dollars produced per unit of capital services input.

Multifactor productivity is the ratio output per unit of labor and capital inputs combined. Changes in this measure reflect changes in a number of factors which affect the production process such as changes in technology, shifts in the composition of the labor force, changes in capacity utilization, research and development, skill and efforts of the work force, management, and so forth. Changes in the output per hour measures reflect the impact of these factors as well as the substitution of capital for labor.

Compensation per hour is the wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, and the wages, salaries, and supplementary payments for the self-employed (except for nonfinancial corporations in which there are no self-employed)—the sum divided by hours paid for. **Real compensation per hour** is compensation per hour deflated by the change in the Consumer Price Index for All Urban Consumers.

Unit labor costs are the labor compensation costs expended in the production of a unit of output and are derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from current dollar value of output and dividing by output. **Unit nonlabor costs** contain all the components of unit nonlabor payments *except* unit profits.

Unit profits include corporate profits and the value of inventory adjustments per unit of output.

Hours of all persons are the total hours paid of payroll workers, self-employed persons, and unpaid family workers.

Capital services is the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories—weighted by rental prices for each type of asset.

Labor and capital inputs combined are derived by combining changes in labor and capital inputs with weights which represent each component's share of total output. The indexes for capital services and combined units of labor and capital are based on changing weights which are averages of the shares in the current and preceding year (the Tornquist index-number formula).

Notes on the data

Output measures for the business sector and the nonfarm businesss sector exclude the constant dollar value of owner-occupied housing, rest of world, households and institutions, and general government output from the constant dollar value of gross national product. The measures are derived from data supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are developed from data of the Bureau of Labor Statistics and the Bureau of Economic Analysis.

The productivity and associated cost measures in tables 42–44 describe the relationship between output in real terms and the labor time and capital services involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input. Although these measures relate output to hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; capital investment; level of output; utilization of capacity, energy, and materials; the organization of production; managerial skill; and the characteristics and efforts of the work force.

Additional sources of information

Descriptions of methodology underlying the measurement of output per hour and multifactor productivity are found in the BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 13. Historical data for selected industries are provided in the Bureau's *Handbook of Labor Statistics*, 1985, Bulletin 2217.

International comparisons

Description of the series

Comparative measures of labor force, employment, and unemployment (tables 45 and 46) are prepared regularly for the United States, Canada, Australia, Japan, France, Germany, Great Britain, Italy, the Netherlands, and Sweden. Unemployment rates, approximating U.S. concepts, are prepared monthly for most of the countries; the other measures, annually.

The Bureau of Labor Statistics also prepares international comparisons of manufacturing labor productivity and labor costs (table 47) that cover the United States and 11 foreign countries—those listed above plus Belgium and Norway. These measures are limited to trend comparisons; that is, intercountry series of changes over time, rather than level comparisons because reliable international comparisons of the levels of manufacturing are unavailable. The U.S. measures are described in the notes on U.S. productivity measurement; the measures for foreign countries are compiled from various national and international data sources.

Definitions

Output measures are constant value output (value added) from the national accounts of each country, except for those for Japan prior to 1970 and for the Netherlands for 1969 forward, which are indexes of industrial production. The national accounting methods for measuring real output differ considerably among the 12 countries, but the use of different procedures does not, in itself, connote lack of comparability—rather, it reflects differences among countries in the availability and reliability of underlying data series.

Hours and compensation measures refer to all employed persons including the self-employed in the United States and Canada, and to all wage and salary employees in the other countries. *Hours* refer to hours *paid* in the United States, hours *worked* in the other countries. *Compensation (labor costs)* includes not only all payments made directly to employees and employer expenditures for social insurance and private benefit plans, but changes in significant employment or payroll taxes that are not compensation to employees but are labor costs to employers (France, Sweden, and the United Kingdom). Self-employed workers are included in the U.S. and Canadian figures by assuming that their hourly compensation is equal to the average for wage and salary employees.

Notes on the data

The data for the foreign countries in tables 45 and 46 have been adjusted, where necessary, for greater comparability with U.S. definitions of employment and unemployment. The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country. Therefore, the adjusted statistics relate to the civilian population age 16 and over in the United States, France, and Sweden, and from 1973 forward, Great Britain; 15 and over in Canada, Australia, Japan, Germany, and the Netherlands; and 14 and over in Italy. Prior to 1973, the data for Great Britain related to persons age 15 and over. The institutional population is included in the denominator of the labor force participation rates and employment-population ratios for Japan and Germany.

For most of the countries in table 47, the measures refer to total manufacturing as defined by the International Standard Industrial Classification. However, the measures for France (beginning 1959), Italy (beginning 1970), and the United Kingdom (beginning 1976) refer to manufacturing and mining less energy-related products. For all countries, manufacturing includes the activities of government enterprises.

In addition, for all countries, preliminary estimates for recent years are generally based on current indicators of manufacturing output, employment and hours, and hourly compensation until national accounts and other statistics used for the long-term measures become available.

Additional sources of information

For further information, see *International Comparisons of Unemployment*, Bulletin 1979 (Bureau of Labor Statistics, 1978), Appendix B and Supplements to Appendix B. Additional detail is also found in the BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 16. Additional international comparison statistics are available in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). The most recent statistics are presented and analyzed annually in the *Monthly Labor Review*, typically in the December issue (for the previous year) and in February.

OCCUPATIONAL INJURY AND ILLNESS DATA

(Table 48)

Description of the series

The Annual Survey of Occupational Injuries and Illnesses is designed to collect data on injuries and illnesses based on records which employers in the following industries maintain under the Occupational Safety and Health Act of 1970: agriculture, forestry, and fishing; oil and gas extraction; construction; manufacturing; transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. Excluded from the survey are self-employed individuals, farmers with fewer than 11 employees, employers regulated by other Federal safety and health laws, and Federal, State, and local government agencies.

Because the survey is a Federal–State cooperative program and the data must meet the needs of participating State agencies, an independent sample is selected for each State. The sample is selected to represent all private industries in the States and territories. The sample size for the survey is dependent upon (1) the characteristics for which estimates are needed; (2) the industries for which estimates are desired; (3) the characteristics of the population being sampled; (4) the target reliability of the estimates; and (5) the survey design employed.

While there are many characteristics upon which the sample design could be based, the total recorded case incidence rate is used because it is one of the most important characteristics and the least variable; therefore, it requires the smallest sample size.

The survey is based on stratified random sampling with a Neyman allocation and a ratio estimator. The characteristics used to stratify the establishments are the Standard Industrial Classification (SIC) code and size of employment.

Definitions

Recordable occupational injuries and illnesses are: (1) occupational deaths, regardless of the time between injury and death, or the length of the illness; or (2) nonfatal occupational illnesses; or (3) nonfatal occupational injuries which involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment (other than first aid).

Occupational injury is any injury such as a cut, fracture, sprain, amputation, and so forth, which results from a work accident or from exposure involving a single incident in the work environment.

Occupational illness is an abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. It includes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion, or direct contact.

Lost workday cases are cases which involve days away from work, or days of restricted work activity, or both.

Lost workday cases involving restricted work activity are those cases which result in restricted work activity only.

Lost workdays away from work are the number of workdays (consecutive or not) on which the employee would have worked but could not because of occupational injury or illness.

Lost workdays—restricted work activity are the number of workdays (consecutive or not) on which, because of injury or illness: (1) the employee was assigned to another job on a temporary basis; or (2) the employee worked at a permanent job less than full time; or (3) the employee worked at a permanently assigned job but could not perform all duties normally connected with it.

The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked even though able to work.

Incidence rates represent the number of injuries and/or illnesses or lost workdays per 100 full-time workers.

Notes on the data

Estimates are made for industries and employment-size classes and for severity classification: fatalities, lost workday cases, and nonfatal cases without lost workdays. Lost workday cases are separated into those where the employee would have worked but could not and those in which work activity was restricted. Estimates of the number of cases and the number of days lost are made for both categories.

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses, or lost workdays, per 100 full-time employees. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Only a few of the available measures are included in the *Handbook of Labor Statistics*. Full detail is presented in the annual bulletin, *Occupational Injuries and Illnesses in the United States, by Industry*.

Comparable data for individual States are available from the BLS Office of Occupational Safety and Health Statistics.

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration, respectively. Data from these organizations are included in BLS and State publications. Federal employee experience is compiled and published by the Occupational Safety and Health Administration. Data on State and local government employees are collected by about half of the States and territories; these data are not compiled nationally.

Additional sources of information

The Supplementary Data System provides detailed information describing various factors associated with work-related injuries and illnesses. These data are obtained from information reported by *employers* to State workers' compensation agencies. The Work Injury Report program examines selected types of accidents through an employee survey which focuses on the circumstances surrounding the injury. These data are not included in the *Handbook of Labor Statistics* but are available from the BLS Office of Occupational Safety and Health Statistics.

The definitions of occupational injuries and illnesses and lost workdays are from *Recordkeeping Requirements under the Occupational Safety and Health Act of 1970*. For additional data, see *Occupational Injuries and Illnesses in the United States, by Industry*, annual Bureau of Labor Statistics bulletin; BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 17; *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985), pp. 411–14; annual reports in the *Monthly Labor Review*; and annual U.S. Department of Labor press releases.

1. Labor market indicators

Selected indicators	1984	1985	1984		1985				1986	
			III	IV	I	II	III	IV	I	II
Employment data										
Employment status of the civilian noninstitutionalized population (household survey)[1]										
Labor Force participation rate	64.4	64.8	64.4	64.5	64.8	64.7	64.7	64.9	65.1	65.3
Employment-population ratio	59.5	60.1	59.7	59.8	60.1	60.0	60.1	60.4	60.5	60.6
Unemployment rate	7.5	7.2	7.4	7.2	7.3	7.3	7.2	7.0	7.1	7.2
Men	7.4	7.0	7.3	7.1	7.1	7.1	7.0	6.9	6.8	7.1
16 to 24 years	14.4	14.1	14.5	13.8	14.1	14.2	14.0	14.0	13.3	14.8
25 years and over	5.7	5.3	5.5	5.4	5.4	5.4	5.3	5.2	5.3	5.4
Women	7.6	7.4	7.6	7.5	7.6	7.5	7.4	7.2	7.3	7.3
16 to 24 years	13.3	13.0	13.1	12.9	13.1	13.0	12.7	13.1	13.2	13.2
25 years and over	6.0	5.9	6.0	5.9	6.0	6.0	5.9	5.5	5.7	5.7
Unemployment rate, 15 weeks and over	2.4	2.0	2.3	2.1	2.0	2.0	2.0	1.9	1.9	1.8
Employment, nonagricultural (payroll data):[1]										
Total	94,496	97,614	94,977	95,907	96,581	97,295	97,897	98,668	99,403	99,855
Private sector	78,472	81,199	78,914	79,736	80,341	80,958	81,414	82,089	82,731	83,144
Goods-producing	24,727	24,930	24,891	24,943	24,970	24,947	24,866	24,937	25,028	24,953
Manufacturing	19,378	19,314	19,489	19,486	19,439	19,323	19,241	19,261	19,284	19,197
Service-producing	69,769	72,684	70,086	70,964	71,611	72,347	73,031	73,731	74,375	74,902
Average hours										
Private sector	35.2	34.9	35.1	35.1	35.0	34.9	34.9	34.9	34.9	34.8
Manufacturing	40.7	40.5	40.6	40.5	40.4	40.4	40.6	40.8	40.7	40.7
Overtime	3.4	3.3	3.3	3.4	3.3	3.2	3.3	3.5	3.4	3.4
Employment Cost Index										
Percent change in the ECI, compensation:[2]										
All workers (excluding farm, household, and Federal workers)	–	–	1.3	1.2	1.3	.7	1.6	.8	1.1	.7
Private industry workers	–	–	.8	1.3	1.2	.8	1.3	.6	1.1	.8
Goods-producing[3]	–	–	.9	1.1	1.5	.7	.6	.6	1.1	.9
Servicing-producing[3]	–	–	.7	1.4	1.0	1.0	1.8	.5	1.1	.8
State and local government workers	–	–	3.5	1.0	1.2	.2	3.4	.7	1.0	.6
Workers by bargaining status (private industry)										
Union	–	–	.7	1.1	.7	.6	.8	.5	1.0	.2
Nonunion	–	–	.9	1.3	1.6	1.0	1.4	.6	1.2	.9

[1] Quarterly data seasonally adjusted.

[2] Quarterly changes calculated using the last month of each quarter.

[3] Goods-producing industries include mining, construction, and manufacturing. Servic producing industries include all other private sector industries.

– Data not available.

2. Annual and quarterly percent changes in compensation, prices, and productivity

Selected measures	1984	1985	1984 III	1984 IV	1985 I	1985 II	1985 III	1985 IV	1986 I	1986 II
Compensation data: [1], [2]										
Employment Cost Index–Compensation (wages, salaries, benefits)										
Civilian nonfarm	–	–	1.3	1.2	1.3	0.7	1.6	0.8	1.1	0.7
Private nonfarm	–	–	.8	1.3	1.2	.8	1.3	.6	1.1	.8
Employment Cost Index–Wages and Salaries										
Civilian nonfarm	–	–	1.3	1.2	1.2	.9	1.7	.6	1.0	.8
Private nonfarm	–	–	.8	1.2	1.2	1.1	1.3	.6	1.0	.9
Price data[1]										
Consumer Price Index (All urban consumers): All items	4.0	3.8	1.2	.3	1.0	1.1	.7	.9	–.4	.6
Producer Price Index										
Finished goods	1.7	1.8	–.5	.9	.0	.7	–1.4	2.5	–3.1	.3
Finished consumer goods	1.6	1.5	–.5	.8	–.3	.7	–1.4	2.5	–4.0	.2
Capital equipment	1.8	2.7	–.5	1.1	1.3	.4	–1.4	2.5	.2	.5
Intermediate materials, supplies, components	1.3	–.3	–.4	–.1	–.4	.2	–.5	.4	–3.0	–.7
Crude materials	–1.6	–5.6	–2.0	–1.2	–3.1	–2.1	–4.5	4.3	–7.7	–2.1
U.S. Export Price Index	–	–	–	–	–	–	–	–	–	–
U.S. Import Price Index	–	–	–	–	–	–	–	–	–	–
Productivity data[1]										
Output per hour of all persons:										
Business sector	2.3	1.0	–.3	–.1	.9	2.7	3.4	–3.2	3.3	–.3
Nonfarm business sector	1.8	.5	–.7	–.4	.3	1.8	2.2	–3.5	4.3	–.5
Nonfinancial corporations [3]	2.0	1.2	–1.6	1.1	.8	2.2	4.9	–2.8	- 5	–2.3

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[1] Annual changes are December-to-December change. Quarterly changes are calculated using the last month of each quarter. Compensation and Price data are not seasonally adjusted and the price data are not compounded. Productivity data are seasonally adjusted.

[2] Excludes Federal and private household workers.

[3] Output per hour of all employees.

– Data not available.

3. Alternative measures of wage and compensation changes

Components	Quarterly Average 1985 I	1985 II	1985 III	1985 IV	1986 I	1986 II	Four quarters ended in– 1985 I	1985 II	1985 III	1985 IV	1986 I	1986 II
Average hourly compensation:[1]												
All persons, business sector	4.2	5.1	4.4	3.8	2.5	2.7	3.9	4.5	4.4	4.4	3.9	3.3
All employees, nonfarm business sector	3.9	4.6	3.2	3.7	3.1	2.2	3.9	4.2	4.0	3.9	3.6	3.1
Hourly earnings index:[2]												
All private nonfarm	–	–	–	–	–	–	–	–	–	–	–	–
Employment Cost Index–compensation:												
Civilian nonfarm [3]	1.3	.7	1.6	.6	1.1	.7	4.8	4.6	4.9	4.3	4.1	4.0
Private nonfarm	1.2	.8	1.3	.6	1.1	.8	4.4	4.2	4.7	3.9	3.8	3.8
Union	.7	.6	.8	.5	1.0	.2	3.5	3.1	3.2	2.6	2.9	2.5
Nonunion	1.6	1.0	1.4	.6	1.2	.9	4.9	4.9	5.4	4.6	4.2	4.2
State and local governments	1.2	.2	3.4	.7	1.0	.6	6.3	6.1	6.0	5.7	5.5	5.8
Employment Cost Index–wages and salaries:												
Civilian nonfarm[3]	1.2	.9	1.7	.6	1.0	.8	4.4	4.5	5.0	4.4	4.2	4.1
Private nonfarm	1.2	1.1	1.3	.6	1.0	.9	4.1	4.3	4.8	4.1	3.9	3.7
Union	.7	1.1	.9	.5	.7	.4	3.0	3.4	3.6	3.1	3.2	2.5
Nonunion	1.4	1.1	1.5	.6	1.1	.9	4.6	4.8	5.4	4.6	4.3	4.1
State and local governments	1.0	.2	3.5	.8	1.0	.4	5.6	5.5	5.6	5.6	5.5	5.7
Total effective wage adjustments[4]	.7	.8	1.2	.5	.6	.7	3.6	3.5	3.5	3.3	3.1	2.9
From current settlements	.1	.2	.2	.1	.0	.2	.7	.9	.9	.7	.6	.5
From prior settlements	.6	.5	.5	.2	.4	.6	2.2	1.9	1.8	1.8	1.7	1.6
From cost-of-living provision	.1	.1	.4	.1	.2	.0	.7	.7	.8	.7	.6	.7
Negotiated wage adjustments from settlements[4]												
First-year adjustments	3.3	2.5	2.0	2.1	1.0	1.3	2.4	2.4	2.4	2.3	2.0	1.7
Annual rate over life of contract	3.2	2.6	3.1	1.9	1.6	2.0	2.3	2.4	2.5	2.7	2.5	2.3
Negotiated wage and benefit adjustments from settlements:[5]												
First-year adjustment	3.6	3.5	2.0	2.0	.4	.7	3.4	3.4	3.1	2.6	2.3	1.5
Annual rate over life of contract	2.7	3.4	3.0	1.4	1.3	1.6	2.6	2.7	2.7	2.7	2.6	2.0

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[1] Seasonally adjusted.

[2] Production or nonsupervisory workers.

[3] Excludes Federal and household workers.

[4] Limited to major collective bargaining units of 1,000 workers or more. The most recent data are preliminary.

[5] Limited to major collective bargaining units of 5,000 workers or more. The most recent data are preliminary.

– Data not available.

4. Employment status of the total population, by sex, monthly data seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		1985						1986					
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
TOTAL														
Noninstitutional population [1], [2]	178,080	179,912	179,967	180,131	180,304	180,470	180,642	180,810	181,361	181,512	181,678	181,843	181,998	182,183
Labor force[2]	115,241	117,167	116,976	117,069	117,522	117,814	117,832	117,927	118,477	118,779	118,900	118,929	119,351	119,796
Participation rate [3]	64.7	65.1	65.0	65.0	65.2	65.3	65.2	65.2	65.3	65.4	65.4	65.4	65.6	65.8
Total employed [2]	106,702	108,856	108,575	108,936	109,251	109,513	109,671	109,904	110,646	110,252	110,481	110,587	110,797	111,353
Employment-population ratio [4]	59.9	60.5	60.3	60.5	60.6	60.7	60.7	60.8	61.0	60.7	60.8	60.8	60.9	61.1
Resident Armed Forces [1]	1,697	1,706	1,704	1,726	1,732	1,700	1,702	1,698	1,691	1,691	1,693	1,695	1,687	1,680
Civilian employed	105,005	107,150	106,871	107,210	107,519	107,813	107,969	108,206	108,955	108,561	108,788	108,892	109,110	109,673
Agriculture	3,321	3,179	3,120	3,095	3,017	3,058	3,070	3,151	3,299	3,096	3,285	3,222	3,160	3,165
Nonagricultural industries	101,685	103,971	103,751	104,115	104,502	104,755	104,899	105,055	105,656	105,465	105,503	105,670	105,950	106,508
Unemployed	8,539	8,312	8,401	8,133	8,271	8,301	8,161	8,023	7,831	8,527	8,419	8,342	8,554	8,443
Unemployment rate [5]	7.4	7.1	7.2	6.9	7.0	7.0	6.9	6.8	6.6	7.2	7.1	7.0	7.2	7.0
Not in labor force	62,839	62,744	62,991	63,062	62,782	62,656	62,810	62,883	62,884	62,733	62,778	62,914	62,647	62,387
Men, 16 years and over														
Noninstitutional population [1], [2]	85,156	86,025	86,052	86,132	86,217	86,293	86,374	86,459	86,882	86,954	87,035	87,120	87,195	87,288
Labor force[2]	65,386	65,967	65,884	65,945	66,074	66,227	66,176	66,139	66,679	66,838	66,864	66,757	66,943	66,964
Participation rate [3]	76.8	76.7	76.6	76.6	76.6	76.7	76.6	76.5	76.7	76.9	76.8	76.6	76.8	76.7
Total employed [2]	60,642	61,447	61,273	61,510	61,629	61,656	61,731	61,793	62,458	62,243	62,288	62,254	62,190	62,322
Employment-population ratio [4]	71.2	71.4	71.2	71.4	71.5	71.4	71.5	71.5	71.9	71.6	71.6	71.5	71.3	71.4
Resident Armed Forces [1]	1,551	1,556	1,554	1,574	1,580	1,551	1,552	1,549	1,539	1,539	1,540	1,541	1,533	1,525
Civilian employed	59,091	59,891	59,719	59,936	60,049	60,105	60,179	60,244	60,919	60,704	60,748	60,713	60,657	60,797
Unemployed	4,744	4,521	4,611	4,435	4,445	4,571	4,445	4,346	4,221	4,595	4,577	4,503	4,754	4,642
Unemployment rate [5]	7.3	6.9	7.0	6.7	6.7	6.9	6.7	6.6	6.3	6.9	6.8	6.7	7.1	6.9
Women, 16 years and over														
Noninstitutional population [1], [2]	92,924	93,886	93,915	93,999	94,087	94,177	94,266	94,351	94,479	94,558	94,643	94,723	94,803	94,895
Labor force[2]	49,855	51,200	51,092	51,124	51,448	51,587	51,656	51,788	51,797	51,941	52,036	52,172	52,408	52,832
Participation rate [3]	53.7	54.5	54.4	54.4	54.7	54.8	54.8	54.9	54.8	54.9	55.0	55.1	55.3	55.7
Total employed[2]	46,061	47,409	47,302	47,426	47,622	47,857	47,939	48,111	48,187	48,009	48,194	48,333	48,608	49,031
Employment-population ratio [4]	49.6	50.5	50.4	50.5	50.6	50.8	50.9	51.0	51.0	50.8	50.9	51.0	51.3	51.7
Resident Armed Forces [1]	146	150	150	152	152	149	149	149	152	152	153	154	154	155
Civilian employed	45,915	47,259	47,152	47,274	47,470	47,708	47,790	47,962	48,035	47,857	48,041	48,179	48,454	48,876
Unemployed	3,794	3,791	3,790	3,698	3,826	3,730	3,716	3,677	3,610	3,932	3,842	3,839	3,800	3,801
Unemployment rate [5]	7.6	7.4	7.4	7.2	7.4	7.2	7.2	7.1	7.0	7.6	7.4	7.4	7.3	7.2

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[1] The population and Armed Forces figures are not adjusted for seasonal variation.

[2] Includes members of the Armed Forces stationed in the United States.

[3] Labor force as a percent of the noninstitutional population.

[4] Total employed as a percent of the noninstitutional population.

[5] Unemployment as a percent of the labor force (including the resident A Forces).

6. Employment status of the civilian population, by sex, age, race and Hispanic origin, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1985						1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
TOTAL															
Civilian noninstitutional population[1]	176,383	178,206	178,263	178,405	178,572	178,770	178,940	179,112	179,670	179,821	179,985	180,148	180,311	180,503	180,682
Civilian labor force	113,544	115,461	115,272	115,343	115,790	116,114	116,130	116,229	116,786	117,088	117,207	117,234	117,664	118,116	118,072
Participation rate	64.4	64.8	64.7	64.7	64.8	65.0	64.9	64.9	65.0	65.1	65.1	65.1	65.3	65.4	65.3
Employed	105,005	107,150	106,871	107,210	107,519	107,813	107,969	108,206	108,955	108,561	108,788	108,892	109,110	109,673	109,882
Employment-population ratio[2]	59.5	60.1	60.0	60.1	60.2	60.3	60.3	60.4	60.6	60.4	60.4	60.4	60.5	60.8	60.8
Unemployed	8,539	8,312	8,401	8,133	8,271	8,301	8,161	8,023	7,831	8,527	8,419	8,342	8,554	8,443	8,190
Unemployment rate	7.5	7.2	7.3	7.1	7.1	7.1	7.0	6.9	6.7	7.3	7.2	7.1	7.3	7.1	6.9
Not in labor force	62,839	62,744	62,991	63,062	62,782	62,656	62,810	62,883	62,885	62,733	62,778	62,914	62,647	62,387	62,610
Men, 20 years and over															
Civilian noninstitutional population[1]	76,219	77,196	77,243	77,306	77,389	77,498	77,586	77,851	78,101	78,171	78,236	78,309	78,387	78,484	78,586
Civilian labor force	59,701	60,277	60,158	60,269	60,407	60,526	60,553	60,548	61,212	61,183	61,268	61,053	61,208	61,387	61,323
Participation rate	78.3	78.1	77.9	78.0	78.1	78.1	78.1	78.0	78.4	78.3	78.3	78.0	78.1	78.2	78.0
Employed	55,769	56,562	56,403	56,636	56,751	56,849	56,897	56,982	57,706	57,384	57,459	57,391	57,312	57,560	57,499
Employment-population ratio[2]	73.2	73.3	73.0	73.3	73.3	73.4	73.4	73.4	73.9	73.4	73.4	73.3	73.1	73.3	73.2
Agriculture	2,418	2,278	2,230	2,231	2,171	2,188	2,210	2,278	2,349	2,258	2,411	2,347	2,278	2,320	2,266
Nonagricultural industries	53,351	54,284	54,173	54,405	54,580	54,661	54,687	54,704	55,356	55,127	55,046	55,043	55,034	55,241	55,233
Unemployed	3,932	3,715	3,755	3,633	3,656	3,677	3,656	3,566	3,507	3,799	3,809	3,663	3,897	3,827	3,824
Unemployment rate	6.6	6.2	6.2	6.0	6.1	6.1	6.0	5.9	5.7	6.2	6.2	6.0	6.4	6.2	6.2
Women, 20 years and over															
Civilian noninstitutional population[1]	85,429	86,506	86,575	86,652	86,727	86,810	86,901	86,986	87,112	87,185	87,283	87,355	87,444	87,547	87,629
Civilian labor force	45,900	47,283	47,190	47,340	47,558	47,663	47,713	47,870	47,895	47,921	47,952	48,107	48,409	48,805	48,916
Participation rate	53.7	54.7	54.5	54.6	54.8	54.9	54.9	55.0	55.0	55.0	55.0	55.1	55.4	55.7	55.8
Employed	42,793	44,154	44,070	44,197	44,363	44,609	44,656	44,882	44,980	44,710	44,797	45,009	45,284	45,701	45,918
Employment-population ratio[2]	50.1	51.0	50.9	51.0	51.2	51.4	51.4	51.6	51.6	51.3	51.3	51.5	51.8	52.2	52.4
Agriculture	595	598	596	581	557	609	591	597	696	593	598	576	609	565	608
Nonagricultural industries	42,198	43,556	43,474	43,616	43,806	44,000	44,065	44,285	44,284	44,117	44,199	44,433	44,675	45,136	45,309
Unemployed	3,107	3,129	3,120	3,143	3,195	3,054	3,057	2,988	2,915	3,211	3,155	3,097	3,125	3,104	2,998
Unemployment rate	6.8	6.6	6.6	6.6	6.7	6.4	6.4	6.2	6.1	6.7	6.6	6.4	6.5	6.4	6.1
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	14,735	14,506	14,445	14,448	14,456	14,463	14,472	14,474	14,458	14,466	14,485	14,484	14,460	14,472	14,467
Civilian labor force	7,943	7,901	7,924	7,734	7,825	7,925	7,864	7,811	7,678	7,984	7,987	8,074	8,047	7,923	7,833
Participation rate	53.9	54.5	54.9	53.5	54.1	54.8	54.3	54.0	53.1	55.2	55.1	55.7	55.6	54.7	54.1
Employed	6,444	6,434	6,398	6,377	6,405	6,355	6,416	6,342	6,269	6,467	6,532	6,492	6,515	6,411	6,465
Employment-population ratio[2]	43.7	44.4	44.3	44.1	44.3	43.9	44.3	43.8	43.4	44.7	45.1	44.8	45.0	44.3	44.7
Agriculture	309	305	294	283	289	261	269	276	254	246	276	298	274	280	238
Nonagricultural industries	6,135	6,129	6,104	6,094	6,116	6,094	6,147	6,066	6,015	6,221	6,256	6,194	6,241	6,131	6,227
Unemployed	1,499	1,468	1,526	1,357	1,420	1,570	1,448	1,469	1,409	1,517	1,455	1,582	1,532	1,512	1,368
Unemployment rate	18.9	18.6	19.3	17.5	18.1	19.8	18.4	18.8	18.4	19.0	18.2	19.6	19.0	19.1	17.5
White															
Civilian noninstitutional population[1]	152,347	153,679	153,717	153,819	153,936	154,082	154,203	154,327	154,784	154,889	155,005	155,122	155,236	155,376	155,502
Civilian labor force	98,492	99,926	99,705	99,817	100,179	100,533	100,478	100,533	100,961	101,232	101,248	101,249	101,515	101,975	101,922
Participation rate	64.6	65.0	64.9	64.9	65.1	65.2	65.2	65.1	65.2	65.4	65.3	65.3	65.4	65.6	65.5
Employed	92,120	93,736	93,378	93,684	94,055	94,369	94,507	94,585	95,165	94,803	94,958	95,081	95,180	95,731	95,760
Employment-population ratio[2]	60.5	61.0	60.7	60.9	61.1	61.2	61.3	61.3	61.5	61.2	61.3	61.3	61.3	61.6	61.6
Unemployed	6,372	6,191	6,327	6,133	6,124	6,164	5,971	5,948	5,796	6,429	6,290	6,168	6,335	6,244	6,162
Unemployment rate	6.5	6.2	6.3	6.1	6.1	6.1	5.9	5.9	5.7	6.4	6.2	6.1	6.2	6.1	6.0
Black															
Civilian noninstitutional population[1]	19,348	19,664	19,675	19,700	19,726	19,761	19,790	19,819	19,837	19,863	19,889	19,916	19,943	19,974	20,002
Civilian labor force	12,033	12,364	12,354	12,289	12,376	12,412	12,457	12,522	12,548	12,545	12,656	12,740	12,781	12,754	12,601
Participation rate	62.2	62.9	62.8	62.4	62.7	62.8	62.9	63.2	63.3	63.2	63.6	64.0	64.1	63.9	63.0
Employed	10,119	10,501	10,499	10,560	10,500	10,566	10,518	10,657	10,737	10,690	10,791	10,856	10,889	10,825	10,836
Employment-population ratio[2]	52.3	53.4	53.4	53.6	53.2	53.5	53.1	53.8	54.1	53.8	54.3	54.5	54.6	54.2	54.2
Unemployed	1,914	1,864	1,855	1,729	1,876	1,846	1,939	1,865	1,810	1,855	1,865	1,884	1,892	1,929	1,766
Unemployment rate	15.9	15.1	15.0	14.1	15.2	14.9	15.6	14.9	14.4	14.8	14.7	14.8	14.8	15.1	14.0

See footnotes at end of table.

5. Continued— Employment status of the civilian population, by sex, age, race and Hispanic origin, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1985						1986					
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Hispanic origin														
Civilian noninstitutional population[1]	11,478	11,915	11,933	11,969	12,004	12,040	12,075	12,111	12,148	12,184	12,219	12,255	12,290	12,329
Civilian labor force	7,451	7,698	7,713	7,781	7,844	7,854	7,782	7,772	7,787	7,943	7,920	7,975	8,002	8,110
Participation rate	64.9	64.6	64.6	65.0	65.3	65.2	64.4	64.2	64.1	65.2	64.8	65.1	65.1	65.8
Employed	6,651	6,888	6,870	6,973	7,026	6,982	6,953	6,962	6,998	6,969	7,105	7,144	7,123	7,251
Employment-population ratio[2]	57.9	57.8	57.6	58.3	58.5	58.0	57.6	57.5	57.6	57.2	58.2	58.3	58.0	58.8
Unemployed	800	811	843	808	818	872	829	810	789	974	815	832	878	858
Unemployment rate	10.7	10.5	10.9	10.4	10.4	11.1	10.7	10.4	10.1	12.3	10.3	10.4	11.0	10.6

[1] The population figures are not seasonally adjusted.

[2] Civilian employment as a percent of the civilian noninstitutional population.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" groups are not presented and Hispanics are i in both the white and black population groups.

6. Selected employment indicators, monthly data seasonally adjusted

(In thousands)

Selected categories	Annual average		1985						1986					
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
CHARACTERISTIC														
Civilian employed, 16 years and over	105,005	107,150	106,871	107,210	107,519	107,813	107,969	108,206	108,955	108,561	108,788	108,892	109,110	109,673
Men	59,091	59,891	59,719	59,936	60,049	60,105	60,179	60,244	60,919	60,704	60,748	60,713	60,657	60,797
Women	45,915	47,259	47,152	47,274	47,470	47,708	47,790	47,962	48,035	47,857	48,041	48,179	48,454	48,876
Married men, spouse present	39,056	39,248	39,096	39,142	39,103	39,272	39,314	39,278	39,615	39,382	39,365	39,555	39,614	39,626
Married women, spouse present	25,636	26,336	26,316	26,392	26,531	26,702	26,721	26,804	26,958	26,583	26,656	26,802	26,920	27,427
Women who maintain families	5,465	5,597	5,607	5,627	5,556	5,514	5,605	5,693	5,702	5,733	5,771	5,812	5,718	5,669
MAJOR INDUSTRY AND CLASS OF WORKER														
Agriculture:														
Wage and salary workers	1,555	1,535	1,479	1,456	1,436	1,465	1,537	1,572	1,673	1,519	1,669	1,567	1,480	1,498
Self-employed workers	1,553	1,458	1,474	1,444	1,414	1,436	1,361	1,409	1,492	1,444	1,453	1,475	1,486	1,504
Unpaid family workers	213	185	170	176	179	172	158	164	163	158	172	180	166	154
Nonagricultural industries:														
Wage and salary workers	93,565	95,871	95,523	95,791	96,546	96,530	96,676	96,921	97,911	97,516	97,699	97,831	97,994	98,372
Government	15,770	16,031	15,949	16,075	16,145	16,213	16,157	16,194	16,418	16,104	16,095	16,187	16,325	16,387
Private industries	77,794	79,841	79,574	79,716	80,401	80,317	80,519	80,727	81,494	81,412	81,604	81,643	81,669	81,984
Private households	1,238	1,249	1,251	1,295	1,266	1,271	1,197	1,131	1,258	1,197	1,213	1,321	1,275	1,279
Other	76,556	78,592	78,323	78,421	79,135	79,046	79,322	79,596	80,236	80,216	80,390	80,322	80,394	80,705
Self-employed workers	7,785	7,811	7,724	7,874	7,846	7,991	8,013	7,903	7,655	7,669	7,644	7,571	7,757	7,807
Unpaid family workers	335	289	277	303	266	248	249	250	273	270	240	253	229	235
PERSONS AT WORK PART TIME[1]														
All industries:														
Part time for economic reasons	5,744	5,590	5,596	5,680	5,554	5,475	5,498	5,494	5,543	5,377	5,538	5,923	5,880	5,537
Slack work	2,430	2,430	2,414	2,480	2,433	2,251	2,306	2,303	2,364	2,369	2,330	2,603	2,650	2,434
Could only find part-time work	2,948	2,819	2,766	2,835	2,815	2,897	2,863	2,884	2,863	2,703	2,963	2,974	2,880	2,810
Voluntary part time	13,169	13,489	13,634	13,622	13,496	13,713	13,645	13,556	13,068	13,617	13,754	13,933	13,696	14,299
Nonagricultural industries:														
Part time for economic reasons	5,512	5,334	5,326	5,413	5,299	5,241	5,205	5,294	5,275	5,156	5,301	5,621	5,673	5,320
Slack work	2,291	2,273	2,251	2,319	2,292	2,115	2,196	2,195	2,208	2,224	2,159	2,430	2,523	2,308
Could only find part-time work	2,886	2,730	2,686	2,740	2,730	2,801	2,784	2,760	2,776	2,636	2,861	2,849	2,790	2,724
Voluntary part time	12,704	13,038	13,236	13,179	13,053	13,277	13,194	13,122	13,441	13,369	13,286	13,599	13,191	13,779

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

7. Selected unemployment indicators, monthly data seasonally adjusted

(Unemployment rates)

Selected categories	Annual average		1985						1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
CHARACTERISTIC															
Total, all civilian workers	7.5	7.2	7.3	7.1	7.1	7.1	7.0	6.9	6.7	7.3	7.2	7.1	7.3	7.1	6.9
Both sexes, 16 to 19 years	18.9	18.6	19.3	17.5	18.1	19.8	18.4	18.8	18.4	19.0	18.2	19.6	19.0	19.1	17.5
Men, 20 years and over	6.6	6.2	6.2	6.0	6.1	6.1	6.0	5.9	5.7	6.2	6.2	6.0	6.4	6.2	6.2
Women, 20 years and over	6.8	6.6	6.6	6.6	6.7	6.4	6.4	6.2	6.1	6.7	6.6	6.4	6.5	6.4	6.1
White, total	6.5	6.2	6.3	6.1	6.1	6.1	5.9	5.9	5.7	6.4	6.2	6.1	6.2	6.1	6.0
Both sexes, 16 to 19 years	16.0	15.7	16.1	15.2	15.3	17.0	15.5	15.9	14.9	16.2	14.5	16.4	16.0	16.2	15.0
Men, 16 to 19 years	16.8	16.5	17.1	17.2	16.2	18.5	15.8	16.2	14.7	16.5	15.3	17.2	17.3	17.8	15.3
Women, 16 to 19 years	15.2	14.8	15.0	13.0	14.4	15.3	15.1	15.5	15.1	15.8	13.7	15.6	14.7	14.4	14.7
Men, 20 years and over	5.7	5.4	5.6	5.3	5.2	5.2	5.2	5.1	5.0	5.4	5.5	5.2	5.5	5.4	5.5
Women, 20 years and over	5.8	5.7	5.7	5.7	5.7	5.5	5.4	5.4	5.3	5.9	5.8	5.5	5.5	5.4	5.3
Black, total	15.9	15.1	15.0	14.1	15.2	14.9	15.6	14.9	14.4	14.8	14.7	14.8	14.8	15.1	14.0
Both sexes, 16 to 19 years	42.7	40.2	41.2	35.3	38.8	39.7	40.8	41.6	41.9	39.1	43.7	42.6	40.8	40.2	38.6
Men, 16 to 19 years	42.7	41.0	43.1	34.9	41.1	41.0	45.2	41.0	41.3	38.7	44.1	41.4	40.8	38.5	41.8
Women, 16 to 19 years	42.6	39.2	39.0	35.9	36.1	38.2	36.0	42.3	42.4	39.5	43.4	43.7	40.8	41.9	35.1
Men, 20 years and over	14.3	13.2	12.8	11.9	13.3	13.7	13.7	13.1	12.7	13.3	12.6	12.6	12.7	13.3	12.7
Women, 20 years and over	13.5	13.1	13.1	13.1	13.5	12.1	13.6	12.6	12.0	12.5	12.2	12.5	12.8	12.8	11.9
Hispanic origin, total	10.7	10.5	10.9	10.4	10.4	11.1	10.7	10.4	10.1	12.3	10.3	10.4	11.0	10.6	10.5
Married men, spouse present	4.6	4.3	4.4	4.1	4.3	4.2	4.3	4.3	4.3	4.5	4.5	4.2	4.5	4.5	4.4
Married women, spouse present	5.7	5.6	5.7	5.4	5.6	5.3	5.5	5.3	5.1	5.5	5.8	5.3	5.4	5.2	5.3
Women who maintain families	10.3	10.4	10.3	10.8	11.3	10.4	10.0	9.4	9.9	9.9	10.1	9.4	10.2	10.1	9.2
Full-time workers	7.2	6.8	7.0	6.8	6.8	6.8	6.7	6.6	6.4	6.9	6.9	6.7	7.0	6.7	6.6
Part-time workers	9.3	9.3	9.4	9.0	9.3	9.6	8.8	9.0	8.4	9.4	9.1	9.6	9.2	9.1	9.0
Unemployed 15 weeks and over	2.4	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.8	2.0	1.9	1.8	1.9	2.0	1.9
Labor force time lost[1]	8.6	8.1	8.2	8.1	8.1	7.9	7.9	7.8	7.6	8.1	8.1	8.1	8.3	8.1	7.7
INDUSTRY															
Nonagricultural private wage and salary workers	7.4	7.2	7.3	7.1	7.2	7.1	7.0	6.9	6.7	7.2	7.2	7.2	7.3	7.1	7.2
Mining	10.0	9.5	9.9	8.6	8.9	7.7	7.3	10.3	10.9	9.2	10.4	12.8	13.7	17.6	17.0
Construction	14.3	13.1	13.4	13.1	13.6	13.5	13.4	12.6	12.9	13.2	13.0	12.0	13.3	12.1	13.2
Manufacturing	7.5	7.7	7.9	7.8	7.7	7.5	7.7	7.3	7.0	7.2	7.2	6.9	7.5	7.3	6.9
Durable goods	7.2	7.6	7.9	7.9	7.7	7.3	7.6	7.3	7.0	7.4	6.6	6.8	7.3	7.1	6.7
Nondurable goods	7.8	7.8	7.9	7.6	7.8	7.8	7.8	7.3	7.1	7.0	7.7	6.9	7.7	7.5	7.2
Transportation and public utilities	5.5	5.1	5.7	4.5	5.3	5.1	5.1	5.0	4.3	5.3	6.1	5.6	5.3	5.5	6.1
Wholesale and retail trade	8.0	7.6	7.6	7.7	7.8	7.7	7.5	7.6	7.2	7.8	7.6	8.1	8.1	7.7	7.8
Finance and service industries	5.9	5.6	5.6	5.5	5.5	5.4	5.4	5.3	5.2	5.9	5.7	5.9	5.5	5.4	5.7
Government workers	4.5	3.9	4.0	3.9	3.8	3.9	3.6	3.8	3.4	3.8	4.0	3.5	3.7	3.6	3.2
Agricultural wage and salary workers	13.5	13.2	14.0	14.0	13.3	12.9	12.5	10.6	10.9	14.3	11.9	13.4	15.8	13.2	11.6

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[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

8. Unemployment rates by sex and age, monthly data seasonally adjusted

(Civilian workers)

Sex and age	Annual average		1985						1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
Total, 16 years and over	7.5	7.2	7.3	7.1	7.1	7.1	7.0	6.9	6.7	7.3	7.2	7.1	7.3	7.1	6.9
16 to 24 years	13.9	13.6	13.9	13.0	13.3	13.9	13.5	13.3	13.0	13.6	13.2	13.9	14.2	13.5	13.0
16 to 19 years	18.9	18.6	19.3	17.5	18.1	19.8	18.4	18.8	18.4	19.0	18.2	19.6	19.0	19.1	17.5
16 to 17 years	21.2	21.0	21.7	19.1	20.3	22.7	21.4	21.1	20.9	21.8	19.4	20.9	21.1	20.6	19.4
18 to 19 years	17.4	17.0	17.3	16.8	16.7	17.8	16.9	17.5	16.4	17.2	17.1	18.9	17.5	17.9	16.7
20 to 24 years	11.5	11.1	11.2	10.8	10.9	10.9	11.0	10.6	10.4	10.8	10.6	10.9	11.7	10.7	10.8
25 years and over	5.8	5.6	5.6	5.5	5.6	5.4	5.4	5.3	5.1	5.7	5.7	5.4	5.5	5.6	5.4
25 to 54 years	6.1	5.8	5.9	5.8	5.8	5.7	5.6	5.5	5.4	5.9	5.9	5.8	5.9	5.9	5.8
55 years and over	4.5	4.1	4.4	4.1	4.1	3.9	3.8	3.9	3.9	4.4	4.3	3.9	3.6	3.7	3.8
Men, 16 years and over	7.4	7.0	7.2	6.9	6.9	7.1	6.9	6.7	6.5	7.0	7.0	6.9	7.3	7.1	7.0
16 to 24 years	14.4	14.1	14.6	13.8	13.8	14.6	13.9	13.5	12.6	13.6	13.6	14.5	15.0	14.0	13.5
16 to 19 years	19.6	19.5	20.5	19.6	19.3	21.5	19.4	19.3	18.2	19.3	18.9	20.2	20.4	20.1	18.2
16 to 17 years	21.9	21.9	22.1	21.9	20.7	24.0	20.9	21.6	20.9	23.2	20.0	21.2	21.6	19.4	20.0
18 to 19 years	18.3	17.9	18.7	18.1	18.3	19.9	18.7	18.0	16.2	16.6	17.8	19.7	19.6	20.4	18.1
20 to 24 years	11.9	11.4	11.6	10.9	11.0	11.1	11.2	10.6	10.3	10.7	11.0	11.6	12.2	11.0	11.2
25 years and over	5.7	5.3	5.4	5.3	5.2	5.3	5.2	5.1	5.0	5.5	5.5	5.2	5.4	5.5	5.5
25 to 54 years	5.9	5.6	5.6	5.6	5.5	5.5	5.4	5.4	5.3	5.7	5.7	5.5	5.8	5.8	5.8
55 years and over	4.6	4.1	4.6	3.6	4.0	4.1	4.0	3.9	3.9	4.4	4.3	3.9	3.8	4.1	3.8
Women, 16 years and over	7.6	7.4	7.4	7.3	7.5	7.3	7.2	7.1	7.0	7.6	7.4	7.4	7.3	7.2	6.8
16 to 24 years	13.3	13.0	13.1	12.2	12.9	13.1	13.1	13.2	13.2	13.6	12.7	13.2	13.3	13.0	12.5
16 to 19 years	18.0	17.6	17.9	15.3	16.9	17.9	17.4	18.3	18.5	18.6	17.5	19.0	17.6	18.0	16.6
16 to 17 years	20.4	20.0	21.2	15.8	19.8	21.2	22.0	20.6	20.8	20.2	18.7	20.5	20.5	21.9	18.7
18 to 19 years	16.6	16.0	15.7	15.3	14.9	15.5	15.1	16.9	16.5	17.7	16.3	18.1	15.3	15.1	15.3
20 to 24 years	10.9	10.7	10.7	10.7	10.9	10.7	10.8	10.6	10.5	11.0	10.1	10.0	11.1	10.4	10.4
25 years and over	6.0	5.9	5.9	5.8	6.0	5.6	5.6	5.4	5.3	5.9	5.9	5.8	5.7	5.7	5.4
25 to 54 years	6.3	6.2	6.2	6.1	6.2	5.9	5.9	5.7	5.6	6.2	6.3	6.2	6.1	6.1	5.7
55 years and over	4.2	4.1	4.2	4.5	4.2	3.7	3.6	3.9	3.8	4.4	4.4	3.8	3.4	3.1	3.6

9. Unemployed persons by reason for unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Reason for unemployment	Annual average		1985						1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
Job losers	4,421	4,139	4,206	4,144	4,142	4,040	4,081	3,933	3,776	4,162	4,246	4,034	4,311	4,335	3,997
On layoff	1,171	1,157	1,134	1,112	1,167	1,161	1,175	1,132	1,163	1,152	1,164	1,028	1,133	1,066	1,079
Other job losers	3,250	2,982	3,072	3,032	2,975	2,879	2,906	2,801	2,613	3,010	3,082	3,006	3,178	3,269	2,918
Job leavers	823	877	894	875	852	911	808	876	998	1,001	1,002	1,110	975	1,013	1,094
Reentrants	2,184	2,256	2,184	2,191	2,335	2,237	2,226	2,225	2,068	2,292	2,197	2,191	2,217	2,064	2,228
New entrants	1,110	1,039	1,096	941	918	1,045	1,055	1,033	1,025	1,097	1,000	1,059	1,062	1,050	985
PERCENT OF UNEMPLOYED															
Job losers	51.6	49.8	50.2	50.8	50.2	49.1	50.0	48.8	48.0	48.7	50.3	48.1	50.3	51.2	48.5
On layoff	13.7	13.9	13.5	13.6	14.2	14.1	14.4	14.0	14.8	13.5	13.8	12.2	13.2	12.6	13.2
Other job losers	38.1	35.9	36.6	37.2	36.1	35.0	35.6	34.7	33.2	35.2	36.5	35.8	37.1	38.6	35.0
Job leavers	9.6	10.6	10.7	10.7	10.3	11.1	9.9	10.9	12.7	11.7	11.9	13.2	11.4	12.0	12.7
Reentrants	25.6	27.1	26.1	26.9	28.3	27.2	27.2	27.6	26.3	26.8	26.0	26.1	25.9	24.4	27.2
New entrants	13.0	12.5	13.1	11.5	11.1	12.7	12.9	12.8	13.0	12.8	11.8	12.6	12.4	12.5	11.8
PERCENT OF CIVILIAN LABOR FORCE															
Job losers	3.9	3.6	3.6	3.6	3.6	3.5	3.5	3.4	3.2	3.6	3.6	3.4	3.7	3.7	3.3
Job leavers	.7	.8	.8	.8	.7	.8	.7	.8	.9	.9	.9	.9	.8	.9	.9
Reentrants	1.9	2.0	1.9	1.9	2.0	1.9	1.9	1.9	1.8	2.0	1.9	1.9	1.9	1.7	1.9
New entrants	1.0	.9	1.0	.8	.8	.9	.9	.9	.9	.9	.9	.9	.9	.9	.8

10. Duration of unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Weeks of unemployment	Annual average		1985						1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
Less than 5 weeks	3,350	3,498	3,525	3,422	3,484	3,430	3,465	3,374	3,311	3,562	3,589	3,626	3,705	3,384	3,394
5 to 14 weeks	2,451	2,509	2,514	2,506	2,505	2,536	2,448	2,480	2,441	2,622	2,640	2,665	2,737	2,708	2,486
15 weeks and over	2,737	2,305	2,329	2,274	2,307	2,277	2,205	2,188	2,056	2,340	2,258	2,135	2,209	2,320	2,256
15 to 26 weeks	1,104	1,025	1,078	1,047	1,035	1,057	894	973	969	1,149	1,099	1,001	1,072	1,036	1,066
27 weeks and over	1,634	1,280	1,251	1,227	1,272	1,220	1,311	1,215	1,087	1,191	1,159	1,134	1,137	1,284	1,190
Mean duration in weeks	18.2	15.6	15.5	15.5	15.5	15.4	15.7	15.4	14.9	15.3	14.4	14.3	14.4	15.2	15.0
Median duration in weeks	7.9	6.8	7.1	7.2	6.9	7.0	6.9	6.9	6.8	6.9	6.8	6.5	6.6	7.3	7.1

11. Unemployment rates of civilian workers by State, data not seasonally adjusted

State	June 1985	June 1986
Alabama	8.8	10.0
Alaska	9.1	10.8
Arizona	7.3	7.1
Arkansas	8.2	8.9
California	7.6	6.5
Colorado	5.8	6.8
Connecticut	5.0	3.7
Delaware	5.2	5.3
District of Columbia	8.4	7.2
Florida	6.9	6.0
Georgia	6.9	6.1
Hawaii	6.2	5.5
Idaho	7.3	7.8
Illinois	9.4	8.4
Indiana	7.7	6.6
Iowa	7.4	6.5
Kansas	4.7	5.2
Kentucky	9.0	8.9
Louisiana	11.9	13.6
Maine	5.0	4.9
Maryland	4.4	3.9
Massachusetts	3.9	3.7
Michigan	10.2	9.4
Minnesota	5.3	5.0
Mississippi	10.6	12.6
Missouri	6.2	5.9
Montana	7.1	7.2
Nebraska	5.2	4.5
Nevada	7.8	5.9
New Hampshire	4.0	3.2
New Jersey	5.5	5.0
New Mexico	9.2	9.7
New York	6.6	6.0
North Carolina	5.5	5.5
North Dakota	5.6	6.3
Ohio	8.5	8.7
Oklahoma	7.1	9.0
Oregon	8.4	8.9
Pennsylvania	9.1	7.3
Rhode Island	4.9	3.6
South Carolina	7.1	6.7
South Dakota	4.8	4.2
Tennessee	7.7	7.8
Texas	7.7	11.1
Utah	5.7	5.4
Vermont	4.5	4.4
Virginia	5.7	5.1
Washington	7.6	7.7
West Virginia	11.7	10.9
Wisconsin	6.6	6.6
Wyoming	6.7	9.3

NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the database.

12. Employment of workers on nonagricultural payrolls by State, data not seasonally adjusted

(In thousands)

State	June, 1985	May, 1986	June, 1986^{p}
Alabama	1,427.9	1,444.5	1,442.6
Alaska	239.0	229.0	234.7
Arizona	1,271.0	1,348.8	1,332.6
Arkansas	802.6	824.8	818.2
California	11,030.2	11,206.0	11,234.3
Colorado	1,432.2	1,448.7	1,459.6
Connecticut	1,582.7	1,607.7	1,622.6
Delaware	297.2	297.9	301.0
District of Columbia	629.6	645.0	649.2
Florida	4,415.8	4,580.7	4,560.7
Georgia	2,580.9	2,627.5	2,639.8
Hawaii	422.7	429.8	429.8
Idaho	342.1	334.9	337.6
Illinois	4,802.6	4,785.4	4,800.2
Indiana	2,177.1	2,262.6	2,253.6
Iowa	1,065.2	1,069.1	1,081.3
Kansas	984.0	996.9	997.2
Kentucky	1,258.0	1,279.3	1,278.0
Louisiana	1,605.2	1,543.7	1,527.5
Maine	469.8	472.4	481.5
Maryland	1,911.2	1,932.7	1,952.8
Massachusetts	2,964.4	2,987.8	3,001.9
Michigan	3,525.4	3,586.4	3,599.0
Minnesota	1,891.0	1,907.1	1,921.0
Mississippi	836.7	852.7	848.0
Missouri	2,115.4	2,162.8	2,155.6
Montana	286.0	276.4	264.4
Nebraska	653.7	662.8	660.1
Nevada	449.9	463.3	464.4
New Hampshire	471.6	484.8	484.5
New Jersey	3,468.4	3,517.0	3,564.5
New Mexico	521.1	522.0	525.0
New York	7,810.1	7,909.2	7,957.2
North Carolina	2,659.5	2,717.7	2,730.3
North Dakota	255.4	251.6	252.0
Ohio	4,411.9	4,533.2	4,547.7
Oklahoma	1,190.1	1,162.4	1,156.6
Oregon	1,042.4	1,051.9	1,065.6
Pennsylvania	4,767.2	4,828.1	4,854.4
Rhode Island	429.3	430.9	431.4
South Carolina	1,311.0	1,345.0	1,354.9
South Dakota	255.0	252.5	256.3
Tennessee	1,867.3	1,932.3	1,926.8
Texas	6,707.2	6,662.2	6,669.5
Utah	625.9	636.6	639.7
Vermont	225.5	225.9	226.1
Virginia	2,481.2	2,541.4	2,559.8
Washington	1,726.7	1,760.9	1,774.0
West Virginia	606.3	611.7	601.4
Wisconsin	2,006.1	2,019.2	2,046.4
Wyoming	215.1	202.4	204.7
Puerto Rico	685.1	707.7	703.8
Virgin Islands	36.7	36.6	36.5

^{p} = preliminary

NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the database.

13. Employment of workers on nonagricultural payrolls by industry, monthly data seasonally adjusted

(In thousands)

Industry	Annual average		1985						1986					
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June[p]
TOTAL	94,496	97,614	97,672	97,890	98,128	98,428	98,666	98,910	99,296	99,429	99,484	99,783	99,918	99,864
PRIVATE SECTOR	78,472	81,199	81,222	81,428	81,592	81,853	82,073	82,281	82,659	82,748	82,785	83,072	83,198	83,163
GOODS PRODUCING	24,727	24,930	24,875	24,880	24,843	24,903	24,931	24,977	25,101	25,038	24,945	25,038	24,965	24,857
Mining	966	930	928	922	917	913	907	901	897	880	852	821	790	773
Oil and gas extraction	607	585	585	581	577	571	565	560	556	541	518	488	461	448
Construction	4,383	4,687	4,679	4,702	4,728	4,754	4,765	4,787	4,901	4,864	4,838	4,972	4,974	4,939
General building contractors	1,161	1,251	1,248	1,257	1,267	1,276	1,283	1,287	1,330	1,320	1,298	1,315	1,314	1,295
Manufacturing	19,378	19,314	19,268	19,256	19,198	19,236	19,259	19,289	19,303	19,294	19,255	19,245	19,201	19,145
Production workers	13,285	13,130	13,079	13,078	13,029	13,059	13,074	13,100	13,111	13,097	13,061	13,060	13,025	12,989
Durable goods	11,505	11,516	11,483	11,473	11,421	11,447	11,453	11,461	11,466	11,455	11,418	11,415	11,378	11,313
Production workers	7,739	7,660	7,621	7,619	7,572	7,594	7,594	7,595	7,595	7,579	7,545	7,547	7,519	7,469
Lumber and wood products	704	700	698	700	702	705	708	710	716	716	715	719	719	721
Furniture and fixtures	487	493	492	495	491	493	493	494	494	494	493	494	496	495
Stone, clay, and glass products	593	591	589	591	590	591	591	593	596	597	594	600	599	597
Primary metal industries	857	813	807	798	795	797	801	803	798	795	787	785	780	763
Blast furnaces and basic steel products	334	305	305	302	304	304	302	303	300	299	293	291	286	287
Fabricated metal products	1,463	1,468	1,465	1,463	1,459	1,460	1,459	1,456	1,455	1,452	1,450	1,451	1,447	1,439
Machinery, except electrical	2,198	2,182	2,176	2,164	2,147	2,146	2,139	2,133	2,137	2,127	2.118	2,111	2,100	2,090
Electrical and electronic equipment	2,206	2,207	2,196	2,195	2,179	2,181	2,179	2,182	2,182	2,181	2,177	2,177	2,175	2,149
Transportation equipment	1,901	1,971	1,970	1,977	1,970	1,987	1,993	1,998	1,996	1,998	1,989	1,986	1,972	1,974
Motor vehicles and equipment	862	876	874	876	871	873	870	872	867	864	858	854	839	838
Instruments and related products	714	723	724	724	723	722	723	725	724	725	726	723	721	717
Miscellaneous manufacturing industries	382	369	366	366	365	365	367	367	368	370	369	369	369	368
Nondurable goods	7,873	7,798	7,785	7,783	7,777	7,789	7,806	7,828	7,837	7,839	7,837	7,830	7,823	7,832
Production workers	5,546	5,470	5,458	5,459	5,457	5,465	5,480	5,505	5,516	5,518	5,516	5,513	5,506	5,520
Food and kindred products	1,612	1,608	1,604	1,608	1,607	1,610	1,612	1,623	1,623	1,631	1,632	1,633	1,640	1,651
Tobacco manufactures	64	65	64	64	65	64	65	64	64	63	63	63	62	62
Textile mill products	746	704	698	698	697	699	701	702	702	705	707	703	705	707
Apparel and other textile products	1,185	1,125	1,122	1,117	1,121	1,121	1,122	1,130	1,133	1,122	1,117	1,119	1,113	1,107
Paper and allied products	681	683	683	682	682	683	687	686	687	687	688	689	689	690
Printing and publishing	1,376	1,435	1,440	1,442	1,442	1,447	1,454	1,457	1,461	1,467	1,469	1,472	1,474	1,478
Chemicals and allied products	1,049	1,046	1,045	1,043	1,042	1,040	1,037	1,035	1,034	1,032	1,031	1,028	1,024	1,026
Petroleum and coal products	189	178	178	177	171	171	170	169	168	167	166	166	166	164
Rubber and misc. plastics products	780	790	784	787	785	790	794	798	802	803	804	800	796	796
Leather and leather products	189	166	167	165	165	164	164	164	163	162	160	157	154	151
SERVICE-PRODUCING	69,769	72,684	72,797	73,010	73,285	73,525	73,735	73,933	74,195	74,391	74,539	74,745	74,953	75,007
Transportation and public utilities	5,159	5,242	5,241	5,219	5,257	5,260	5,272	5,277	5,286	5,277	5,280	5,266	5,265	5,177
Transportation	2,917	3,006	3,006	2,983	3,023	3,026	3,040	3,046	3,056	3,048	3,053	3,040	3,037	3,039
Communication and public utilities	2,242	2,236	2,235	2,236	2,234	2,234	2,232	2,231	2,230	2,229	2,227	2,226	2,228	2,138
Wholesale trade	5,555	5,740	5,740	5,762	5,777	5,796	5,796	5,809	5,830	5,843	5,841	5,864	5,872	5,830
Durable goods	3,276	3,409	3,416	3,424	3,432	3,442	3,451	3,460	3,470	3,482	3,480	3,485	3,488	3,454
Nondurable goods	2,279	2,331	2,324	2,338	2,345	2,354	2,345	2,349	2,360	2,361	2,361	2,379	2,384	2,376
Retail trade	16,545	17,360	17,404	17,464	17,489	17,543	17,580	17,622	17,734	17,795	17,826	17,851	17,911	17,932
General merchandise stores	2,267	2,320	2,325	2,328	2,326	2,329	2,326	2,317	2,328	2,333	2,333	2,342	2,344	2,345
Food stores	2,637	2,779	2,795	2,805	2,813	2,828	2,845	2,870	2,880	2,891	2,901	2,910	2,917	2,931
Automotive dealers and service stations	1,790	1,882	1,897	1,904	1,910	1,916	1,918	1,922	1,929	1,938	1,939	1,940	1,944	1,947
Eating and drinking places	5,388	5,715	5,734	5,749	5,761	5,772	5,783	5,801	5,831	5,854	5,868	5,859	5,889	5,918
Finance, insurance, and real estate	5,689	5,953	5,964	5,988	6,014	6,038	6,070	6,095	6,123	6,157	6,184	6,228	6,261	6,294
Finance	2,854	2,979	2,985	2,998	3,011	3,024	3,039	3,053	3,066	3,082	3,095	3,120	3,137	3,157
Insurance	1,757	1,830	1,832	1,839	1,846	1,852	1,862	1,868	1,878	1,889	1,900	1,910	1,918	1,926
Real estate	1,078	1,144	1,147	1,151	1,157	1,162	1,169	1,174	1,179	1,186	1,189	1,198	1,206	1,211
Services	20,797	21,974	21,998	22,115	22,212	22,313	22,415	22,501	22,585	22,638	22,707	22,825	22,924	23,073
Business services	4,057	4,452	4,462	4,504	4,542	4,567	4,604	4,631	4,660	4,687	4,696	4,750	4,755	4,793
Health services	6,122	6,310	6,301	6,333	6,350	6,375	6,401	6,424	6,447	6,471	6,497	6,511	6,543	6,570
Government	16,024	16,415	16,450	16,462	16,536	16,575	16,593	16,629	16,637	16,681	16,699	16,711	16,720	16,701
Federal	2,807	2,875	2,879	2,886	2,899	2,895	2,904	2,913	2,918	2,918	2,923	2,914	2,899	2,907
State	3,734	3,848	3,851	3,855	3,878	3,895	3,901	3,904	3,916	3,924	3,927	3,938	3,936	3,917
Local	9,482	9,692	9,720	9,721	9,759	9,785	9,788	9,812	9,803	9,839	9,849	9,859	9,885	9,877

[p] = preliminary

NOTE: See notes on the data for a description of the most recent benchmark revision.

14. Average weekly hours of production or nonsupervisory workers on private nonagricultural payrolls by industry, monthly data seasonally adjusted

Industry	Annual average		1985						1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June^p	July^p
PRIVATE SECTOR	35.2	34.9	34.8	34.9	34.9	34.9	34.8	34.9	35.0	34.9	34.9	34.8	34.8	34.7	34.8
CONSTRUCTION	37.8	37.7	-	-	-	-	-	-	-	-	-	-	-	-	-
MANUFACTURING	40.7	40.5	40.4	40.6	40.7	40.7	40.7	40.9	40.8	40.7	40.7	40.7	40.7	40.6	40.6
Overtime hours	3.4	3.3	3.2	3.3	3.3	3.4	3.4	3.6	3.5	3.4	3.4	3.4	3.4	3.4	3.4
Durable goods	41.4	41.2	41.1	41.3	41.3	41.3	41.3	41.6	41.5	41.4	41.4	41.3	41.2	41.3	41.1
Overtime hours	3.6	3.5	3.4	3.4	3.5	3.5	3.6	3.7	3.6	3.5	3.6	3.6	3.4	3.5	3.4
Lumber and wood products	39.9	39.9	39.8	40.1	40.1	40.2	39.9	40.2	40.4	40.0	40.2	40.3	40.3	40.1	40.2
Furniture and fixtures	39.7	39.4	39.0	39.3	39.4	39.5	39.4	39.9	40.0	39.7	39.4	39.1	39.4	39.5	39.4
Stone, clay, and glass products	42.0	41.9	41.9	42.0	42.0	42.1	41.8	41.8	42.7	41.9	41.9	42.4	42.3	42.2	42.2
Primary metal industries	41.7	41.5	41.4	41.7	41.5	41.8	41.9	42.1	41.9	42.1	41.9	41.3	41.7	41.8	41.3
Blast furnaces and basic steel products	40.7	41.1	41.2	41.5	41.1	41.6	41.9	41.9	41.7	41.8	41.7	40.5	41.5	41.2	40.9
Fabricated metal products	41.4	41.3	41.4	41.4	41.5	41.5	41.5	41.6	41.5	41.5	41.4	41.2	41.1	41.1	41.1
Machinery except electrical	41.9	41.5	41.4	41.6	41.6	41.5	41.6	41.7	41.6	41.6	41.6	41.6	41.8	41.7	41.5
Electrical and electronic equipment	41.0	40.6	40.4	40.7	40.5	40.6	40.9	41.1	41.0	40.9	41.0	41.1	41.0	41.0	40.9
Transportation equipment	42.7	42.6	42.6	42.9	42.9	42.8	42.7	43.0	42.8	42.7	42.7	42.1	41.9	42.2	41.9
Motor vehicles and equipment	43.8	43.5	43.4	43.7	43.6	43.7	43.6	44.0	43.6	43.4	43.3	41.9	41.8	42.4	41.9
Instruments and related products	41.3	41.0	40.8	40.9	40.9	40.9	41.0	41.6	41.1	41.2	41.3	41.3	40.9	41.0	40.5
Miscellaneous manufacturing	39.4	39.4	-	-	-	-	-	-	-	-	-	-	-	-	-
Nondurable goods	39.7	39.6	39.4	39.6	39.8	39.8	39.8	40.0	39.9	39.7	39.8	39.9	39.9	39.8	39.9
Overtime hours	3.1	3.1	3.0	3.1	3.1	3.2	3.2	3.4	3.3	3.2	3.2	3.3	3.4	3.2	3.4
Food and kindred products	39.8	40.0	40.0	40.0	40.1	40.2	40.0	40.1	40.1	39.8	39.9	40.2	40.2	40.1	40.2
Tobacco manufactures	38.9	37.2	-	-	-	-	-	-	-	-	-	-	-	-	-
Textile mill products	39.9	39.7	39.2	40.0	40.5	40.7	40.8	41.0	40.8	40.6	40.7	41.3	41.1	40.7	41.1
Apparel and other textile products	36.4	36.4	36.4	36.4	36.6	36.6	36.8	36.8	36.7	36.3	36.5	36.9	36.5	36.6	36.9
Paper and allied products	43.1	43.1	42.9	43.1	43.1	43.2	43.3	43.5	43.6	43.5	43.5	43.0	43.2	43.1	43.1
Printing and publishing	37.9	37.8	37.5	37.9	37.9	37.9	37.9	38.1	38.0	38.0	38.0	38.0	38.0	37.9	37.9
Chemicals and allied products	41.9	41.9	41.8	41.9	41.7	41.8	41.9	42.0	41.9	41.8	41.9	41.9	42.0	41.8	41.9
Petroleum and coal products	43.7	43.0	43.0	43.3	43.3	44.2	43.2	43.6	43.5	43.7	43.8	43.8	43.4	44.1	43.9
Leather and leather products	36.8	37.2	-	-	-	-	-	-	-	-	-	-	-	-	-
TRANSPORTATION AND PUBLIC UTILITIES	39.4	39.5	39.3	39.5	39.5	39.5	39.4	39.5	39.4	39.5	39.6	39.2	39.2	39.0	39.3
WHOLESALE TRADE	38.5	38.4	38.4	38.4	38.4	38.4	38.4	38.4	38.5	38.4	38.5	38.5	38.4	38.3	38.2
RETAIL TRADE	29.8	29.4	29.4	29.4	29.4	29.3	29.3	29.2	29.3	29.3	29.3	29.2	29.2	29.1	29.1
SERVICES	32.6	32.5	32.4	32.5	32.4	32.5	32.4	32.5	32.6	32.6	32.5	32.5	32.5	32.4	32.3

- Data not available.

^{p} = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark adjustment.

15. Average hourly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1985						1986					
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June^p
PRIVATE SECTOR	$8.32	$8.57	$8.52	$8.52	$8.67	$8.64	$8.66	$8.71	$8.72	$8.74	$8.73	$8.72	$8.72	$8.71
Seasonally adjusted	–	–	8.55	8.59	8.62	8.63	8.65	8.70	8.68	8.71	8.73	8.72	8.73	8.75
MINING	11.63	11.98	11.92	11.99	12.05	12.00	12.07	12.27	12.24	12.32	12.35	12.43	12.44	12.51
CONSTRUCTION	12.13	12.31	12.21	12.28	12.46	12.42	12.28	12.47	12.34	12.35	12.22	12.29	12.33	12.31
MANUFACTURING	9.19	9.53	9.55	9.49	9.57	9.56	9.63	9.74	9.70	9.70	9.72	9.70	9.71	9.70
Durable goods	9.74	10.10	10.10	10.06	10.15	10.15	10.22	10.34	10.27	10.29	10.30	10.28	10.28	10.26
Lumber and wood products	8.03	8.22	8.22	8.27	8.33	8.30	8.29	8.35	8.30	8.36	8.33	8.32	8.37	8.45
Furniture and fixtures	6.84	7.17	7.20	7.20	7.27	7.29	7.32	7.38	7.36	7.31	7.35	7.36	7.39	7.45
Stone, clay, and glass products	9.57	9.84	9.90	9.87	9.91	9.87	9.91	9.95	9.96	9.94	9.93	10.00	10.04	10.03
Primary metal industries	11.47	11.68	11.78	11.63	11.69	11.61	11.77	11.84	11.81	11.96	11.99	12.00	12.02	11.95
Blast furnaces and basic steel products	12.98	13.34	13.49	13.36	13.43	13.32	13.43	13.44	13.48	13.81	13.80	13.82	13.86	13.89
Fabricated metal products	9.40	9.70	9.70	9.64	9.74	9.71	9.76	9.81	9.85	9.85	9.86	9.84	9.85	9.88
Machinery, except electrical	9.96	10.29	10.31	10.26	10.38	10.41	10.48	10.55	10.50	10.53	10.58	10.55	10.56	10.55
Electrical and electronic equipment	9.04	9.47	9.47	9.50	9.54	9.55	9.61	9.66	9.60	9.60	9.62	9.62	9.64	9.60
Transportation equipment	12.20	12.72	12.65	12.65	12.78	12.78	12.85	13.06	12.91	12.87	12.90	12.83	12.78	12.77
Motor vehicles and equipment	12.73	13.42	13.35	13.31	13.48	13.44	13.52	13.81	13.66	13.59	13.66	13.54	13.47	13.42
Instruments and related products	8.84	9.16	9.17	9.19	9.25	9.24	9.27	9.39	9.32	9.39	9.41	9.41	9.40	9.41
Miscellaneous manufacturing	7.05	7.30	7.32	7.28	7.33	7.32	7.37	7.48	7.48	7.50	7.51	7.50	7.54	7.54
Nondurable goods	8.39	8.71	8.75	8.70	8.73	8.72	8.79	8.87	8.86	8.86	8.88	8.88	8.90	8.90
Food and kindred products	8.39	8.57	8.57	8.50	8.53	8.51	8.61	8.71	8.72	8.71	8.74	8.75	8.78	8.73
Tobacco manufactures	11.22	11.94	12.83	12.34	11.34	11.31	11.97	11.78	11.89	12.36	12.76	12.84	13.38	13.09
Textile mill products	6.46	6.71	6.69	6.72	6.75	6.76	6.79	6.83	6.85	6.83	6.86	6.87	6.88	6.86
Apparel and other textile products	5.55	5.73	5.70	5.69	5.75	5.74	5.75	5.80	5.82	5.79	5.80	5.81	5.78	5.80
Paper and allied products	10.41	10.82	10.91	10.86	10.91	10.91	10.97	11.07	11.02	10.99	11.03	11.06	11.12	11.14
Printing and publishing	9.41	9.71	9.69	9.76	9.81	9.78	9.83	9.92	9.85	9.86	9.90	9.87	9.91	9.88
Chemicals and allied products	11.07	11.56	11.50	11.60	11.65	11.70	11.80	11.85	11.86	11.81	11.78	11.82	11.89	11.95
Petroleum and coal products	13.44	14.06	14.05	14.02	14.09	13.99	14.07	14.24	14.26	14.21	14.22	14.16	14.02	14.15
Rubber and miscellaneous plastics products	8.29	8.54	8.55	8.52	8.56	8.54	8.63	8.73	8.69	8.69	8.72	8.68	8.75	8.75
Leather and leather products	5.71	5.82	5.84	5.81	5.83	5.77	5.83	5.83	5.86	5.83	5.86	5.89	5.86	5.86
TRANSPORTATION AND PUBLIC UTILITIES	11.12	11.40	11.37	11.42	11.54	11.48	11.59	11.61	11.59	11.64	11.62	11.55	11.54	11.57
WHOLESALE TRADE	8.89	9.16	9.14	9.12	9.22	9.16	9.23	9.33	9.28	9.36	9.33	9.29	9.29	9.33
RETAIL TRADE	5.85	5.94	5.90	5.88	5.96	5.95	5.97	5.99	6.03	6.04	6.03	6.01	6.00	5.99
FINANCE, INSURANCE, AND REAL ESTATE	7.63	7.94	7.96	7.91	8.04	8.01	8.06	8.15	8.14	8.28	8.30	8.29	8.31	8.37
SERVICES	7.59	7.89	7.80	7.82	7.99	7.99	8.05	8.12	8.12	8.17	8.18	8.12	8.10	8.10

– Data not available.
p = preliminary

NOTE: See "Notes on the data" for a description of the most recen
benchmark revision.

16. Average weekly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1985						1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June[p]	July[p]
PRIVATE SECTOR															
Current dollars	$292.86	$299.09	$299.05	$299.90	$303.45	$301.54	$301.37	$306.59	$302.58	$300.66	$302.93	$301.71	$302.58	$303.96	$303.63
Seasonally adjusted	-	-	297.54	299.79	300.84	301.19	301.02	303.63	303.80	303.96	304.66	303.46	303.80	303.63	302.06
Constant (1977) dollars	172.78	170.42	170.11	170.30	171.83	170.36	169.59	172.05	169.32	168.82	171.05	170.94	170.86	170.78	-
MINING	503.58	519.93	510.18	519.17	526.59	518.40	521.42	537.43	543.46	522.37	522.41	522.06	519.99	524.17	519.16
CONSTRUCTION	456.51	464.09	471.31	471.56	479.71	475.89	450.66	460.14	459.05	434.72	444.81	462.10	467.31	466.56	469.77
MANUFACTURING															
Current dollars	374.03	385.97	382.96	384.35	390.46	390.05	393.87	406.16	394.79	390.91	395.60	392.65	394.23	395.76	390.74
Constant (1977) dollars	220.67	219.93	217.84	218.28	221.10	220.37	221.65	227.92	220.92	219.49	223.38	222.56	222.60	222.34	-
Durable goods	403.24	416.12	410.06	412.46	420.21	419.20	424.13	439.45	425.18	421.89	426.42	423.54	423.54	424.78	418.15
Lumber and wood products	320.40	327.98	326.33	334.94	338.20	335.32	327.46	335.67	329.51	328.55	333.20	334.46	338.90	344.76	335.64
Furniture and fixtures	271.55	282.50	275.76	283.66	289.35	291.60	291.34	303.32	290.96	284.36	288.12	286.30	288.21	295.02	287.15
Stone, clay, and glass products	401.94	412.30	418.77	418.49	421.18	419.48	414.24	414.92	414.34	403.56	412.10	425.00	428.71	429.28	427.98
Primary metal industries	478.30	484.72	485.34	480.32	486.30	480.65	491.99	504.39	493.66	503.52	504.78	499.20	501.23	499.51	494.02
Blast furnaces and basic steel products	526.29	548.27	558.49	550.43	553.32	544.79	557.35	564.48	556.72	578.64	576.84	569.38	576.58	579.21	575.40
Fabricated metal products	389.16	400.61	395.76	397.17	405.18	403.94	406.02	422.17	407.79	403.85	409.03	403.44	404.84	408.04	399.74
Machinery, except electrical	417.32	427.04	420.65	422.71	431.81	430.07	438.06	452.60	437.85	437.00	442.24	437.83	437.83	438.94	432.72
Electrical and electronic equipment	370.64	384.48	376.91	383.80	387.32	387.73	396.89	408.50	394.56	389.76	395.38	392.50	393.31	393.60	386.32
Transportation equipment	520.94	541.67	531.30	530.04	544.43	545.71	551.27	577.25	555.13	545.69	552.12	542.71	537.18	540.17	524.51
Motor vehicles and equipment	557.57	583.77	571.38	565.68	585.03	585.96	588.12	625.59	595.58	583.01	592.84	574.10	567.09	573.03	549.29
Instruments and related products	365.09	375.56	369.55	373.11	380.18	376.07	382.85	400.01	383.05	384.99	389.57	385.81	382.58	385.81	379.35
Miscellaneous manufacturing	277.77	287.62	282.55	284.65	293.20	295.00	298.27	304.44	297.70	294.75	290.65	297.75	297.06	299.34	295.27
Nondurable goods	332.69	344.92	343.88	345.39	349.20	347.93	351.60	359.24	352.63	347.31	352.54	351.65	354.22	356.00	356.51
Food and kindred products	333.92	342.80	342.80	342.55	348.02	343.80	346.12	354.50	347.93	339.69	344.36	346.50	352.08	350.95	349.34
Tobacco manufactures	436.46	444.17	434.94	457.81	434.32	444.48	435.71	448.82	448.25	453.11	478.50	469.94	504.43	524.33	501.01
Textile mill products	257.75	268.39	258.23	270.14	275.40	276.48	279.75	283.45	276.80	274.57	278.52	276.92	282.08	281.95	279.05
Apparel and other textile products	202.02	208.57	206.34	206.25	210.45	211.23	212.75	215.18	213.01	207.28	211.70	211.48	210.97	214.60	210.45
Paper and allied products	448.67	468.34	465.86	465.69	473.49	472.40	477.20	490.40	479.37	472.57	477.60	474.05	479.27	480.13	484.77
Printing and publishing	356.64	367.04	361.44	370.86	374.74	371.64	375.51	384.90	371.35	370.74	377.19	374.07	374.60	371.49	374.12
Chemicals and allied products	463.83	484.36	482.14	482.56	486.97	486.72	495.60	503.83	495.75	492.48	494.76	495.26	499.38	501.90	503.74
Petroleum and coal products	587.33	604.58	606.96	607.07	621.37	619.76	610.64	622.29	616.03	612.45	621.41	615.96	605.66	624.02	633.28
Rubber and miscellaneous plastics products	345.69	350.99	347.13	348.76	351.82	350.99	356.42	366.66	359.77	356.29	360.14	356.75	360.50	361.38	357.69
Leather and leather products	210.13	216.50	219.00	216.71	219.21	216.95	219.21	220.96	217.41	209.86	212.72	213.81	215.80	221.66	216.45
TRANSPORTATION AND PUBLIC UTILITIES	438.13	450.30	449.12	454.52	458.14	453.46	457.81	460.92	452.01	456.29	457.83	450.45	450.06	454.70	458.99
WHOLESALE TRADE	342.27	351.74	352.80	351.12	354.97	351.74	355.36	360.14	355.42	355.68	357.34	355.81	356.74	359.21	357.89
RETAIL TRADE	174.33	174.64	177.59	176.99	175.81	173.74	173.73	178.50	173.06	172.74	174.27	173.69	174.60	176.71	177.91
FINANCE, INSURANCE, AND REAL ESTATE	278.50	289.02	298.04	287.13	293.46	290.76	291.77	299.11	296.30	304.70	304.61	301.76	301.65	306.34	300.10
SERVICES	247.43	256.43	255.84	256.50	258.98	259.68	260.02	263.90	263.00	264.71	265.03	263.09	262.44	264.06	263.24

- Data not available.
[p] = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

17. The Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Not seasonally adjusted				Seasonally adjusted					
	July 1985	May 1986	June 1986[p]	July 1986[p]	July 1985	Mar. 1986	Apr. 1986	May 1986	June 1986	July 1986[p]
PRIVATE SECTOR (in current dollars)	164.6	168.7	168.8	168.6	165.0	168.5	168.4	168.7	169.2	169.0
Mining[1]	178.9	181.1	181.5	181.1	-	-	-	-	-	-
Construction	149.5	150.7	150.5	150.5	149.9	149.2	150.6	151.0	151.4	151.0
Manufacturing	169.1	172.5	172.2	172.6	169.0	171.8	172.0	172.5	172.4	172.5
Transportation and public utilities	165.2	169.1	169.7	169.5	166.2	170.2	169.3	170.1	170.9	170.6
Wholesale trade[1]	168.5	171.4	172.1	172.1	-	-	-	-	-	-
Retail trade	154.9	157.9	157.7	157.6	155.3	157.4	157.3	157.2	157.6	157.9
Finance, insurance, and real estate[1]	170.7	179.3	180.4	179.3	-	-	-	-	-	-
Services	166.7	173.2	173.3	172.6	167.7	174.0	173.1	173.4	174.3	173.6
PRIVATE SECTOR (in constant dollars)	93.6	95.2	94.8	-	93.9	95.1	95.4	95.4	95.2	-

[1] This series is not seasonally adjusted because the seasonal component is small relative to the trend-cycle, irregular components, or both, and consequently cannot be separated with sufficient precision.

- Data not available.

[p] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

18. Indexes of diffusion: Industries in which employment increased, data seasonally adjusted

(In percent)

Time span and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Over 1-month span												
1984	67.8	72.7	67.8	67.8	62.4	65.4	62.2	55.9	60.5	63.0	60.5	57.9
1985	52.4	47.8	53.8	49.2	51.6	47.0	58.2	58.8	60.8	61.9	57.8	59.5
1986	59.7	53.5	45.1	54.1	49.2	45.9	50.8	-	-	-	-	-
Over 3-month span												
1984	78.6	75.1	75.9	71.4	71.6	68.1	63.2	58.1	56.8	53.5	58.1	53.0
1985	51.1	49.7	46.2	46.2	45.1	51.4	49.7	51.1	55.1	56.9	61.4	60.5
1986	58.1	54.3	51.1	49.7	48.1	48.5	-	-	-	-	-	-
Over 6-month span												
1984	78.1	78.5	77.0	75.1	69.2	65.1	63.2	59.2	58.6	53.2	48.7	54.9
1985	49.2	47.8	43.0	45.9	44.3	44.3	48.9	50.8	54.1	57.0	57.0	55.9
1986	53.8	53.8	47.8	48.5	-	-	-	-	-	-	-	-
Over 12-month span												
1984	81.1	78.1	72.2	72.2	68.9	67.8	65.7	62.7	58.7	54.6	51.4	48.6
1985	46.2	45.7	46.8	43.6	44.9	47.3	47.8	48.9	47.3	49.5	48.9	49.5
1986	50.3	-	-	-	-	-	-	-	-	-	-	-

- Data not available.

NOTE: Figures are the percent of industries with employment rising. (Half of the unchanged components are counted as rising.) Data are centered within the spans. See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

19. Annual data: Employment status of the noninstitutional population

(Numbers in thousands)

Employment status	1977	1978	1979	1980	1981	1982	1983	1984	1985
Noninstitutional population	160,689	163,541	166,460	169,349	171,775	173,939	175,891	178,080	179,912
Labor force									
Total (number)	100,665	103,882	106,559	108,544	110,315	111,872	113,226	115,241	117,167
Percent of population	62.6	63.5	64.0	64.1	64.2	64.3	64.4	64.7	65.1
Employed									
Total (number)	93,673	97,679	100,421	100,907	102,042	101,194	102,510	106,702	108,856
Percent of population	58.3	59.7	60.3	59.6	59.4	58.2	58.3	59.9	60.5
Resident Armed Forces	1,656	1,631	1,597	1,604	1,645	1,668	1,676	1,697	1,706
Civilian									
Total	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005	107,150
Agriculture	3,283	3,387	3,347	3,364	3,368	3,401	3,383	3,321	3,179
Nonagricultural industries	88,734	92,661	95,477	95,938	97,030	96,125	97,450	101,685	103,971
Unemployed									
Total (number)	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539	8,312
Percent of labor force	6.9	6.0	5.8	7.0	7.5	9.5	9.5	7.4	7.1
Not in labor force (number)	60,025	59,659	59,900	60,806	61,460	62,067	62,665	62,839	62,744

20. Annual data: Employment levels by industry

(Numbers in thousands)

Industry	1977	1978	1979	1980	1981	1982	1983	1984	1985
Total employment	82,471	86,697	89,823	90,406	91,156	89,566	90,200	94,496	97,614
Private sector	67,344	71,026	73,876	74,166	75,126	73,729	74,330	78,472	81,199
Goods-producing	24,346	25,585	26,461	25,658	25,497	23,813	23,334	24,727	24,930
Mining	813	851	958	1,027	1,139	1,128	952	966	930
Construction	3,851	4,229	4,463	4,346	4,188	3,905	3,948	4,383	4,687
Manufacturing	19,682	20,505	21,040	20,285	20,170	18,781	18,434	19,378	19,314
Service-producing	58,125	61,113	63,363	64,748	65,659	65,753	66,866	69,769	72,684
Transportation and public utilities	4,713	4,923	5,136	5,146	5,165	5,082	4,954	5,159	5,242
Wholesale trade	4,708	4,969	5,204	5,275	5,358	5,278	5,268	5,555	5,740
Retail trade	13,808	14,573	14,989	15,035	15,189	15,179	15,613	16,545	17,360
Finance, insurance, and real estate	4,467	4,724	4,975	5,160	5,298	5,341	5,468	5,689	5,953
Services	15,303	16,252	17,112	17,890	18,619	19,036	19,694	20,797	21,974
Government	15,127	15,672	15,947	16,241	16,031	15,837	15,869	16,024	16,415
Federal	2,727	2,753	2,773	2,866	2,772	2,739	2,774	2,807	2,875
State	3,377	3,474	3,541	3,610	3,640	3,640	3,662	3,734	3,848
Local	9,023	9,446	9,633	9,765	9,619	9,458	9,434	9,482	9,692

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

21. Annual data: Average hours and earnings of production or nonsupervisory workers on nonagricultural payrolls, by industry

Industry	1977	1978	1979	1980	1981	1982	1983	1984	1985
Private sector									
Average weekly hours	36.0	35.8	35.7	35.3	35.2	34.8	35.0	35.2	34.9
Average hourly earnings (in dollars)	5.25	5.69	6.16	6.66	7.25	7.68	8.02	8.32	8.57
Average weekly earnings (in dollars)	189.00	203.70	219.91	235.10	255.20	267.26	280.70	292.86	299.09
Mining									
Average weekly hours	43.4	43.4	43.0	43.3	43.7	42.7	42.5	43.3	43.4
Average hourly earnings (in dollars)	6.94	7.67	8.49	9.17	10.04	10.77	11.28	11.63	11.98
Average weekly earnings (in dollars)	301.20	332.88	365.07	397.06	438.75	459.88	479.40	503.58	519.93
Construction									
Average weekly hours	36.5	36.8	37.0	37.0	36.9	36.7	37.1	37.8	37.7
Average hourly earnings (in dollars)	8.10	8.66	9.27	9.94	10.82	11.63	11.94	12.13	12.31
Average weekly earnings (in dollars)	295.65	318.69	342.99	367.78	399.26	426.82	442.97	458.51	464.09
Manufacturing									
Average weekly hours	40.3	40.4	40.2	39.7	39.8	38.9	40.1	40.7	40.5
Average hourly earnings (in dollars)	5.68	6.17	6.70	7.27	7.99	8.49	8.83	9.19	9.53
Average weekly earnings (in dollars)	228.90	249.27	269.34	288.62	318.00	330.26	354.08	374.03	385.97
Transportation and public utilities									
Average weekly hours	39.9	40.0	39.9	39.6	39.4	39.0	39.0	39.4	39.5
Average hourly earnings (in dollars)	6.99	7.57	8.16	8.87	9.70	10.32	10.79	11.12	11.40
Average weekly earnings (in dollars)	278.90	302.80	325.58	351.25	382.18	402.48	420.81	438.13	450.30
Wholesale trade									
Average weekly hours	38.8	38.8	38.8	38.5	38.5	38.3	38.5	38.5	38.4
Average hourly earnings (in dollars)	5.39	5.88	6.39	6.96	7.56	8.09	8.55	8.89	9.16
Average weekly earnings (in dollars)	209.13	228.14	247.93	267.96	291.06	309.85	329.18	342.27	351.74
Retail trade									
Average weekly hours	31.6	31.0	30.6	30.2	30.1	29.9	29.8	29.8	29.4
Average hourly earnings (in dollars)	3.85	4.20	4.53	4.88	5.25	5.48	5.74	5.85	5.94
Average weekly earnings (in dollars)	121.66	130.20	138.62	147.38	158.03	163.85	171.05	174.33	174.64
Finance, insurance, and real estate									
Average weekly hours	36.4	36.4	36.2	36.2	36.3	36.2	36.2	36.5	36.4
Average hourly earnings (in dollars)	4.54	4.89	5.27	5.79	6.31	6.78	7.29	7.63	7.94
Average weekly earnings (in dollars)	165.26	178.00	190.77	209.60	229.05	245.44	263.90	278.50	289.02
Services									
Average weekly hours	33.0	32.8	32.7	32.6	32.6	32.6	32.7	32.6	32.5
Average hourly earnings (in dollars)	4.65	4.99	5.36	5.85	6.41	6.92	7.31	7.59	7.89
Average weekly earnings (in dollars)	153.45	163.67	175.27	190.71	208.97	225.59	239.04	247.43	256.43

22. Employment Cost Index, compensation,[1] by occupation and industry group

(June 1981 = 100)

Series	1984			1985				1986		Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3 months ended	12 months ended
										June 1986	
Civilian workers [2]	120.8	122.4	123.9	125.5	126.4	128.4	129.2	130.6	131.5	0.7	4.0
Workers, by occupational group:											
White-collar workers	122.1	124.0	125.5	127.3	128.3	130.7	131.6	133.1	134.2	.8	4.6
Blue-collar workers	118.6	119.8	120.9	122.2	123.1	124.4	124.9	126.2	126.8	.5	3.0
Service workers	122.1	124.6	126.8	127.8	128.0	130.9	131.8	133.1	133.7	.5	4.5
Workers, by industry division:											
Manufacturing	119.1	120.4	122.0	123.9	124.6	125.5	126.0	127.7	128.7	.8	3.3
Nonmanufacturing	121.6	123.3	124.8	126.2	127.2	129.7	130.6	131.9	132.8	.7	4.4
Services	125.5	128.8	130.9	131.9	132.6	136.4	137.1	138.8	139.4	.4	5.1
Public administration [3]	123.7	126.9	128.6	130.1	130.3	134.2	134.8	136.8	138.0	.9	5.9
Private industry workers	120.1	121.1	122.7	124.2	125.2	126.8	127.5	128.9	129.9	.8	3.8
Workers, by occupational group:											
White-collar workers	121.4	122.4	123.9	125.8	127.1	128.8	129.8	131.3	132.5	.9	4.2
Blue-collar workers	118.4	119.3	120.6	121.9	122.8	124.0	124.4	125.7	126.3	.5	2.9
Service workers	121.2	123.2	125.7	126.3	126.5	128.8	129.5	130.9	131.1	.2	3.6
Workers, by industry division:											
Manufacturing	119.1	120.4	122.0	123.9	124.6	125.5	126.0	127.7	128.7	.8	3.3
Nonmanufacturing	120.7	121.6	123.1	124.4	125.6	127.6	128.4	129.7	130.6	.7	4.0
State and local government workers	124.4	128.8	130.1	131.7	132.0	136.5	137.5	138.9	139.7	.6	5.8
Workers, by occupational group:											
White-collar workers	125.0	129.7	131.1	132.5	132.9	137.6	138.6	140.0	140.5	.4	5.7
Blue-collar workers	122.3	125.0	125.9	128.1	128.5	131.9	132.7	134.7	136.3	1.2	6.1
Workers, by industry division:											
Services	125.0	129.9	131.3	132.8	133.2	137.9	139.1	140.4	140.8	.3	5.7
Schools	124.7	130.6	132.0	133.4	133.7	139.1	140.3	141.5	141.7	.1	6.0
Elementary and secondary	125.7	132.1	133.5	134.4	134.6	140.9	142.0	143.0	143.2	.1	6.4
Hospitals and other services[4]	125.7	127.9	129.2	131.1	131.5	134.1	135.2	136.8	137.9	.8	4.9
Public administration[3]	123.7	126.9	128.6	130.1	130.3	134.2	134.8	136.8	138.0	.9	5.9

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[1] Cost (cents-per-hour worked) measured in the Employment Cost Index consists of wages, salaries, and employer cost of employee benefits.

[2] Consist of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[3] Consists of legislative, judicial, administrative, and regulatory activities.

[4] Includes, for example, library, social, and health services.

23. Employment Cost Index, wages and salaries, by occupation and industry group

(June 1981=100)

Series	1984			1985				1986		Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3 months ended	12 months ended
										June 1986	
Civilian workers [1]	118.8	120.3	121.7	123.1	124.2	126.3	127.0	128.3	129.3	0.8	4.1
Workers, by occupational group:											
White-collar workers	120.4	122.2	123.5	125.2	126.4	128.8	129.8	131.2	132.4	.9	4.7
Blue-collar workers	116.1	117.0	118.2	119.3	120.5	122.0	122.3	123.4	124.1	.6	3.0
Service workers	119.8	122.3	124.3	124.8	125.3	126.0	126.6	129.8	130.0	.2	3.8
Workers, by industry division											
Manufacturing	116.8	118.0	119.5	121.0	122.3	123.2	123.8	125.3	126.5	1.0	3.4
Nonmanufacturing	119.7	121.3	122.6	123.9	125.0	127.6	128.4	129.6	130.4	.6	4.3
Services	123.6	127.2	128.9	129.7	130.5	134.2	134.8	136.4	137.0	.4	5.0
Public administration [2]	121.3	124.4	125.7	127.0	127.2	131.4	132.0	133.8	134.6	.6	5.8
Private industry workers	118.2	119.2	120.6	122.0	123.3	124.9	125.6	126.8	127.9	.9	3.7
Workers, by occupational group:											
White-collar workers	119.9	120.9	122.3	124.0	125.5	127.3	128.3	129.6	131.1	1.2	4.5
Professional and technical	123.8	125.2	127.3	127.7	128.7	131.2	131.5	132.7	134.0	1.0	4.1
Managers and administrators	119.2	121.0	122.2	123.8	126.5	127.7	128.4	130.5	132.1	1.2	4.4
Salesworkers	111.9	110.5	111.6	116.3	117.4	119.3	122.5	122.4	124.3	1.6	5.9
Clerical workers	120.7	122.0	122.9	124.7	125.6	127.1	127.9	129.6	130.8	.9	4.1
Blue-collar workers	115.9	116.7	118.0	119.1	120.3	121.7	122.0	123.1	123.7	.5	2.8
Craft and kindred workers	117.3	118.0	119.4	120.8	122.0	123.7	123.8	125.3	125.7	.3	3.0
Operatives, except transport	115.8	116.6	117.9	118.9	120.1	121.1	121.6	122.6	123.6	.8	2.9
Transport equipment operatives	112.7	113.4	114.0	114.5	115.7	117.7	117.8	118.0	118.9	.8	2.8
Nonfarm laborers	114.1	114.7	115.9	116.7	118.5	118.6	119.8	120.0	120.3	.3	1.5
Service workers	119.3	121.2	123.7	123.6	124.4	126.3	126.6	128.0	128.0	.0	2.9
Workers, by industry division:											
Manufacturing	116.8	118.0	119.5	121.0	122.3	123.2	123.8	125.3	126.5	1.0	3.4
Durables	116.6	117.7	119.1	120.6	122.0	122.7	123.4	124.8	125.8	.8	3.1
Nondurables	117.1	118.6	120.2	121.6	122.6	124.0	124.6	126.1	127.9	1.4	4.3
Nonmanufacturing	119.0	119.9	121.2	122.6	123.9	125.9	126.6	127.7	128.7	.8	3.9
Construction	114.0	114.3	114.4	115.5	116.6	117.3	117.9	118.3	119.8	1.3	2.7
Transportation and public utilities	119.3	119.9	120.7	121.7	122.8	124.8	125.2	126.3	126.6	.2	3.1
Wholesale and retail trade	116.0	116.5	118.1	118.8	121.1	122.7	123.7	124.5	125.8	1.0	3.9
Wholesale trade	120.0	120.7	122.9	123.7	126.8	127.7	128.3	129.7	131.2	1.2	3.5
Retail trade	114.4	114.9	116.2	116.9	118.9	120.8	121.9	122.5	123.7	1.0	4.0
Finance, insurance, and real estate	116.9	115.3	115.8	122.0	121.7	124.1	126.5	126.6	128.0	1.1	5.2
Services	124.7	127.1	129.5	129.9	131.0	133.9	134.1	136.2	136.9	.5	4.5
State and local government workers	122.0	126.1	127.1	128.4	128.7	133.2	134.2	135.5	136.0	.4	5.7
Workers, by occupational group											
White-collar workers	122.5	127.1	128.0	129.3	129.6	134.3	135.3	136.6	137.0	.3	5.7
Blue-collar workers	119.6	121.9	122.5	124.2	124.5	127.9	128.4	130.4	131.9	1.2	5.9
Workers, by industry division											
Services	122.5	127.2	128.1	129.4	129.7	134.5	135.6	136.8	137.1	.2	5.7
Schools	122.3	127.8	128.7	129.9	130.2	135.8	137.0	138.0	138.2	.1	6.1
Elementary and secondary	123.0	129.3	130.2	130.8	131.1	137.5	138.5	139.4	139.4	.0	6.3
Hospitals and other services [3]	123.1	125.1	125.9	127.7	128.0	130.2	130.9	132.4	133.3	.7	4.1
Public administration [2]	121.3	124.4	125.7	127.0	127.2	131.4	132.0	133.8	134.6	.6	5.8

[1] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[2] Consists of legislative, judicial, administrative, and regulatory activities.

[3] Includes, for example, library, social and health services.

24. Employment Cost Index, private nonfarm workers, by bargaining status, region, and area size

(June 1981 = 100)

Series	1984			1985				1986		Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3 months ended	12 months ended
										June 1986	
COMPENSATION											
Workers, by bargaining status[1]											
Union	121.7	122.6	123.9	124.8	125.5	126.5	127.1	128.4	128.7	0.2	2.5
Manufacturing	120.5	121.6	123.2	124.2	124.2	125.0	125.5	127.0	126.9	-.1	2.2
Nonmanufacturing	122.8	123.6	124.5	125.3	126.6	127.6	128.6	129.7	130.4	.5	3.0
Nonunion	119.2	120.3	121.9	123.6	125.0	126.8	127.5	129.0	130.2	.9	4.2
Manufacturing	117.9	119.3	120.8	123.6	124.8	125.7	126.3	128.1	129.7	1.2	3.9
Nonmanufacturing	119.6	120.7	122.4	123.9	125.1	127.3	128.1	129.5	130.4	.7	4.2
Workers, by region[1]											
Northeast	120.7	122.4	123.6	125.1	126.4	128.6	129.9	131.6	133.3	1.3	5.5
South	120.7	120.7	122.2	124.2	125.2	126.5	127.2	128.7	129.6	.7	3.5
Midwest (formerly North Central)	117.9	118.7	120.6	122.0	122.7	124.2	124.6	125.9	126.2	.2	2.9
West	122.2	122.5	124.9	126.6	127.9	129.1	129.6	130.6	131.6	.8	2.9
Workers, by area size[1]											
Metropolitan areas	120.6	121.5	123.2	124.7	125.7	127.3	128.1	129.5	130.5	.8	3.8
Other areas	117.4	119.0	119.6	121.4	122.5	123.9	123.9	125.5	126.4	.7	3.2
WAGES AND SALARIES											
Workers, by bargaining status[1]											
Union	119.0	119.6	120.9	121.7	123.0	124.1	124.7	125.6	126.1	.4	2.5
Manufacturing	117.1	118.1	119.5	120.4	121.7	122.6	123.3	124.2	124.6	.3	2.4
Nonmanufacturing	120.7	121.3	122.1	122.8	124.1	125.3	125.9	126.9	127.4	.4	2.7
Nonunion	117.8	118.8	120.4	122.1	123.4	125.2	125.9	127.3	128.5	.9	4.1
Manufacturing	116.5	117.9	119.5	121.5	122.8	123.7	124.4	126.1	127.7	1.3	4.0
Nonmanufacturing	118.3	119.2	120.7	122.3	123.6	125.9	126.6	127.8	128.9	.9	4.3
Workers, by region[1]											
Northeast	118.9	120.5	121.8	123.0	124.6	126.6	128.1	129.2	131.3	1.6	5.4
South	118.0	119.0	120.2	122.3	123.4	124.8	125.4	126.8	127.8	.8	3.6
Midwest (formerly North Central)	116.0	117.6	118.7	119.3	121.1	122.5	122.9	124.2	124.4	.2	2.7
West	119.6	120.0	122.5	124.0	125.1	126.6	127.1	128.1	128.9	.6	3.0
Workers, by area size[1]											
Metropolitan areas	118.6	119.5	121.0	122.4	123.8	125.5	126.3	127.4	128.5	.9	3.8
Other areas	116.0	117.5	118.3	119.6	120.6	121.9	122.0	123.6	124.5	.7	3.2

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[1] The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the *Monthly Labor Review* Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

25. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		Quarterly average							
	1984	1985	1984		1985				1986	
			III	IV	I	II	III	IV	I	II^p
Specified adjustments:										
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:										
First year of contract	3.6	2.6	2.7	3.7	3.6	3.5	2.0	2.0	0.4	0.7
Annual rate over life of contract	2.8	2.7	3.1	2.0	2.7	3.4	3.0	1.4	1.3	1.6
Wage adjustments, settlements covering 1,000 workers or more:										
First year of contract	2.4	2.3	2.1	2.3	3.3	2.5	2.0	2.1	1.0	1.3
Annual rate over life of contract	2.4	2.7	2.6	1.5	3.2	2.8	3.1	1.9	1.6	2.0
Effective adjustments:										
Total effective wage adjustment [3]	3.7	3.3	1.2	.7	.7	.8	1.2	.5	.6	.7
From settlements reached in period	.8	.7	.2	.3	.1	.2	.2	.1	.0	.2
Deferred from settlements reached in earlier periods	2.0	1.8	.7	.2	.6	.5	.5	.2	.4	.6
From cost-of-living-adjustments clauses	.9	.7	.3	.2	.1	.1	.4	.1	.2	.0

[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases, and no changes in compensation or wages.

[3] Because of rounding total may not equal sum of parts.

p = preliminary.

26. Average specified compensation and wage adjustments, major collective bargaining settlements in private industry situations covering 1,000 workers or more during 4-quarter periods (in percent)

Measure	Average for four quarters ending–							
	1984		1985				1986	
	III	IV	I	II	III	IV	I	II^p
Specified total compensation adjustments, settlements covering 5,000 workers or more, all industries:								
First year of contract	4.2	3.6	3.4	3.4	3.1	2.6	2.3	1.5
Annual rate over life of contract	3.2	2.8	2.6	2.7	2.7	2.7	2.6	2.0
Specified wage adjustments, settlements covering 1,000 workers or more:								
All industries								
First year of contract	3.2	2.4	2.4	2.4	2.4	2.3	2.0	1.7
Contracts with COLA clauses	4.5	2.9	2.5	2.3	1.9	1.6	1.6	1.6
Contracts without COLA clauses	2.3	2.1	2.4	2.4	2.7	2.7	2.2	1.7
Annual rate over life of contract	2.8	2.4	2.3	2.4	2.5	2.7	2.5	2.3
Contracts with COLA clauses	2.8	1.8	1.3	1.5	1.8	2.5	2.5	2.5
Contracts without COLA clauses	2.8	2.7	2.8	2.8	3.0	2.8	2.5	2.2
Manufacturing								
First year of contract	2.6	2.3	2.1	2.0	1.5	.8	.9	.1
Contracts with COLA clauses	1.5	2.1	2.0	1.9	1.5	.8	.9	.7
Contracts without COLA clauses	3.7	2.9	2.5	2.2	1.5	.9	.9	-.4
Annual rate over life of contract	2.8	1.5	1.4	1.5	1.6	1.8	1.8	1.4
Contracts with COLA clauses	1.8	1.0	.9	1.0	1.4	2.1	2.1	2.0
Contracts without COLA clauses	3.8	3.3	3.2	3.0	2.4	1.6	1.5	.9
Nonmanufacturing								
First year of contract	3.3	2.5	2.6	2.7	3.2	3.3	2.8	2.7
Contracts with COLA clauses	5.4	5.5	5.1	4.3	4.0	3.6	3.5	3.2
Contracts without COLA clauses	2.1	2.0	2.4	2.5	3.0	3.3	2.7	2.6
Annual rate over life of contract	2.8	2.9	2.8	2.9	3.3	3.3	3.0	2.9
Contracts with COLA clauses	3.1	4.8	4.0	3.8	3.9	3.6	3.6	3.3
Contracts without COLA clauses	2.6	2.6	2.7	2.8	3.2	3.3	2.9	2.8
Construction								
First year of contract	.9	.5	.9	1.1	1.0	1.5	1.7	2.4
Contracts with COLA clauses	4.0	4.0	4.6	9.2	(1)	(1)	(1)	.7
Contracts without COLA clauses	.9	.4	.8	1.0	(1)	(1)	(1)	2.5
Annual rate over life of contract	1.4	1.0	1.4	1.7	1.7	2.1	2.2	2.6
Contracts with COLA clauses	1.4	1.4	1.7	4.6	(1)	(1)	(1)	1.1
Contracts without COLA clauses	1.4	1.0	1.4	1.7	(1)	(1)	(1)	2.6

[1] Data do not meet publication standards.

p = preliminary.

27. Average effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more during 4-quarter periods (in percent)

Effective wage adjustment	Average for four quarters ending–						
	1984	1985				1986	
	IV	I	II	III	IV	I	II[p]
For all workers:[1]							
Total	3.7	3.6	3.5	3.5	3.3	3.1	2.9
From settlements reached in period	.8	.7	.9	.9	.7	.6	.5
Deferred from settlements reached in earlier period	2.0	2.2	1.9	1.8	1.8	1.7	1.6
From cost-of-living-adjustments clauses	.9	.7	.7	.8	.7	.8	.7
For workers receiving changes:							
Total	4.4	4.5	4.2	4.3	4.1	4.0	3.8
From settlements reached in period	3.0	2.9	2.9	2.8	3.4	2.9	2.5
Deferred from settlements reached in earlier period	4.0	4.2	3.9	3.7	3.7	3.5	3.4
From cost-of-living-adjustments clauses	2.7	2.3	2.3	2.8	2.2	2.5	2.1

[1] Because of rounding total may not equal sum of parts.

[p] = preliminary.

28. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, State and local government collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		Second 6 months 1985[p]
	1984	1985	
Specified adjustments:			
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:			
First year of contract	5.2	4.2	3.8
Annual rate over life of contract	5.4	5.1	5.3
Wage adjustments, settlements covering 1,000 workers or more:			
First year of contract	4.8	4.6	4.4
Annual rate over life of contract	5.1	5.4	5.6
Effective adjustments:			
Total effective wage adjustment [3]	5.0	5.7	4.1
From settlements reached in period	1.9	4.1	3.2
Deferred from settlements reached in earlier periods	3.1	1.6	.9
From cost-of-living-adjustment clauses	([4])	([4])	([4])

[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases, and no changes in compensation or wages.

[3] Because of rounding total may not equal sum of parts.

[4] Less than 0.05 percent.

[p] = preliminary.

29. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1985						1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[p]	Feb.[p]	Mar.[p]	Apr.[p]	May[p]	June[p]	July
Number of stoppages:															
Beginning in period	62	54	9	6	11	6	3	2	4	3	3	4	6	11	
In effect during period	68	61	13	18	20	20	13	9	7	7	9	9	11	16	
Workers involved:															
Beginning in period (in thousands)	376.0	323.9	50.1	15.3	69.5	76.6	26.2	8.2	7.6	24.0	12.3	7.2	29.7	199.1	
In effect during period (in thousands)	391.0	584.1	56.9	88.8	93.9	119.3	47.0	38.0	12.0	29.4	39.7	18.7	42.3	207.0	
Days idle:															
Number (in thousands)	8,499.0	7,079.0	476.5	810.6	883.8	1,426.8	666.2	661.9	170.0	309.5	390.6	321.5	314.6	3,707.4	
Percent of estimated working time[1]	.04	.03	.02	.04	.04	.06	.04	.03	.01	.02	.02	.02	.02	.07	

[1] Agricultural and government employees are included in the total employed and total working time: private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time worked is found in "'Total economy' measure of strike idleness," *Monthly Labor Review, Octobe*

1968, pp. 54-56.

[p] = preliminary

30. Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity or service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967=100, unless otherwise indicated)

Series	Annual average		1985						1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS:															
All items	311.1	322.2	322.8	323.5	324.5	325.5	326.6	327.4	328.4	327.5	326.0	325.3	326.3	327.9	328.0
All items (1957-59=100)	361.9	374.7	375.5	376.2	377.4	378.5	379.8	380.8	381.9	380.8	379.1	378.3	379.5	381.4	381.4
Food and beverages	295.1	302.0	301.6	301.8	302.1	302.5	303.6	305.6	307.9	307.7	307.6	308.5	309.4	309.5	312.2
Food	302.9	309.8	309.5	309.7	309.9	309.8	311.0	313.2	315.6	315.3	315.4	316.1	317.0	317.1	320.1
Food at home	292.6	296.8	296.2	295.9	295.6	295.3	296.6	299.3	302.5	301.5	301.2	301.5	302.1	301.6	305.5
Cereals and bakery products	305.3	317.0	317.3	318.5	319.2	318.9	319.9	321.9	322.0	322.5	322.7	322.5	323.8	326.1	326.3
Meats, poultry, fish, and eggs	266.6	263.4	260.5	259.7	260.6	261.1	266.1	269.9	271.5	268.4	267.7	264.2	263.4	265.1	274.9
Dairy products	253.2	258.0	257.8	257.4	258.0	257.1	257.1	256.9	257.2	257.3	256.8	256.8	257.1	257.2	258.4
Fruits and vegetables	317.4	325.7	328.9	326.3	319.9	317.1	314.3	323.9	334.4	320.7	319.2	329.5	336.5	327.8	330.3
Other foods at home	352.2	361.1	360.6	361.7	362.6	363.0	362.2	361.3	365.7	375.1	375.7	376.1	374.6	374.1	373.7
Sugar and sweets	389.1	398.8	400.2	401.8	401.1	402.6	401.4	402.2	405.1	406.6	408.4	411.4	411.2	411.5	412.4
Fats and oils	286.0	294.4	297.8	297.1	294.8	291.2	292.1	290.3	292.1	291.4	290.2	288.5	287.2	287.0	287.3
Nonalcoholic beverages	443.0	451.7	448.2	449.6	452.8	454.1	461.7	448.8	459.7	485.3	486.0	487.4	481.9	480.0	478.3
Other prepared foods	284.9	294.2	294.5	295.8	296.3	296.8	296.8	297.3	298.0	299.5	299.3	300.2	301.4	301.7	301.8
Food away from home	333.4	346.6	347.3	348.4	349.9	350.3	351.3	352.1	353.1	354.2	355.5	357.0	358.8	360.2	360.8
Alcoholic beverages	222.1	229.5	227.8	228.9	229.3	236.4	236.2	236.2	237.5	238.3	238.8	238.5	239.4	240.1	240.4
Housing	336.5	349.9	351.6	352.9	353.8	354.4	356.0	355.8	356.8	356.5	357.0	358.0	358.5	361.2	361.5
Shelter	361.7	382.0	383.2	385.9	386.9	389.1	391.3	392.3	393.8	394.8	397.0	400.1	400.9	401.6	403.5
Renters' costs (12/82=100)	108.6	115.4	115.8	116.6	117.0	117.9	118.4	118.3	118.8	119.0	119.6	120.9	121.1	121.6	122.5
Rent, residential	249.3	264.6	266.0	266.6	267.7	269.9	271.7	272.4	273.4	273.7	275.0	277.9	278.4	279.4	281.2
Other renters' costs	373.4	398.4	405.1	409.9	410.7	412.5	408.7	398.1	401.1	404.1	405.5	410.6	411.3	415.2	420.1
Homeowners' costs (12/82=100)	107.3	113.1	113.5	114.3	114.6	115.1	115.8	116.3	116.7	117.0	117.9	118.7	118.9	119.0	119.4
Owners' equivalent rent (12/82=100)	107.3	113.2	113.5	114.3	114.6	115.1	115.9	116.3	116.7	117.0	117.9	118.7	118.9	119.0	119.4
Household insurance (12/82=100)	107.5	112.4	112.7	113.0	113.7	114.6	114.5	115.0	115.7	117.4	118.0	118.3	118.8	118.9	118.9
Maintenance and repairs	359.2	368.9	367.8	370.6	368.7	368.5	372.7	373.7	379.1	379.6	367.5	367.6	367.1	366.6	369.2
Maintenance and repair services	409.7	421.1	421.1	425.1	421.9	422.2	426.4	426.2	432.6	432.8	422.4	424.6	425.5	427.4	430.1
Maintenance and repair commodities	262.7	269.6	267.8	269.2	268.6	268.0	271.5	273.3	277.1	277.8	266.1	264.5	262.9	260.7	262.7
Fuel and other utilities	387.3	393.6	399.9	398.8	400.5	395.6	392.1	393.3	394.6	390.0	385.5	381.8	382.5	393.8	386.4
Fuels	495.5	488.1	487.3	494.4	498.6	488.4	481.5	483.6	484.7	476.3	467.6	459.6	460.6	477.0	469.2
Fuel oil, coal, and bottled gas	641.8	619.5	601.9	594.6	601.7	615.3	641.6	657.3	650.3	591.2	540.9	518.3	495.8	486.6	459.4
Gas (piped) and electricity	445.2	452.7	467.1	465.1	466.5	453.9	440.5	439.9	442.6	444.5	442.3	439.2	444.6	466.0	462.3
Other utilities and public services	230.2	240.7	242.8	244.2	244.6	244.7	245.9	245.8	247.3	247.9	249.0	251.3	251.5	255.2	255.6
Household furnishings and operations	242.5	247.2	246.5	247.0	247.1	248.4	248.9	248.8	248.8	249.0	248.8	249.6	249.9	250.2	250.5
Housefurnishings	199.1	200.1	198.8	199.1	199.0	200.3	200.8	200.1	199.8	199.7	201.0	200.4	200.8	200.8	201.2
Housekeeping supplies	303.2	313.6	313.1	313.5	313.9	315.7	316.4	317.7	318.3	318.6	317.9	318.5	318.3	319.6	319.5
Housekeeping services	327.5	338.9	339.8	340.7	341.5	342.2	342.7	343.2	343.9	344.5	345.1	345.4	345.8	346.1	346.6
Apparel and upkeep	200.2	206.0	202.8	205.3	209.6	211.1	211.2	209.0	205.0	204.1	206.3	207.3	206.4	204.5	203.2
Apparel commodities	187.0	191.6	188.0	190.6	195.3	196.7	196.8	194.2	189.5	188.5	190.8	191.7	190.7	188.4	187.0
Men's and boys' apparel	192.4	197.9	194.5	197.2	201.5	203.2	203.6	202.0	198.6	196.8	198.3	199.7	200.2	198.1	195.8
Women's and girls' apparel	163.6	169.5	163.4	167.7	176.1	177.9	176.5	172.6	164.4	163.4	167.6	168.0	164.9	161.3	159.8
Infants' and toddlers' apparel	287.0	296.7	294.5	300.6	302.0	302.1	307.0	304.1	313.9	311.6	313.1	316.6	318.5	319.7	307.5
Footwear	209.5	212.1	211.4	210.3	210.9	212.3	215.5	213.1	209.1	207.9	210.1	211.4	211.5	210.0	209.1
Other apparel commodities	216.4	215.5	216.7	217.5	215.2	214.9	214.9	214.6	215.5	216.1	214.6	215.3	215.4	215.6	218.1
Apparel services	305.0	320.9	321.4	322.9	324.1	325.7	326.3	326.9	329.8	330.7	331.5	332.9	333.6	334.3	334.6
Transportation	311.7	319.9	321.8	320.7	319.7	320.9	323.2	324.0	323.9	319.2	309.6	303.3	305.7	306.6	304.7
Private transportation	306.6	314.2	316.1	314.9	313.6	314.7	317.0	317.8	317.3	312.2	302.1	295.3	297.8	300.8	296.5
New vehicles	208.0	214.9	214.3	214.2	214.2	215.9	218.2	219.2	218.7	220.2	220.1	221.0	222.8	224.0	224.5
New cars	208.5	215.2	214.7	214.6	214.5	216.2	218.4	219.4	218.9	220.4	220.3	221.2	223.0	224.2	224.7
Used cars	375.7	379.7	376.7	374.0	374.3	375.3	376.4	375.6	374.1	370.7	367.2	364.8	363.6	362.5	360.3
Motor fuel	370.7	373.8	385.5	381.9	377.7	374.6	376.7	377.5	373.3	351.5	308.5	279.5	289.3	290.4	280.2
Gasoline	370.2	373.3	385.3	381.8	377.4	374.2	376.1	376.8	372.5	350.8	307.7	278.6	288.7	290.1	279.8
Maintenance and repair	341.5	351.4	351.1	351.9	353.5	355.7	355.8	357.5	357.9	358.9	359.3	360.6	361.3	362.1	363.4
Other private transportation	273.3	287.6	287.6	287.7	285.8	288.6	293.9	295.2	297.7	299.2	301.5	301.6	301.3	303.0	304.5
Other private transportation commodities	201.5	202.6	202.2	202.8	203.4	202.8	201.6	202.1	203.4	202.9	203.6	202.2	202.4	201.5	201.6
Other private transportation services	295.0	312.8	313.0	313.0	310.4	315.4	321.2	322.7	325.5	327.6	330.3	330.9	330.4	332.8	334.6
Public transportation	385.2	402.8	402.4	403.7	408.0	411.5	412.8	412.9	419.6	422.2	421.2	422.2	423.7	425.4	428.0
Medical care	379.5	403.1	404.0	406.6	408.3	410.5	413.0	414.7	418.2	422.3	425.8	428.0	429.7	432.0	434.8
Medical care commodities	239.7	256.7	257.8	259.3	260.2	261.3	262.7	262.9	264.5	267.4	269.4	271.3	272.3	273.3	275.4
Medical care services	410.3	435.1	436.8	438.6	440.5	443.0	445.8	448.0	451.9	456.2	460.1	462.3	464.2	466.8	469.8
Professional services	346.1	367.3	368.1	370.0	371.7	373.2	375.5	377.1	378.9	381.6	385.0	386.9	388.3	390.3	391.7
Other medical care services	486.0	517.0	517.6	521.6	523.9	527.4	530.8	533.6	540.3	546.4	550.8	553.5	555.9	559.2	564.2
Entertainment	255.1	265.0	265.7	265.7	266.8	268.4	269.0	268.3	270.8	272.0	271.9	272.3	272.9	273.9	274.4
Entertainment commodities	253.3	260.6	260.8	260.5	262.5	264.0	264.0	262.5	264.7	265.2	265.0	264.8	265.3	266.1	265.8
Entertainment services	258.3	271.8	273.3	273.6	273.3	275.2	276.6	277.1	279.9	282.1	282.2	283.5	284.2	285.5	287.0
Other goods and services	307.7	326.6	325.0	326.0	333.3	334.9	336.3	336.5	339.1	340.3	341.1	341.8	342.1	342.6	344.9
Tobacco products	310.0	328.5	330.0	331.5	332.8	334.4	334.7	337.4	342.7	344.7	345.6	346.5	346.5	347.1	364.3
Personal care	271.4	281.9	282.3	283.3	284.1	285.0	285.4	286.3	288.1	288.1	290.3	290.5	290.9	291.0	291.1
Toilet goods and personal care appliances	269.6	278.5	278.9	279.4	280.6	281.4	281.1	282.5	286.3	286.0	287.3	287.7	287.9	287.0	287.1
Personal care services	274.1	286.0	286.3	287.7	288.2	289.2	290.2	290.6	291.8	293.0	294.0	294.1	294.7	295.7	295.8
Personal and educational expenses	366.7	387.1	390.1	390.7	412.5	414.7	415.4	415.5	416.8	417.7	417.9	418.9	418.5	420.4	421.2
School books and supplies	322.8	350.8	345.5	348.1	362.1	364.5	364.7	364.7	371.0	373.8	374.3	374.4	374.5	375.7	375.9
Personal and educational services	375.6	407.7	400.4	401.1	423.9	426.2	426.9	427.0	427.6	428.1	428.3	429.5	430.2	431.0	431.9

See footnotes at end of table.

30. Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity or service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967=100, unless otherwise indicated)

Series	Annual average		1985						1986					
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
All items	311.1	322.2	322.8	323.5	324.5	325.5	326.6	327.4	328.4	327.5	326.0	325.3	326.3	327.9
Commodities	290.7	296.7	296.5	296.5	297.1	297.9	299.2	299.9	290.1	297.4	293.7	291.2	292.1	292.8
Food and beverages	295.1	302.0	301.6	301.8	302.1	302.5	303.6	305.6	307.9	307.7	307.8	308.5	309.4	309.5
Commodities less food and beverages	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nondurables less food and beverages	275.7	282.1	282.9	283.1	284.6	285.3	286.8	286.8	284.9	278.6	268.9	262.0	263.3	264.7
Apparel commodities	187.0	191.6	188.0	190.6	195.3	196.7	196.8	194.2	189.5	188.5	190.8	191.7	190.7	188.4
Nondurables less food, beverages, and apparel	325.6	333.3	336.4	335.4	335.3	336.6	337.6	339.1	336.7	329.5	313.6	302.6	306.2	308.4
Durables	266.5	270.7	269.3	268.6	268.7	270.2	271.5	271.4	271.4	270.5	269.7	269.2	269.6	269.9
Services	363.0	381.5	383.3	384.9	386.5	387.7	388.7	389.5	391.7	393.3	394.9	396.6	397.9	401.0
Rent of shelter	107.7	113.9	114.3	115.1	115.4	116.1	116.7	117.0	117.4	117.7	118.5	119.4	119.7	119.9
Household services less rent of shelter	108.1	111.2	113.2	113.2	113.5	112.1	110.8	110.8	111.4	111.8	111.6	111.6	112.3	115.2
Transportation services	321.1	337.0	337.0	337.4	337.1	341.1	344.7	346.1	349.0	351.0	352.4	353.2	353.4	355.3
Medical care services	410.3	435.1	435.8	438.6	440.5	443.0	445.8	448.0	451.9	456.2	460.1	462.3	464.2	466.8
Other services	296.0	314.1	313.0	313.8	319.7	321.4	322.5	322.9	324.8	326.1	326.6	327.6	328.2	329.2
Special indexes:														
All items less food	311.3	323.3	324.2	325.0	326.2	327.4	328.5	328.9	329.5	328.5	326.6	325.7	326.7	328.6
All items less shelter	295.1	303.9	304.4	304.6	305.7	306.3	307.2	307.9	308.6	307.4	305.2	303.6	304.7	306.5
All items less homeowners' costs	106.3	108.7	108.9	110.1	110.4	110.7	111.1	111.3	111.6	111.2	110.5	110.1	110.4	111.1
All items less medical care	307.3	317.7	318.4	318.9	319.9	320.8	321.9	322.6	323.4	322.2	320.5	318.7	320.6	322.2
Commodities less food	267.0	272.5	272.4	272.3	273.1	274.4	275.7	275.7	274.7	270.9	265.2	261.2	262.1	263.0
Nondurables less food	270.6	277.2	277.9	278.1	279.6	280.7	282.0	282.0	280.4	274.5	265.6	259.2	260.5	261.8
Nondurables less food and apparel	311.9	319.2	321.9	321.1	321.0	322.0	324.0	325.1	324.9	316.8	302.7	292.9	295.2	296.1
Nondurables	286.6	293.2	293.5	293.7	294.6	295.1	296.4	297.4	297.7	294.3	289.5	286.3	287.4	288.2
Services less rent of shelter	106.5	113.5	114.2	114.5	115.0	115.1	115.2	115.4	116.2	116.8	117.1	117.4	117.8	119.2
Services less medical care	355.6	373.3	375.2	376.7	378.3	379.3	380.1	380.8	382.7	384.0	385.4	387.2	388.3	391.3
Energy	423.6	426.5	437.1	433.8	432.6	427.1	425.1	426.5	424.7	408.9	381.3	361.8	367.6	380.6
All items less energy	302.9	314.8	314.5	315.6	316.8	318.4	319.8	320.5	321.8	322.3	323.3	324.4	325.0	325.5
All items less food and energy	301.2	314.4	314.1	315.3	316.9	318.9	320.4	320.7	321.6	322.3	323.6	324.8	325.3	325.9
Commodities less food and energy	253.1	259.7	258.2	258.8	260.2	262.0	262.7	262.2	261.8	261.6	262.0	262.1	262.2	262.0
Energy commodities	400.8	409.9	418.1	414.0	411.2	410.1	415.2	417.9	413.2	386.5	343.0	313.3	319.3	327.1
Services less energy	358.4	375.9	376.6	378.6	380.2	382.5	384.8	385.6	387.9	389.4	391.5	393.6	394.5	395.9
Purchasing power of the consumer dollar:														
1967=$1.00	32.1	31.0	31.0	30.9	30.8	30.7	30.6	30.5	30.5	30.5	30.7	30.7	30.6	30.5
1957-59=$1.00	27.6	26.7	26.6	26.6	26.5	26.4	26.3	26.3	26.2	26.3	26.4	26.4	26.4	26.2
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS:														
All items	307.6	318.5	319.1	319.6	320.5	321.3	322.6	323.4	324.3	323.2	321.4	320.4	321.4	323.0
All items (1957-59=100)	357.7	370.4	371.2	371.8	372.7	373.7	375.1	376.1	377.1	375.8	373.7	372.6	373.7	375.6
Food and beverages	295.2	301.6	301.4	301.6	301.8	302.2	303.4	305.4	307.7	307.5	307.6	308.3	309.0	309.3
Food	302.7	309.3	309.0	309.1	309.3	309.3	310.6	312.8	315.1	314.9	315.0	315.6	316.4	316.6
Food at home	291.2	295.3	294.6	294.3	294.0	293.7	296.2	297.9	300.9	300.1	299.7	299.9	300.4	300.0
Cereals and bakery products	303.7	315.4	315.7	316.8	317.6	317.3	318.2	320.4	320.4	320.9	321.1	320.9	322.1	324.5
Meats, poultry, fish, and eggs	266.0	262.7	259.7	259.0	259.9	260.4	265.4	269.2	270.7	267.7	267.2	263.5	262.6	264.2
Dairy products	252.2	256.9	256.6	256.3	256.6	255.9	255.9	255.7	256.0	256.0	256.5	255.5	255.8	256.9
Fruits and vegetables	312.5	320.3	323.9	320.6	313.6	311.2	309.4	319.3	329.7	316.0	314.6	325.0	331.6	323.5
Other foods at home	352.7	361.5	361.1	362.2	362.9	363.4	362.5	361.6	366.1	375.2	375.6	376.0	374.3	373.9
Sugar and sweets	388.6	388.3	399.8	401.4	400.8	402.2	400.9	401.8	404.7	408.1	407.8	410.9	410.6	410.9
Fats and oils	287.5	293.9	297.3	296.5	294.1	290.6	291.6	289.6	291.6	290.6	289.7	287.8	286.6	286.4
Nonalcoholic beverages	444.4	453.2	449.8	451.2	454.1	456.6	453.1	450.4	461.0	465.5	467.4	467.0	461.2	479.5
Other prepared foods	298.4	295.7	296.1	297.3	297.7	298.3	298.3	298.7	298.4	300.9	300.7	301.6	302.7	303.0
Food away from home	336.7	349.7	350.4	351.5	353.0	353.4	354.4	356.2	358.2	357.3	358.6	360.2	362.0	363.5
Alcoholic beverages	225.3	232.6	231.0	232.2	232.6	236.1	236.8	236.1	240.1	240.9	241.4	242.3	242.2	242.9
Housing	329.2	343.3	345.0	346.2	347.2	347.5	348.3	349.1	350.1	349.7	350.1	351.1	351.6	354.3
Shelter	360.0	370.4	371.5	374.0	375.0	377.1	379.3	380.4	381.8	382.9	385.0	386.1	386.8	389.4
Renters' costs (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rent, residential	248.6	263.7	264.1	265.7	266.8	268.9	270.7	271.5	272.5	272.8	274.1	277.0	277.5	278.6
Other renters' costs	372.4	387.9	405.2	409.6	409.8	411.6	406.0	397.5	400.8	403.5	405.4	411.6	411.3	415.5
Homeowners' costs (12/84=100)	-	103.1	103.4	104.1	104.3	104.8	105.5	105.9	106.3	106.6	107.4	108.1	108.3	108.4
Owners' equivalent rent (12/84=100)	-	103.0	103.4	104.1	104.3	104.8	105.5	105.9	106.3	106.6	107.3	108.1	108.3	108.4
Household insurance (12/84=100)	-	103.2	103.5	103.7	104.3	105.2	105.2	105.7	106.3	107.8	108.2	108.5	109.0	109.1
Maintenance and repairs	368.3	364.1	363.4	365.6	364.4	364.6	367.7	368.5	373.2	374.0	364.7	364.6	363.8	369.2
Maintenance and repair services	403.5	415.0	415.3	419.6	416.8	417.4	420.9	420.1	428.2	426.5	416.6	419.2	420.0	422.6
Maintenance and repair commodities	257.2	261.1	260.0	260.6	260.5	260.5	262.7	264.2	267.2	266.1	261.1	259.4	258.0	255.7
Fuel and other utilities	388.6	394.7	401.2	400.1	401.9	396.3	393.2	394.3	395.6	390.9	386.3	382.6	383.0	384.9
Fuels	485.0	487.5	487.0	484.0	486.7	487.2	481.0	483.1	484.1	475.7	467.1	459.1	459.7	477.3
Fuel oil, coal, and bottled gas	644.3	622.0	604.2	596.9	604.3	616.1	644.3	659.9	652.7	593.6	562.6	521.5	499.9	489.9
Gas (piped) and electricity	444.1	451.6	466.3	464.2	465.9	452.0	439.5	438.6	441.4	443.2	441.2	439.0	443.0	465.7
Other utilities and public services	231.2	241.6	243.7	245.1	245.6	245.7	246.6	246.7	248.3	248.6	249.9	252.1	252.2	256.8
Household furnishings and operations	239.1	243.4	242.6	243.1	243.2	244.5	245.1	245.2	245.1	245.3	246.0	246.0	246.1	246.2
Housefurnishings	197.0	197.6	198.2	198.6	198.5	197.7	198.3	197.8	197.3	197.2	198.5	198.1	198.4	198.2
Housekeeping supplies	300.2	310.7	310.3	310.4	311.0	312.7	313.5	315.0	315.8	316.4	315.5	316.3	315.7	316.8
Housekeeping services	328.0	340.2	341.0	342.2	342.9	343.9	344.5	345.0	345.6	346.3	346.6	347.1	347.4	347.8
Apparel and upkeep	199.1	206.0	201.8	204.3	208.7	210.2	210.2	208.1	204.1	203.1	205.2	206.1	205.1	200.0

See footnotes at end of table.

39. Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity or service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967=100, unless otherwise indicated)

Series	Annual average		1985						1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
Apparel commodities	186.6	191.3	187.8	190.4	195.1	196.6	196.5	194.1	189.4	188.2	190.4	191.2	190.1	187.7	186.3
Men's and boys' apparel	192.9	198.2	194.8	197.3	201.8	203.5	203.7	202.2	198.8	198.8	198.0	199.3	200.0	198.0	195.4
Women's and girls' apparel	165.0	171.3	165.5	169.9	178.2	180.0	178.3	174.5	168.1	165.2	169.0	169.3	165.9	162.0	160.8
Infants' and toddlers' apparel	297.8	311.7	308.4	311.2	314.9	314.8	320.7	317.3	332.7	328.6	329.6	331.3	334.3	335.6	323.7
Footwear	210.0	212.5	211.6	210.5	211.0	212.6	215.9	213.6	209.9	208.4	210.7	212.1	212.0	210.6	209.6
Other apparel commodities	204.5	203.1	204.5	205.2	202.5	202.4	202.5	202.4	203.5	204.2	203.5	204.1	203.8	204.5	206.5
Apparel services	302.9	318.5	319.0	320.5	321.6	323.2	323.6	324.4	327.2	328.1	329.0	330.2	330.9	331.9	332.2
Transportation	313.9	321.6	323.5	322.3	321.1	322.2	324.6	325.3	325.1	320.1	310.3	303.5	305.9	308.7	304.6
Private transportation	310.1	317.4	319.3	318.0	316.6	317.6	320.1	320.8	320.2	314.8	304.5	297.4	299.9	302.8	298.3
New vehicles	207.3	214.2	213.6	213.5	213.5	215.3	217.5	218.6	219.0	219.4	219.4	220.2	222.0	223.2	223.7
New cars	207.9	214.5	214.0	213.9	213.8	215.5	217.8	218.8	219.2	219.7	219.5	220.4	222.3	223.4	223.9
Used cars	375.7	379.7	376.7	374.0	374.3	375.3	376.4	375.6	374.1	370.7	367.2	364.8	363.6	362.5	360.3
Motor fuel	372.2	375.4	387.2	383.8	379.5	376.3	378.7	379.6	375.3	353.0	309.6	280.1	290.3	300.6	280.9
Gasoline	371.8	375.0	387.0	383.7	379.2	375.8	378.1	378.9	374.6	352.3	308.8	279.1	289.6	300.3	280.5
Maintenance and repair	342.2	352.6	352.2	352.9	354.5	356.9	357.2	359.0	358.4	360.4	360.9	362.2	362.8	363.6	365.0
Other private transportation	274.2	287.7	287.7	287.8	295.2	289.2	293.7	294.7	296.9	298.4	300.6	300.4	298.8	301.2	302.4
Other private transportation commodities	203.9	204.7	204.3	204.9	205.6	205.0	203.7	204.3	205.6	205.4	206.0	204.6	204.9	203.9	203.8
Other private transportation services	295.4	312.3	312.4	312.1	308.9	314.1	320.2	321.3	323.7	325.7	328.3	328.5	327.7	329.6	331.2
Public transportation	376.8	391.7	392.1	393.5	398.8	399.3	400.1	400.2	408.6	412.6	412.0	413.0	413.6	415.1	418.0
Medical care	377.7	401.2	402.0	404.5	406.3	408.5	410.9	412.6	416.0	420.0	423.5	425.7	427.3	429.8	432.4
Medical care commodities	239.7	256.3	257.4	259.0	259.8	260.9	262.2	262.3	264.1	267.0	268.8	270.7	271.7	272.5	274.6
Medical care services	407.9	432.7	433.3	436.1	438.1	440.6	443.2	445.4	449.2	453.5	457.3	459.5	461.3	464.0	466.9
Professional services	348.5	367.7	368.5	370.4	372.1	373.7	375.8	377.6	379.3	382.2	385.6	387.4	388.8	390.8	392.3
Other medical care services	484.7	513.9	514.4	518.4	520.7	524.4	527.5	530.4	536.9	543.0	547.3	550.0	552.3	555.9	560.7
Entertainment	251.2	260.1	260.9	260.8	261.6	263.0	263.7	263.0	265.4	266.5	266.5	266.9	267.3	268.4	269.0
Entertainment commodities	247.7	254.2	254.5	254.3	256.0	257.1	257.2	255.7	257.8	258.3	258.3	258.4	258.7	259.8	259.6
Entertainment services	258.5	271.6	273.2	273.3	272.6	274.6	276.3	276.8	280.0	282.0	282.1	283.0	283.6	284.8	286.5
Other goods and services	304.9	322.7	321.8	322.9	328.7	330.1	330.5	331.9	334.9	336.1	337.0	337.6	338.0	338.4	341.2
Tobacco products	309.7	328.1	329.7	331.1	332.4	334.0	334.3	337.1	342.4	344.4	345.2	346.0	346.0	348.7	354.0
Personal care	269.4	279.6	279.9	280.9	281.8	282.7	283.1	284.0	285.9	286.8	288.0	288.2	288.6	288.6	288.8
Toilet goods and personal care appliances	270.3	279.0	279.2	280.0	281.1	282.0	281.9	283.3	285.9	286.7	288.1	288.4	288.6	287.8	287.8
Personal care services	268.8	280.5	280.9	282.2	282.8	283.7	284.8	285.2	286.4	287.4	288.4	288.4	289.0	290.0	290.2
Personal and educational expenses	368.2	389.3	382.5	383.2	414.5	416.5	417.3	417.4	418.9	419.9	420.1	421.2	422.0	422.9	423.6
School books and supplies	327.5	355.7	350.6	351.2	366.9	369.2	369.3	369.4	375.6	378.4	379.0	379.1	379.1	380.2	380.5
Personal and educational services	376.2	410.1	402.9	403.6	426.1	428.1	428.9	429.1	429.7	430.3	430.5	431.8	432.8	433.6	434.6
All items	307.6	318.5	318.1	319.6	320.5	321.3	322.6	323.4	324.3	323.2	321.4	320.4	321.4	323.0	322.9
Commodities	280.4	286.5	286.4	286.3	286.8	287.6	288.9	288.7	288.8	287.0	283.1	280.4	281.3	282.0	281.1
Food and beverages	295.2	301.8	301.4	301.6	301.8	302.2	303.4	305.4	307.7	307.5	307.6	308.3	309.0	309.3	312.0
Commodities less food and beverages	269.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nondurables less food and beverages	277.5	283.8	285.0	285.1	286.5	287.0	288.5	288.7	286.9	280.1	268.6	262.0	263.6	265.2	260.1
Apparel commodities	186.6	191.3	187.8	190.4	195.1	196.6	196.5	194.1	189.4	188.2	190.4	191.2	190.1	187.7	186.3
Nondurables less food, beverages, and apparel	327.0	334.2	337.6	336.6	336.4	336.5	338.8	340.1	339.6	330.1	313.2	301.6	304.5	308.0	301.0
Durables	261.1	266.2	263.8	263.1	263.1	264.5	265.7	265.7	265.6	264.6	263.7	263.3	263.5	263.6	263.2
Services	358.0	377.3	379.2	380.7	382.0	383.0	384.2	385.1	387.2	388.8	390.5	392.2	393.2	396.4	397.7
Rent of shelter (12/84=100)	-	103.2	103.5	104.3	104.5	105.1	105.6	106.1	106.4	106.7	107.4	108.3	108.5	108.7	109.2
Household services less rent of shelter (12/84=100)	-	102.6	104.5	104.6	104.8	103.3	102.1	102.0	102.6	103.0	102.8	102.7	103.4	106.4	106.0
Transportation services	317.2	332.2	332.2	332.4	331.4	335.5	339.3	340.5	343.3	345.4	347.0	347.5	347.3	348.9	350.6
Medical care services	407.9	432.7	433.3	436.1	438.1	440.6	443.2	445.4	449.2	453.5	457.3	459.5	461.3	464.0	466.9
Other services	292.9	310.1	309.3	310.1	315.0	316.7	317.8	318.3	320.4	321.6	322.1	322.9	323.6	324.6	325.6
Special indexes:															
All items less food	307.5	319.4	320.3	320.9	321.9	322.9	324.2	324.6	325.1	323.6	321.5	320.2	321.2	323.2	322.3
All items less shelter	295.1	303.4	304.0	304.0	304.8	305.4	306.4	307.2	307.9	306.4	303.8	302.1	303.0	304.8	304.3
All items less homeowners' costs (12/84=100)	-	101.8	102.0	102.1	102.4	102.6	103.0	103.2	103.3	103.0	102.3	101.8	102.1	102.7	102.6
All items less medical care	304.0	314.3	314.9	315.3	316.1	316.9	318.1	318.9	319.6	318.3	316.2	315.2	316.1	317.7	317.4
Commodities less food	267.1	272.8	272.8	272.7	273.4	274.5	275.9	275.9	275.0	270.9	264.9	260.7	261.6	262.6	258.6
Nondurables less food	272.6	279.0	280.0	280.2	281.5	282.4	283.8	283.9	282.3	276.1	266.4	259.4	260.9	262.4	257.7
Nondurables less food and apparel	313.2	320.3	323.2	322.4	322.3	323.1	325.0	326.3	325.9	317.5	302.6	292.2	294.9	298.0	291.8
Nondurables	287.4	293.9	294.3	294.5	295.2	295.7	297.1	298.2	298.4	296.0	289.4	286.3	287.5	288.4	287.2
Services less rent of shelter (12/84=100)	-	102.6	103.3	103.5	103.8	103.9	103.9	104.2	104.9	105.5	105.7	105.9	106.2	107.6	107.8
Services less medical care	350.5	369.0	371.1	372.5	373.6	374.5	375.5	376.2	378.2	379.5	381.0	382.7	383.6	386.8	387.9
Energy	423.3	426.3	437.2	433.9	432.5	426.6	425.4	426.8	424.7	408.1	379.0	358.4	364.6	376.1	363.1
All items less energy	298.3	309.9	309.5	310.4	311.5	313.0	314.5	315.3	316.5	316.9	317.8	318.8	319.2	319.7	321.1
All items less food and energy	296.8	308.7	308.3	309.4	310.7	312.7	314.2	314.6	315.4	316.1	317.2	318.3	318.6	319.1	320.1
Commodities less food and energy	250.5	256.8	256.3	256.8	257.2	258.8	259.5	259.2	258.8	258.5	258.7	258.8	258.8	258.5	258.5
Energy commodities	410.5	410.9	419.6	415.7	412.6	411.2	416.3	418.9	414.1	387.3	343.3	312.9	319.8	326.1	307.2
Services less energy	360.8	371.1	371.9	373.7	374.9	377.3	379.8	380.8	382.9	384.5	386.5	388.8	389.4	390.8	392.6
Purchasing power of the consumer dollar:															
1967=$1.00	32.5	31.4	31.3	31.3	31.2	31.1	31.0	30.9	30.8	30.9	31.1	31.2	31.1	31.0	31.0
1957-59=$1.00	28.0	27.0	26.9	26.9	26.8	26.8	26.7	26.6	26.5	26.6	26.8	26.8	26.8	26.6	26.6

- Data not available.

31. Consumer Price Index: U.S. city average and available local area data: all items

(1967 = 100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1985		1986					1985		1986				
			July	Aug.	Mar.	Apr.	May	June	July	July	Aug.	Mar.	Apr.	May	June	July
U.S. city average		–	322.8	323.5	326.0	325.3	326.3	327.9	328.0	319.1	319.6	321.4	320.4	321.4	323.0	322.9
Chicago, Ill.-Northwestern Ind.	M	–	324.4	325.9	323.9	323.7	324.2	330.4	331.1	311.1	312.1	309.7	309.1	309.6	315.6	316.0
Detroit, Mich.	M	–	318.0	318.0	320.0	318.8	321.7	321.0	318.4	306.3	308.3	309.3	308.1	311.0	310.2	307.5
Los Angeles-Long Beach, Anaheim, Calif.	M	–	321.3	323.9	328.2	326.8	329.4	331.3	330.9	315.8	318.0	321.6	320.2	322.7	324.5	323.8
New York, N.Y.-Northeastern N.J.	M	–	313.5	315.7	322.4	321.4	320.6	322.8	325.1	306.5	308.5	314.5	313.2	312.3	314.4	316.5
Philadelphia, Pa.-N.J.	M	–	315.5	315.8	319.1	317.8	318.9	321.7	323.0	318.6	318.5	321.4	319.7	320.8	323.5	324.6
Anchorage, Alaska (10/67 = 100)	1	10/67	283.1	–	291.2	–	288.9	–	284.1	276.0	–	284.4	–	281.8	–	276.9
Baltimore, Md.	1	–	324.0	–	331.1	–	329.1	–	330.2	323.4	–	329.5	–	326.8	–	327.9
Boston, Mass.	1	–	317.7	–	324.9	–	322.6	–	323.6	315.7	–	322.3	–	319.3	–	320.8
Cincinnati, Ohio-Ky.-Ind.	1	–	330.0	–	329.4	–	332.0	–	332.4	323.2	–	321.8	–	324.8	–	324.9
Denver-Boulder, Colo.	1	–	360.3	–	355.7	–	356.3	–	358.4	355.9	–	350.1	–	350.3	–	352.4
Miami, Fla. (11/77 = 100)	1	11/77	171.4	–	174.5	–	173.0	–	171.2	172.7	–	175.1	–	173.4	–	171.6
Milwaukee, Wis.	1	–	331.1	–	329.1	–	332.0	–	331.3	350.4	–	347.2	–	350.6	–	350.1
Northeast, Pa.	1	–	306.6	–	309.3	–	309.2	–	309.0	305.7	–	306.3	–	306.1	–	307.8
Portland, Oreg.-Wash.	1	–	312.9	–	315.0	–	314.6	–	314.7	303.2	–	304.3	–	303.2	–	303.4
St. Louis, Mo.-Ill.	1	–	319.9	–	319.2	–	318.6	–	325.6	316.6	–	315.0	–	314.2	–	320.6
San Diego, Calif.	1	–	372.8	–	379.2	–	382.8	–	383.1	336.9	–	341.9	–	345.2	–	345.0
Seattle-Everett, Wash.	1	–	322.0	–	325.0	–	323.5	–	323.7	309.1	–	311.4	–	309.4	–	310.1
Washington, D.C.-Md.-Va.	1	–	323.3	–	329.1	–	329.6	–	329.3	325.9	–	330.5	–	330.2	–	330.2
Atlanta, Ga.	2	–	–	331.4	–	334.9	–	336.5	–	–	329.3	–	331.7	–	335.5	–
Buffalo, N.Y.	2	–	–	306.5	–	308.0	–	308.9	–	–	292.9	–	292.7	–	294.0	–
Cleveland, Ohio	2	–	–	348.1	–	346.9	–	350.6	–	–	327.0	–	324.4	–	328.2	–
Dallas-Ft. Worth, Tex.	2	–	–	343.4	–	341.4	–	344.7	–	–	337.0	–	334.1	–	337.4	–
Honolulu, Hawaii	2	–	–	294.2	–	299.0	–	299.2	–	–	301.3	–	306.0	–	306.5	–
Houston, Tex.	2	–	–	336.2	–	330.0	–	333.3	–	–	335.3	–	327.7	–	330.9	–
Kansas City, Mo.-Kansas	2	–	–	321.1	–	320.7	–	322.9	–	–	311.2	–	308.9	–	311.4	–
Minneapolis-St. Paul, Minn.-Wis.	2	–	–	336.8	–	338.4	–	342.1	–	–	334.4	–	332.3	–	336.2	–
Pittsburgh, Pa.	2	–	–	325.9	–	328.1	–	326.6	–	–	306.0	–	307.8	–	308.3	–
San Francisco-Oakland, Calif.	2	–	–	335.8	–	339.3	–	344.0	–	–	330.8	–	333.2	–	338.1	–
Region[3]																
Northeast	2	12/77	–	171.0	–	173.7	–	174.2	–	–	169.0	–	171.1	–	171.6	–
North Central	2	12/77	–	174.3	–	173.9	–	176.1	–	–	171.0	–	170.0	–	172.2	–
South	2	12/77	–	174.5	–	175.1	–	176.3	–	–	174.3	–	174.1	–	175.2	–
West	2	12/77	–	175.9	–	176.8	–	178.7	–	–	173.9	–	174.5	–	176.3	–
Population size class[3]																
A-1	2	12/77	–	172.3	–	173.9	–	175.7	–	–	168.3	–	169.3	–	171.0	–
A-2	2	12/77	–	176.6	–	177.4	–	178.9	–	–	173.7	–	173.8	–	175.2	–
B	2	12/77	–	174.9	–	175.6	–	177.0	–	–	172.4	–	172.7	–	174.1	–
C	2	12/77	–	172.5	–	173.4	–	174.7	–	–	173.0	–	173.4	–	174.6	–
D	2	12/77	–	172.3	–	172.7	–	173.4	–	–	173.8	–	173.6	–	174.2	–
Region/population size class cross classification[3]																
Class A:																
Northeast	2	12/77	–	168.5	–	171.0	–	171.8	–	–	165.0	–	168.9	–	167.7	–
North Central	2	12/77	–	176.3	–	177.8	–	180.3	–	–	173.3	–	172.1	–	174.7	–
South	2	12/77	–	174.8	–	175.5	–	176.8	–	–	174.9	–	174.9	–	176.1	–
West	2	11/77	–	176.0	–	179.6	–	181.8	–	–	173.8	–	174.9	–	177.1	–
Class B:																
Northeast	2	12/77	–	173.3	–	174.7	–	175.2	–	–	170.4	–	171.7	–	172.2	–
North Central	2	12/77	–	171.5	–	172.1	–	174.1	–	–	168.0	–	167.7	–	169.7	–
South	2	12/77	–	176.0	–	177.0	–	178.5	–	–	172.7	–	173.2	–	174.6	–
West	2	12/77	–	176.9	–	176.7	–	178.3	–	–	177.5	–	177.1	–	178.7	–

See footnotes at end of table.

31. Continued— Consumer Price Index: U.S. city average and available local area data: all items

(1967 = 100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1985		1986					1985		1986				
			July	Aug.	Mar.	Apr.	May	June	July	July	Aug.	Mar.	Apr.	May	June	July
Class C:																
Northeast	2	12/77	-	178.9	-	183.0	-	183.4	-	-	183.8	-	187.4	-	187.8	-
North Central	2	12/77	-	169.1	-	168.5	-	170.7	-	-	168.0	-	165.1	-	167.2	-
South	2	12/77	-	173.5	-	173.6	-	174.5	-	-	175.1	-	174.3	-	175.2	-
West	2	12/77	-	168.9	-	170.5	-	171.6	-	-	167.7	-	168.9	-	169.9	-
Class D:																
Northeast	2	12/77	-	173.7	-	177.9	-	176.1	-	-	173.6	-	177.2	-	175.5	-
North Central	2	12/77	-	170.7	-	170.0	-	171.3	-	-	172.7	-	171.4	-	172.6	-
South	2	12/77	-	172.6	-	173.2	-	173.9	-	-	174.5	-	174.0	-	174.6	-
West	2	12/77	-	173.3	-	172.6	-	174.1	-	-	174.8	-	173.9	-	175.4	-

[1] Area is generally the Standard Metropolitan Statistical Area (SMSA), exclusive of farms. L.A.-Long Beach, Anaheim, Calif. is a combination of two SMSA's, and N.Y., N.Y.-Northeastern N.J. and Chicago, Ill.-Northwestern Ind. are the more extensive Standard Consolidated Areas. Area definitions are those established by the Office of Management and Budget in 1973, except for Denver-Boulder, Colo. which does not include Douglas County. Definitions do not include revisions made since 1973.

[2] Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated:

M - Every month.
1 - January, March, May, July, September, and November.
2 - February, April, June, August, October, and December.

[3] Regions are defined as the four Census regions.

The population size classes are aggregations of areas which have urban population as defined:

A-1 - More than 4,000,000.
A-2 - 1,250,000 to 4,000,000.
B - 385,000 to 1,250,000
C - 75,000 to 385,000.
D - Less than 75,000.

Population size class A is the aggregation of population size classes A-1 and A-2.

- Data not available.

NOTE: Local area CPI indexes are byproducts of the national CPI program. Because each Local index is a small subset of the national index, it has a smaller sample size and is, therefore, subject to substantially more sampling and other measurement error than the national index. As a result, local area indexes show greater volatility than the national index, although their long-term trends are quite similar. Therefore, the Bureau of Labor Statistics strongly urges users to consider adopting the national average CPI for use in escalator clauses.

32. Annual data: Consumer Price Index all items and major groups

Series	1977	1978	1979	1980	1981	1982	1983	1984	1985
Consumer Price Index for All Urban Consumers:									
All items:									
Index	181.5	195.4	217.4	246.8	272.4	289.1	298.4	311.1	322.2
Percent change	6.5	7.7	11.3	13.5	10.4	6.1	3.2	4.3	3.6
Food and beverages:									
Index	188.0	206.3	228.5	248.0	267.3	278.2	284.4	295.1	302.0
Percent change	6.0	9.7	10.8	8.5	7.8	4.1	2.2	3.8	2.3
Housing									
Index	186.5	202.8	227.6	263.3	293.5	314.7	323.1	336.5	349.9
Percent change	6.8	8.7	12.2	15.7	11.5	7.2	2.7	4.1	4.0
Apparel and upkeep:									
Index	154.2	159.6	166.6	178.4	186.9	191.8	196.5	200.2	206.0
Percent change	4.5	3.5	4.4	7.1	4.8	2.6	2.5	1.9	2.9
Transportation:									
Index	177.2	185.5	212.0	249.7	280.0	291.5	298.4	311.7	319.9
Percent change	7.1	4.7	14.3	17.8	12.1	4.1	2.4	4.5	2.6
Medical care:									
Index	202.4	219.4	239.7	265.9	294.5	328.7	357.3	379.5	403.1
Percent change	9.6	8.4	9.3	10.9	10.8	11.6	8.7	6.2	6.2
Entertainment:									
Index	167.7	176.6	188.5	205.3	221.4	235.8	246.0	255.1	265.0
Percent change	4.9	5.3	6.7	8.9	7.8	6.5	4.3	3.7	3.9
Other goods and services:									
Index	172.2	183.3	196.7	214.5	235.7	259.9	288.3	307.7	326.6
Percent change	5.8	6.4	7.3	9.0	9.9	10.3	10.9	6.7	6.1
Consumer Price Index for Urban Wage Earners and Clerical Workers									
All items:									
Index	181.5	195.3	217.7	247.0	272.3	288.6	297.4	307.6	318.5
Percent change	6.5	7.6	11.5	13.5	10.2	6.0	3.0	3.4	3.5

33. Producer Price Indexes, by stage of processing

(1967 = 100)

Grouping	Annual average		1985					1986					
	1984	1985	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Finished goods	291.1	293.7	293.5	290.0	294.7	296.4	297.2	296.0	291.9	288.0	286.9	289.0	288.9
Finished consumer goods	290.3	291.8	291.4	288.2	292.3	294.4	295.4	293.8	288.4	283.4	281.6	284.2	284.1
Finished consumer foods	273.3	271.2	268.7	265.7	268.2	271.8	275.0	275.0	272.0	271.6	272.4	274.9	275.1
Finished consumer goods excluding foods	294.1	297.3	297.8	294.7	299.4	300.7	300.7	298.3	291.8	284.6	281.4	284.1	283.8
Nondurable goods less food	337.3	339.3	340.0	340.3	340.3	342.6	343.2	339.6	328.0	315.4	308.6	312.9	312.6
Durable goods	236.8	241.5	241.8	234.5	244.9	245.0	244.3	243.5	243.9	243.7	245.4	245.8	245.8
Capital equipment	294.0	300.5	301.0	296.3	303.5	303.8	303.7	303.9	304.3	304.3	305.6	305.8	305.8
Intermediate materials, supplies, and components	320.0	318.7	317.9	317.7	317.6	318.1	318.9	317.4	313.5	309.5	307.0	306.8	307.1
Materials and components for manufacturing	301.8	299.5	299.1	298.4	298.0	297.7	297.9	297.1	296.5	296.4	295.2	295.3	295.3
Materials for food manufacturing	271.1	258.8	253.0	249.9	252.3	254.0	254.3	252.6	249.2	246.7	244.6	248.6	247.8
Materials for nondurable manufacturing	290.5	285.9	285.8	285.1	283.3	282.8	283.1	283.8	282.4	282.5	279.0	278.0	278.0
Materials for durable manufacturing	325.1	320.2	320.3	319.2	318.6	317.5	317.6	313.4	313.1	313.6	313.1	313.2	313.3
Components for manufacturing	287.5	291.5	291.9	292.1	292.3	292.3	292.4	293.1	293.6	293.7	294.1	294.1	294.2
Materials and components for construction	310.3	315.2	316.5	315.6	315.5	315.0	315.7	316.2	316.5	317.0	318.0	318.3	317.7
Processed fuels and lubricants	566.2	548.9	539.8	542.4	542.6	550.5	557.2	540.8	500.8	453.4	430.2	425.7	429.3
Containers	302.3	311.2	310.3	309.9	310.4	309.8	310.6	311.2	310.9	312.3	312.5	313.9	313.6
Supplies	283.4	284.2	284.1	284.5	285.1	285.6	285.7	286.6	286.4	286.8	287.0	287.2	287.3
Crude materials for further processing	330.8	306.1	295.3	291.8	297.8	304.7	304.3	301.0	289.0	281.1	272.8	278.9	274.9
Foodstuffs and feedstuffs	259.5	235.0	221.0	215.4	224.6	236.6	236.8	231.7	227.2	224.4	220.1	229.9	226.1
Nonfood materials[1]	380.5	355.3	351.2	352.2	352.8	352.0	351.6	352.4	321.8	290.5	280.8	278.8	279.4
Special groupings													
Finished goods, excluding foods	294.8	299.0	299.5	295.9	301.3	302.4	302.4	300.7	296.3	291.2	289.4	291.3	291.1
Finished energy goods	750.3	720.9	719.8	718.2	716.5	729.5	733.8	700.9	629.3	554.1	511.3	532.7	531.5
Finished goods less energy	265.1	269.2	269.0	265.5	270.5	271.6	272.2	272.7	272.2	272.1	273.2	274.2	274.2
Finished consumer goods less energy	257.8	261.3	260.9	257.7	262.1	263.4	264.3	264.8	264.0	263.9	265.0	266.2	266.2
Finished goods less food and energy	262.3	268.7	269.4	265.7	271.6	271.8	271.4	272.1	272.5	272.5	273.7	274.2	274.1
Finished consumer goods less food and energy	245.9	252.1	252.9	249.6	254.9	255.0	254.6	255.5	256.0	256.0	257.1	257.7	257.6
Consumer nondurable goods less food and energy	239.0	246.2	247.3	247.9	248.3	248.5	248.3	250.5	251.1	251.2	251.8	252.5	252.3
Intermediate materials less foods and feeds	325.0	325.0	324.5	324.4	324.1	324.5	325.3	323.6	319.7	315.5	312.9	312.5	312.8
Intermediate foods and feeds	253.1	232.8	227.1	225.4	228.6	231.4	232.7	232.6	228.9	227.8	226.8	229.4	229.0
Intermediate energy goods	545.0	528.3	519.8	522.3	522.2	529.3	536.2	520.0	482.0	437.0	414.9	410.5	413.9
Intermediate goods less energy	303.8	304.0	303.9	303.4	303.4	303.2	303.5	303.4	303.0	303.3	302.8	303.0	302.9
Intermediate materials less foods and energy	303.6	305.2	305.5	305.0	304.6	304.2	304.5	304.3	304.2	304.5	304.0	304.0	303.9
Crude energy materials	785.2	748.1	742.9	743.2	743.1	737.1	735.8	732.8	662.9	614.5	570.7	571.6	554.2
Crude materials less energy	255.5	233.2	221.8	217.9	224.7	233.2	239.0	229.8	226.5	224.7	221.8	228.5	226.5
Crude nonfood materials less energy	266.1	249.7	245.8	246.7	246.5	244.6	242.9	245.8	246.5	247.9	249.1	249.3	250.0

[1] Crude nonfood materials except fuel.

34. Producer Price indexes, by durability of product

(1967=100)

Grouping	Annual average		1985					1986						
	1984	1985	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
Total durable goods	293.6	297.3	297.8	295.2	298.8	298.5	298.5	298.1	298.4	298.6	299.5	299.7	299.6	300.0
Total nondurable goods	323.3	317.2	314.1	313.0	314.3	317.8	318.8	316.8	308.4	300.7	295.7	297.9	297.4	294.9
Total manufactures	302.9	304.3	303.8	302.2	304.4	305.4	306.0	304.8	301.1	297.3	296.0	296.9	297.0	295.4
Durable	293.9	298.1	298.6	296.0	299.7	299.5	299.5	[illegible]	299.3	299.4	300.3	300.5	300.5	300.9
Nondurable	312.3	310.5	309.0	308.4	309.2	311.4	312.5	310.6	302.9	294.9	291.2	292.8	293.1	289.2
Total raw or slightly processed goods	348.6	327.9	320.2	317.6	320.6	326.2	327.6	326.0	316.3	310.3	302.0	305.8	302.6	304.3
Durable	266.7	252.2	249.7	249.7	248.1	245.2	244.3	248.2	251.2	252.4	252.7	252.0	250.9	248.9
Nondurable	351.4	332.4	324.4	321.6	324.9	331.2	332.7	330.6	320.2	313.6	304.7	308.7	305.5	307.4

35. Annual data: Producer Price indexes, by stage of processing

(1967=100)

Index	1977	1978	1979	1980	1981	1982	1983	1984	1985
Finished goods:									
Total	181.7	195.9	217.7	247.0	269.8	280.7	285.2	291.1	293.7
Consumer goods	180.7	194.9	217.9	248.9	271.3	281.0	284.6	290.3	291.8
Capital equipment	194.6	199.2	216.5	239.8	264.3	279.4	287.2	294.0	300.5
Intermediate materials, supplies, and components:									
Total	201.5	215.6	243.2	280.3	306.0	310.4	312.3	320.0	318.7
Materials and components for manufacturing	195.4	208.7	234.4	265.7	286.1	289.8	293.4	301.8	299.5
Materials and components for construction	203.4	224.7	247.4	268.3	287.6	293.7	301.8	310.3	315.2
Processed fuels and lubricants	282.5	295.3	364.8	503.0	595.4	591.7	564.8	566.2	548.9
Containers	188.3	202.8	226.8	254.5	276.1	285.6	298.6	302.3	311.2
Supplies	188.7	198.5	218.2	244.5	263.8	272.1	277.1	283.4	284.2
Crude materials for further processing:									
Total	209.2	234.4	274.3	304.6	329.0	319.5	323.6	330.8	306.1
Foodstuffs and feedstuffs	192.1	216.2	247.9	259.2	257.4	247.8	252.2	259.5	235.0
Nonfood materials except fuel	212.2	233.1	284.5	346.1	413.7	376.8	372.2	380.5	355.3
Fuel	372.1	426.8	507.6	615.0	751.2	896.1	931.5	931.3	909.6

36. U.S. export price indexes by Standard International Trade Classification

(June 1977=100, unless otherwise indicated)

Category	1974 SITC	1983	1984				1985				1986	
		Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
ALL COMMODITIES (9/83=100)		99.5	100.2	101.5	99.3	99.1	97.5	97.5	96.5	96.7	97.0	96.7
Food (3/83=100)	0	108.8	106.2	109.6	103.5	96.5	95.8	94.0	90.2	90.6	90.5	89.5
Meat (3/83=100)	01	101.2	108.9	108.7	105.6	104.4	103.9	104.7	106.1	112.2	111.5	114.7
Fish (3/83=100)	03	100.4	99.8	98.7	96.0	98.7	101.0	103.8	102.6	101.8	102.2	106.2
Grain and grain preparations (3/80=100)	04	105.6	102.7	107.4	101.2	92.9	92.4	90.3	82.6	87.1	82.1	79.1
Vegetables and fruit (3/83=100)	05	116.1	116.2	129.8	125.5	114.6	119.4	120.1	128.8	118.8	115.2	125.7
Feedstuffs for animals (3/83=100)	08	117.4	106.9	96.8	83.5	82.4	72.8	68.6	75.7	83.4	88.5	86.5
Misc. food products (3/83=100)	09	101.7	104.9	110.6	109.5	108.4	110.6	109.2	108.1	107.7	108.0	104.7
Beverages and tobacco (6/83=100)	1	101.5	101.8	101.9	102.8	101.3	99.9	100.1	99.7	98.6	95.8	98.5
Beverages (9/83=100)	11	103.3	102.3	102.9	103.3	103.7	104.0	105.3	101.8	100.9	101.9	103.0
Tobacco and tobacco products (6/83=100)	12	101.4	101.8	101.8	102.7	101.1	99.5	99.6	99.5	98.4	95.1	95.9
Crude materials (6/83=100)	2	112.2	112.5	118.3	105.2	101.4	97.5	96.8	93.3	92.5	95.8	95.6
Raw hides and skins (6/80=100)	21	135.2	145.6	154.7	153.7	133.6	121.0	126.2	129.0	139.9	139.9	148.9
Oilseeds and oleaginous fruit (9/77=100)	22	98.8	89.9	104.3	79.9	74.8	71.0	71.2	64.2	63.9	66.9	65.8
Crude rubber (including synthetic and reclaimed) (9/83=100)	23	102.2	103.3	106.0	104.1	104.0	106.4	108.3	107.1	106.0	106.0	106.1
Wood	24	129.8	131.1	129.4	123.8	125.4	128.7	125.7	124.5	128.1	128.7	128.7
Pulp and waste paper (6/83=100)	25	108.0	112.5	122.1	120.8	114.2	100.5	96.1	95.8	92.7	98.8	109.7
Textile fibers	26	123.1	120.5	125.6	109.4	108.7	102.4	105.8	103.6	97.7	101.6	96.6
Crude fertilizers and minerals	27	144.8	146.6	147.7	163.0	163.2	165.6	167.9	169.4	165.5	168.0	166.1
Metalliferous ores and metal scrap	28	96.7	100.2	98.5	93.2	92.4	89.2	82.0	80.1	78.7	83.4	80.5
Mineral fuels	3	99.2	99.1	98.7	98.7	98.7	100.1	98.2	97.6	96.6	91.9	88.2
Animal and vegetables oils, fats, and waxes	4	122.0	129.8	164.5	145.7	147.9	142.0	144.5	114.5	101.4	90.8	84.4
Fixed vegetable oils and fats (6/83=100)	42	129.3	133.2	176.4	159.0	158.7	152.9	164.8	128.8	108.7	95.4	86.3
Chemicals (3/83=100)	5	98.6	101.4	99.7	98.3	97.7	97.0	96.8	97.1	96.6	96.5	95.4
Organic chemicals (12/83=100)	51	100.0	100.2	101.0	97.4	94.7	93.8	96.5	97.1	95.4	93.5	89.3
Fertilizers, manufactured (3/83=100)	56	99.8	108.3	96.9	97.4	94.8	92.5	87.9	89.6	90.0	88.6	84.0
Intermediate manufactured products (9/81=100)	–	100.0	101.0	101.3	102.0	100.4	99.4	99.2	99.2	99.1	100.3	101.2
Leather and furskins (9/79=100)	6	75.8	83.5	81.2	80.8	79.0	82.5	79.2	75.9	78.5	77.8	82.5
Rubber manufactures	61	145.0	146.7	147.5	148.9	148.5	150.2	149.0	148.3	146.7	151.0	150.0
Paper and paperboard products (6/78=100)	62	145.5	150.2	154.7	160.0	159.5	155.0	151.6	149.6	148.2	152.2	158.7
Iron and steel (3/82=100)	64	96.3	95.9	96.1	96.8	96.5	95.5	95.3	95.9	98.2	98.4	99.4
Nonferrous metals (9/81=100)	–	93.8	94.2	92.9	90.4	82.5	79.7	79.6	79.8	78.2	80.2	79.1
Metal manufactures, n.e.s. (3/82=100)	–	102.1	103.1	104.5	105.1	105.0	105.4	105.2	105.4	104.4	105.3	105.5
Machinery and transport equipment, excluding military and commercial aircraft (12/78=100)	67	137.0	138.5	139.4	140.1	141.5	142.3	142.9	143.1	143.3	144.0	144.1
Power generating machinery and equipment (12/78=100)	68	154.4	158.4	156.9	160.6	167.5	165.3	167.4	167.1	167.5	169.1	169.2
Machinery specialized for particular industries (9/78=100)	69	151.1	152.3	152.6	153.7	153.4	155.0	156.7	156.0	156.2	156.5	154.7
Metalworking machinery (6/78=100)	7	148.7	150.8	151.2	151.7	151.9	153.4	155.1	156.3	156.4	159.0	158.9
General industrial machines and parts n.e.s. 9/78=100)	71	145.9	148.6	149.0	149.3	150.2	152.4	152.0	152.4	152.2	152.3	153.3
Office machines and automatic data processing equipment	72	102.5	101.4	101.5	99.8	101.4	100.9	100.0	99.9	99.4	99.9	99.2
Telecommunications, sound recording and reproducing equipment	73	132.1	133.0	132.3	134.4	134.3	133.3	133.3	134.1	134.5	136.5	137.0
Electrical machinery and equipment	74	109.8	110.2	112.6	113.8	114.6	114.9	116.1	115.3	113.8	115.1	114.1
Road vehicles and parts (3/80=100)	75	128.8	130.2	131.2	131.0	131.8	133.1	133.9	133.8	135.0	135.5	136.4
Other transport equipment, excl. military and commercial aviation	76	179.3	183.1	187.7	189.6	191.7	195.5	198.6	199.3	200.7	203.3	205.6
Other manufactured articles	77	100.2	100.6	100.4	100.7	99.3	99.5	100.4	100.3	100.3	102.6	103.4
Apparel (9/83=100)	78	100.8	101.9	102.1	103.9	103.4	104.7	104.7	106.0	105.3	–	–
Professional, scientific, and controlling instruments and apparatus	79	171.5	171.8	172.0	175.8	171.7	175.5	178.3	178.7	178.8	182.2	183.8
Photographic apparatus and supplies, optical goods, watches and clocks (12/77=100)	8	132.0	132.0	131.3	132.7	130.3	128.0	129.1	127.5	128.5	131.6	132.9
Miscellaneous manufactured articles, n.e.s.	84	98.2	98.5	97.9	95.2	94.1	92.4	93.1	93.1	92.4	95.6	95.8
Gold, non-monetary (6/83=100)	871	96.2	95.8	93.5	81.7	79.5	69.1	75.4	77.4	77.5	81.9	82.2

– Data not available.

37. U.S. import price indexes by Standard International Trade Classification

(June 1977=100, unless otherwise indicated)

Category	1974 SITC	1984			1985				1986	
		June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
ALL COMMODITIES (9/82=100)		98.3	98.7	95.7	93.5	93.0	92.9	94.2	88.5	83.2
Food (9/77=100)	0	103.5	102.0	98.1	98.5	96.8	94.9	102.8	113.4	104.7
Meat	01	138.8	135.4	132.3	130.4	118.2	120.6	131.2	122.7	118.5
Dairy products and eggs (6/81=100)	02	98.8	98.9	96.4	98.3	97.9	99.1	100.5	106.7	107.1
Fish	03	134.2	134.2	133.9	132.9	129.4	129.7	132.7	139.3	144.8
Bakery goods, pasta products, grain and grain preparations (9/77=100)	04	134.8	132.9	132.8	131.8	132.3	136.3	141.9	146.9	149.3
Fruits and vegetables	05	135.8	135.4	117.2	127.1	129.4	120.2	131.3	119.4	119.4
Sugar, sugar preparations, and honey (3/82=100)	06	120.3	119.0	118.5	118.4	122.6	123.1	111.9	124.6	121.6
Coffee, tea, cocoa	07	62.4	60.3	58.4	57.0	56.0	54.4	64.6	85.9	69.2
Beverages and tobacco	1	158.3	157.1	156.5	156.2	157.1	158.0	162.1	163.2	165.5
Beverages	11	153.6	158.5	152.6	154.2	154.3	156.0	159.1	161.8	163.9
Crude materials	2	102.6	100.6	96.9	94.0	93.6	91.5	91.2	94.2	95.3
Crude rubber (inc. synthetic & reclaimed) (3/84=100)	23	98.7	90.7	83.8	77.6	76.4	68.9	73.2	78.8	75.5
Wood (9/81=100)	24	103.2	98.6	104.0	100.7	106.9	101.6	99.4	104.3	106.3
Pulp and waste paper (12/81=100)	25	96.1	96.3	93.2	84.0	80.4	76.8	75.8	74.9	79.9
Crude fertilizers and crude minerals (12/83=100)	27	98.2	98.0	98.6	100.3	101.7	102.7	102.1	101.5	100.0
Metalliferous ores and metal scrap (3/84=100)	28	102.8	106.1	95.6	90.4	87.6	89.5	90.1	94.5	95.6
Crude vegetable and animal materials, n.e.s.	29	100.8	101.1	106.4	104.3	104.9	102.5	102.5	103.6	104.4
Fuels and related products (6/82=100)	3	86.0	86.9	85.2	82.9	80.9	79.8	79.1	55.3	37.4
Petroleum and petroleum products (6/82=100)	33	86.1	87.0	85.2	83.8	81.6	80.3	80.1	54.7	36.1
Fats and oils (9/83=100)	4	141.8	134.4	114.9	89.9	76.7	57.6	50.6	41.4	39.3
Vegetable oils (9/83=100)	42	143.1	125.3	115.3	89.5	75.9	56.2	48.9	39.3	37.4
Chemicals (9/82=100)	5	100.6	98.8	97.1	95.7	94.9	94.5	94.2	94.6	93.3
Medicinal and pharmaceutical products (3/84=100)	54	98.5	96.4	94.6	91.6	95.1	95.3	96.7	102.9	104.9
Manufactured fertilizers (3/84=100)	56	101.7	98.5	92.9	94.2	82.0	80.8	78.5	79.2	79.7
Chemical materials and products, n.e.s. (9/84=100)	59	-	100.0	97.5	96.1	95.6	96.9	97.8	99.9	100.2
Intermediate manufactured products (12/77=100)	6	138.6	137.2	136.8	133.1	132.4	133.6	133.4	134.0	135.6
Leather and furskins	61	145.3	144.0	140.4	135.3	133.3	137.0	141.3	141.6	143.0
Rubber manufactures, n.e.s.	62	140.8	138.6	140.5	139.5	136.6	137.3	138.1	136.5	137.7
Cork and wood manufactures	63	131.0	128.4	126.1	121.3	121.2	123.4	124.0	130.8	134.3
Paper and paperboard products	64	150.4	158.1	157.5	157.6	157.2	157.8	156.5	157.1	157.1
Textiles	65	130.1	131.6	132.9	130.4	127.5	126.5	128.1	131.2	132.9
Nonmetallic mineral manufactures, n.e.s.	66	166.6	158.6	159.4	154.3	151.8	157.6	162.3	164.2	169.6
Iron and steel (9/78=100)	67	123.8	124.7	123.7	121.0	120.1	119.1	118.3	117.3	118.1
Nonferrous metals (12/81=100)	68	96.3	90.2	87.3	81.9	82.3	83.7	80.4	79.4	78.9
Metal manufactures, n.e.s.	69	120.5	119.3	119.3	117.4	117.8	119.5	121.6	124.4	127.8
Machinery and transport equipment (6/81=100)	7	104.1	102.6	102.9	101.6	102.6	103.5	107.2	111.5	115.3
Machinery specialized for particular industries (9/78=100)	72	100.0	98.8	98.0	96.2	97.0	101.4	104.9	112.1	115.4
Metalworking machinery (3/80=100)	73	93.8	92.1	89.9	86.3	90.5	94.2	98.1	105.0	107.7
General industrial machinery and parts, n.e.s. (6/81=100)	74	94.4	92.4	91.3	89.2	91.1	94.3	98.0	103.8	109.0
Office machines and automatic data processing equipment (3/80=100)	75	96.7	94.1	92.2	89.6	89.4	90.3	93.7	96.9	100.8
Telecommunications, sound recording and reproducing apparatus (3/80=100)	76	94.8	93.6	91.3	90.0	88.8	88.3	88.6	89.4	91.6
Electrical machinery and equipment (12/81=100)	77	91.2	87.0	86.4	82.1	83.9	81.4	83.1	84.5	87.4
Road vehicles and parts (6/81=100)	78	110.4	108.8	111.3	111.5	112.1	112.7	117.8	123.4	127.1
Misc. manufactured articles (3/80=100)	8	101.5	98.7	100.0	97.0	98.0	99.6	100.8	103.3	104.8
Plumbing, heating, and lighting fixtures (6/80=100)	81	112.0	110.7	111.6	113.9	114.1	117.8	115.0	120.1	123.5
Furniture and parts (6/80=100)	82	140.8	138.4	142.5	137.4	136.7	142.1	142.7	147.0	142.2
Clothing (9/77=100)	84	132.5	135.4	138.5	136.7	133.9	134.5	134.5	133.4	135.3
Footwear	85	140.8	138.4	142.5	137.4	136.7	142.1	142.7	147.0	142.2
Professional, scientific, and controlling instruments and apparatus (12/79=100)	87	97.8	95.6	92.9	89.2	92.3	98.8	102.4	106.4	112.5
Photographic apparatus and supplies, optical goods, watches, and clocks (3/80=100)	88	92.8	91.2	91.3	88.9	89.5	91.1	94.5	99.3	103.7
Misc. manufactured articles, n.e.s. (6/82=100)	89	104.0	98.3	98.3	91.2	95.2	96.4	97.9	102.1	103.4
Gold, non-monetary (6/82=100)	971	-	-	-	-	-	-	-	-	-

- Data not available.

38. U.S. export price indexes by end-use category

(September 1983 = 100 unless otherwise indicated)

Category	Percentages of 1980 Trade Value	1984			1985				1986	
		June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
Foods, feeds, and beverages	16.294	98.5	88.8	83.0	81.5	80.9	76.2	77.5	75.5	74
Raw materials	30.696	102.5	100.5	99.1	97.6	97.2	96.5	95.9	96.0	94
Raw materials, nondurable	21.327	104.4	102.8	101.4	99.6	99.5	98.7	97.9	97.5	96
Raw materials, durable	9.368	97.7	95.0	93.3	92.6	91.6	91.1	91.0	92.5	91
Capital goods (12/82=100)	30.186	103.9	104.6	105.6	106.2	106.6	106.6	106.6	107.4	107
Automotive vehicles, parts and engines (12/82=100)	7.483	105.3	105.3	105.7	106.7	108.0	108.1	109.2	109.5	110
Consumer goods	7.467	100.9	101.3	100.8	100.9	101.1	101.9	101.4	103.7	104
Durables	3.965	99.6	99.4	99.3	99.1	99.2	100.4	99.5	101.8	101
Nondurables	3.501	102.1	103.0	102.3	102.7	103.0	103.3	103.3	105.5	107

39. U.S. import price indexes by end-use category

(December 1982=100)

Category	Percentage of 1980 Trade Value	1984			1985				1986	
		June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
Foods, feeds, and beverages	7.477	107.2	105.6	101.8	102.1	100.4	99.0	106.0	115.8	108.
Petroleum and petroleum products, excl. natural gas	31.108	88.5	87.5	85.7	84.4	82.1	80.9	80.5	56.4	36.
Raw materials, excluding petroleum	19.205	104.3	102.5	101.1	96.3	95.8	95.4	93.9	94.5	94.
Raw materials, nondurable	9.391	102.1	101.7	100.7	95.0	93.9	93.5	91.8	91.1	89.
Raw materials, durable	9.814	106.7	103.3	101.6	97.7	97.8	97.4	96.2	98.1	98.
Capital goods	13.164	99.8	98.0	97.8	94.8	96.3	97.6	100.0	102.8	106.
Automotive vehicles, parts and engines	11.750	104.9	104.0	105.2	105.4	105.9	106.4	111.4	115.6	119.
Consumer goods	14.250	101.9	100.6	101.1	99.5	99.4	101.0	102.4	104.5	106.
Durable	5.507	101.4	98.8	98.5	97.0	97.0	98.9	100.7	103.4	106.
Nondurable	8.743	102.5	103.0	104.6	103.0	102.5	103.9	104.7	106.0	106.

40. U.S. export price indexes by Standard Industrial Classification [1]

Industry group	1984			1985				1986	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
Manufacturing:									
Food and kindred products (6/83=100)	112.7	105.6	103.3	99.5	99.5	96.7	98.1	97.0	95.0
Lumber and wood products, except furniture (6/83=100)	100.1	97.0	97.9	99.9	99.5	98.3	101.2	101.5	101.2
Furniture and fixtures (9/83=100)	103.1	103.5	104.9	105.2	106.5	107.1	108.4	109.2	109.7
Paper and allied products (3/81=100)	104.3	106.2	103.6	97.1	94.7	93.2	92.1	95.7	101.6
Chemicals and allied products (12/84=100)	102.3	101.3	100.7	100.3	99.6	99.7	99.2	98.9	98.3
Petroleum and coal products (12/83=100)	102.1	100.7	100.4	101.3	102.7	102.0	99.1	93.5	83.1
Primary metal products (3/82=100)	104.0	100.0	95.8	91.2	92.7	93.6	93.6	96.4	96.6
Machinery, except electrical (9/78=100)	137.9	138.0	139.9	140.4	140.5	140.6	140.5	140.6	140.3
Electrical machinery (12/80=100)	109.5	110.7	111.1	111.3	112.4	111.9	111.2	112.6	112.2
Transportation equipment (12/78=100)	157.2	157.8	158.9	160.5	161.9	162.8	164.3	165.2	166.9
Scientific instruments; optical goods; clocks (6/77=100)	15[illegible]	156.0	153.0	154.9	156.6	156.2	156.7	159.7	161.2

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[1] SIC - based classification.

41. U.S. import price indexes by Standard Industrial Classification [1]

Industry group	1984			1985				1986	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
Manufacturing:									
Food and kindred products (6/77=100)	126.6	124.1	122.6	118.8	115.0	114.2	115.1	117.7	115.6
Textile mill products (9/82=100)	103.8	104.3	104.7	102.8	101.0	100.4	101.8	104.7	106.4
Apparel and related products (6/77=100)	129.6	133.9	138.2	135.6	133.0	133.9	134.4	133.4	135.1
Lumber and wood products, except furniture (6/77=100)	121.1	117.3	120.0	116.3	120.6	117.5	115.8	122.1	124.8
Furniture and fixtures (6/80=100)	96.0	96.2	95.6	93.9	96.1	97.7	98.2	101.2	103.5
Paper and allied products (6/77=100)	141.9	146.0	145.5	141.5	139.6	138.7	137.4	137.6	139.4
Chemicals and allied products (9/82=100)	101.6	99.6	98.2	95.3	93.9	93.3	95.6	98.6	102.1
Rubber and miscellaneous plastic products (12/80=100)	98.5	97.6	98.0	96.9	96.7	96.6	97.5	100.9	100.6
Leather and leather products	143.7	141.6	144.2	139.1	138.9	142.3	144.0	145.8	144.6
Primary metal products (6/81=100)	91.9	88.3	86.6	82.2	83.0	83.4	81.9	82.0	82.4
Fabricated metal products (12/84=100)	–	–	100.0	99.0	99.1	101.0	102.6	104.9	106.5
Machinery, except electrical (3/80=100)	97.1	95.5	94.1	91.6	93.4	96.6	100.0	105.5	108.9
Electrical machinery (9/84=100)	–	100.0	98.6	95.1	95.8	94.5	95.8	97.0	100.2
Transportation equipment (6/81=100)	111.6	110.7	112.9	113.1	114.2	114.6	119.6	123.9	128.0
Scientific instruments; optical goods; clocks (12/79=100)	95.5	94.4	93.2	90.7	91.7	94.6	98.8	103.9	109.5
Miscellaneous manufactured commodities (9/82=100)	99.1	95.8	96.4	95.1	95.1	96.6	98.7	99.9	101.7

[1] SIC - based classification.

– Data not available.

42. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

(1977=100)

Item	Annual average	Quarterly indexes										
	1984	1983	1984				1985				1986	
		IV	I	II	III	IV	I	II	III	IV	I	II
Business:												
Output per hour of all persons	105.3	103.8	104.9	105.6	105.5	105.5	105.7	106.4	107.3	106.4	107.3	107.7
Compensation per hour	166.1	163.6	165.9	167.1	169.0	170.6	172.3	174.5	176.4	178.0	179.1	180.3
Real compensation per hour	98.1	98.0	98.1	97.9	98.1	98.2	98.4	98.7	99.1	99.0	99.2	100.3
Unit labor costs	159.7	157.7	158.2	158.3	160.2	161.7	163.1	164.0	164.4	167.3	167.0	167.4
Unit nonlabor payments	156.3	150.6	154.1	156.7	157.0	157.7	158.3	160.0	161.4	159.6	162.2	163.0
Implicit price deflator	158.5	155.2	156.7	157.7	159.0	160.3	161.4	162.6	163.4	164.6	165.3	165.9
Nonfarm business:												
Output per hour of all persons	104.3	103.3	103.9	104.6	104.4	104.3	104.4	104.9	105.4	104.5	105.6	106.1
Compensation per hour	167.9	163.4	165.6	166.9	168.7	170.4	172.1	174.0	175.4	177.0	178.3	179.3
Real compensation per hour	98.0	97.9	97.9	97.8	98.0	98.1	98.2	98.4	98.5	98.4	98.8	99.7
Unit labor costs	161.0	158.2	159.4	159.5	161.5	163.3	164.8	165.9	166.3	169.3	168.8	169.1
Unit nonlabor payments	156.1	152.3	153.2	156.4	157.2	157.9	158.9	160.8	163.0	160.3	163.9	164.8
Implicit price deflator	159.3	156.2	157.2	158.4	160.0	161.4	162.7	164.1	165.2	166.2	167.1	167.6
Nonfinancial corporations:												
Output per hour of all employees	105.6	104.5	105.3	105.9	105.5	105.8	106.0	106.5	107.8	107.0	106.9	-
Compensation per hour	165.9	161.7	163.6	164.8	166.6	168.3	169.9	171.6	173.1	174.5	175.4	-
Real compensation per hour	96.8	96.8	96.8	96.6	96.7	96.8	97.0	97.0	97.2	97.0	97.1	-
Total unit costs	161.5	159.0	159.4	160.1	162.6	163.8	164.9	165.8	165.0	167.2	168.3	-
Unit labor costs	157.0	154.8	155.4	155.7	157.9	159.1	160.3	161.1	160.5	163.0	164.0	-
Unit nonlabor costs	174.6	171.4	171.1	173.1	176.4	177.5	178.5	179.8	178.3	179.8	181.1	-
Unit profits	133.4	128.6	134.4	138.5	130.3	130.5	129.3	130.2	141.7	131.2	131.7	-
Unit nonlabor payments	160.1	156.4	158.3	161.0	160.3	161.0	161.3	162.5	165.5	162.8	163.8	-
Implicit price deflator	158.1	155.3	156.4	157.5	158.7	159.8	160.6	161.6	162.2	162.9	164.0	-
Manufacturing:												
Output per hour of all persons	116.6	113.3	114.7	115.7	117.8	118.2	119.3	121.7	123.0	122.9	123.4	124.0
Compensation per hour	168.2	163.6	165.4	166.8	169.1	171.5	173.8	175.6	178.1	179.3	180.2	181.1
Real compensation per hour	98.1	97.9	97.8	97.8	98.2	98.7	99.2	99.3	100.0	99.7	99.8	100.7
Unit labor costs	144.2	144.3	144.1	144.2	143.5	145.1	145.7	144.3	144.8	145.8	146.1	146.1

- Data not available.

43. Annual indexes of multifactor productivity and related measures, selected years

(1977 = 100)

Item	1960	1970	1973	1974	1976	1978	1979	1980	1981	1982	1983	1984
Private business												
Productivity:												
Output per hour of all persons	64.8	86.1	94.8	92.5	97.6	100.5	99.3	98.7	100.6	100.8	103.7	107.1
Output per unit of capital services	98.4	98.5	103.0	96.5	98.1	101.8	100.3	95.6	94.1	89.5	92.3	97.4
Multifactor productivity	75.4	90.2	97.5	93.8	97.1	101.0	99.7	97.8	98.3	96.8	99.6	103.7
Output	53.3	78.3	91.8	88.8	93.7	105.5	107.9	106.4	109.2	106.3	111.1	121.8
Inputs:												
Hours of all persons	82.2	90.8	96.8	97.2	95.9	105.0	108.6	107.8	108.5	105.4	107.2	113.0
Capital services	54.1	79.4	89.1	93.1	97.5	103.6	107.5	111.4	116.0	118.8	120.4	124.3
Combined units of labor and capital input	70.7	86.7	94.1	95.8	96.5	104.5	108.2	109.0	111.0	109.9	111.8	116.8
Capital per hour of all persons	65.9	87.4	92.0	95.9	101.6	98.7	98.9	103.3	106.9	112.7	112.3	109.9
Private nonfarm business												
Productivity:												
Output per hour of all persons	68.0	86.8	95.3	92.9	97.8	100.8	99.0	98.2	99.6	98.9	103.5	106.3
Output per unit of capital services	98.4	98.6	103.2	96.5	98.1	101.9	100.1	95.2	93.2	88.7	91.9	96.6
Multifactor productivity	77.6	90.7	97.9	94.1	97.2	101.0	99.4	97.2	97.4	95.8	99.4	102.9
Output	52.3	77.8	91.7	89.7	93.8	105.7	108.0	106.4	108.7	105.9	111.3	121.0
Inputs:												
Hours of all persons	77.0	89.7	96.2	96.5	95.7	105.1	109.1	108.4	109.1	106.0	107.6	113.8
Capital services	53.2	78.9	88.8	93.0	97.4	103.7	107.9	111.7	116.6	119.4	121.1	125.2
Combined units of labor and capital input	67.4	85.9	93.6	95.3	96.3	104.6	108.7	109.5	111.6	110.4	112.0	117.5
Capital per hour of all persons	69.1	88.0	92.4	96.3	101.8	98.7	98.9	103.1	106.8	112.6	112.6	110.1
Manufacturing												
Productivity:												
Output per hour of all persons	60.0	79.2	93.0	90.8	97.8	100.9	101.6	101.7	104.9	107.1	111.6	115.6
Output per unit of capital services	87.9	91.8	106.2	97.6	98.1	101.5	98.5	90.7	88.9	82.9	87.8	96.0
Multifactor productivity	67.0	82.3	96.6	93.1	97.1	101.1	101.0	98.8	100.8	100.3	104.9	110.4
Output	50.7	77.0	95.9	91.9	93.6	105.3	108.2	103.5	106.1	99.3	104.4	115.3
Inputs:												
Hours of all persons	84.4	97.3	103.1	101.2	95.9	104.4	106.5	101.7	101.1	92.7	93.5	99.8
Capital services	57.6	83.9	96.6	92.2	97.4	103.6	108.8	114.1	118.0	119.8	119.2	120.2
Combined units of labor and capital inputs	75.6	93.5	99.0	98.7	96.3	104.2	107.1	104.8	105.2	99.0	99.5	104.5
Capital per hour of all persons	68.3	86.2	85.9	91.1	101.6	99.4	102.1	112.2	116.7	129.2	127.5	120.4

44. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years

(1977 = 100)

Item	1960	1970	1973	1974	1976	1978	1979	1980	1981	1982	1983	1984	1985
Business:													
Output per hour of all persons	67.6	88.4	95.9	93.9	98.3	100.8	99.6	99.3	100.7	100.3	103.0	105.3	108.4
Compensation per hour	33.6	57.8	70.9	77.6	92.8	108.5	119.1	131.5	143.7	154.9	161.5	168.1	175.3
Real compensation per hour	68.9	90.2	98.7	95.4	98.7	100.8	99.4	96.7	95.7	97.3	98.2	98.1	98.8
Unit labor costs	49.7	65.4	73.9	82.7	94.3	107.6	119.5	132.5	142.7	154.5	156.8	159.7	164.8
Unit nonlabor payments	46.4	59.4	72.5	76.4	93.3	106.7	112.5	118.7	134.6	138.6	148.3	156.3	158.7
Implicit price deflator	48.5	63.2	73.4	80.5	94.0	107.3	117.0	127.8	139.8	148.1	153.0	158.5	163.0
Nonfarm business:													
Output per hour of all persons	71.0	89.3	96.4	94.3	98.5	100.8	99.3	98.8	99.8	99.2	102.4	104.3	104.8
Compensation per hour	35.3	58.2	71.2	78.0	92.8	108.6	118.9	131.3	143.6	154.8	161.5	167.9	174.6
Real compensation per hour	72.3	90.8	97.1	95.9	98.8	100.9	99.2	96.6	95.7	97.2	98.2	98.0	98.4
Unit labor costs	49.7	65.2	73.9	82.7	94.3	107.7	119.7	132.9	144.0	156.0	157.7	161.0	166.7
Unit nonlabor payments	46.3	60.0	69.3	74.0	93.0	105.6	110.5	118.5	133.5	136.5	148.1	156.1	160.6
Implicit price deflator	48.5	63.4	72.3	79.7	93.8	107.0	116.5	127.8	140.3	149.2	154.3	159.3	164.8
Nonfinancial corporations:													
Output per hour of all employees	73.4	91.1	97.5	94.6	98.4	100.6	99.8	99.1	99.6	100.4	103.5	105.8	106.8
Compensation per hour	36.9	59.2	71.6	78.2	92.9	108.4	118.7	131.1	143.3	154.3	159.9	165.9	172.3
Real compensation per hour	75.5	92.4	97.6	96.1	98.9	100.7	99.1	96.4	95.5	96.9	97.3	98.8	97.0
Unit labor costs	50.2	65.0	73.4	82.6	94.3	107.8	119.0	132.3	143.8	153.8	154.5	157.0	161.2
Unit nonlabor payments	51.5	60.1	68.9	73.1	93.8	104.4	108.4	118.6	137.8	142.1	152.1	160.1	163.0
Implicit price deflator	50.7	63.3	71.9	79.4	94.2	106.6	115.4	127.6	141.7	149.8	153.7	158.1	161.8
Manufacturing:													
Output per hour of all persons	62.2	80.8	93.4	90.6	97.1	101.5	101.4	101.4	103.6	105.9	112.0	118.6	121.7
Compensation per hour	36.5	57.4	68.8	76.2	92.1	108.2	118.6	132.4	145.2	157.5	162.4	168.2	176.7
Real compensation per hour	74.8	89.5	93.8	93.6	98.1	100.5	98.1	97.4	98.7	98.9	98.8	98.1	99.5
Unit labor costs	58.7	71.0	73.7	84.1	94.9	106.6	117.0	130.6	140.1	148.7	145.0	144.2	145.1
Unit nonlabor payments	60.0	64.1	70.7	67.7	93.5	101.9	98.9	97.8	111.8	114.0	128.5	136.9	134.4
Implicit price deflator	58.1	68.0	72.8	79.3	94.5	105.2	111.7	121.0	131.8	138.6	140.2	142.1	142.0

45. Unemployment rates in nine countries, quarterly data seasonally adjusted

Country	Annual average		1984	1985				1986	
	1984	1985	IV	I	II	III	IV	I	II
Total labor force basis									
United States	7.4	7.1	7.1	7.2	7.2	7.1	6.9	7.0	7.1
Canada	11.2	10.4	11.1	11.0	10.5	10.2	10.1	9.7	9.5
Australia	8.9	8.2	8.6	8.5	8.4	8.1	7.9	7.9	–
Japan	2.7	2.6	2.7	2.6	2.5	2.6	2.9	2.6	–
France	9.7	10.1	10.0	10.2	10.1	10.2	9.9	10.0	10.3
Germany	7.7	7.7	7.7	7.8	7.8	7.7	7.7	7.6	7.5
Great Britain	12.8	13.0	12.8	12.9	13.0	13.2	12.8	13.0	13.1
Italy [1], [2]	5.9	5.9	5.7	5.8	5.7	5.9	6.2	6.2	6.3
Sweden	3.1	2.8	3.0	3.0	2.9	2.7	2.7	2.8	2.6
Civilian labor force basis									
United States	7.5	7.2	7.2	7.3	7.3	7.2	7.0	7.1	7.2
Canada	11.3	10.5	11.1	11.1	10.6	10.2	10.1	9.7	9.6
Australia	9.0	8.3	8.6	8.6	8.5	8.2	7.9	8.0	–
Japan	2.8	2.6	2.7	2.6	2.6	2.7	2.9	2.7	–
France	9.9	10.4	10.3	10.5	10.4	10.4	10.1	10.3	10.5
Germany	7.8	7.9	7.8	7.9	8.0	7.9	7.8	7.8	7.6
Great Britain	12.9	13.2	13.0	13.1	13.2	13.4	13.0	13.1	13.3
Italy	5.9	6.0	5.8	5.9	5.8	6.0	6.3	6.3	6.5
Sweden	3.1	2.8	3.0	3.0	2.9	2.8	2.7	2.8	2.6

[1] Quarterly rates are for the first month of the quarter.

[2] Major changes in the Italian labor force survey, introduced in 1977, resulted in a large increase in persons enumerated as unemployed. However, many persons reported that they had not actively sought work in the past 30 days, and they have been provisionally excluded for comparability with U.S. concepts. Inclusion of such persons would more than double the Italian unemployment rate shown.

– Data not available.

NOTE: Quarterly figures for France, Germany, and Great Britian are calculated by applying annual adjustment factors to current published data and therefore should be viewed as less precise indicators of unemployment under U.S. concepts than the annual figures.

46. Annual data: Employment status of the civilian working-age population, ten countries

(Numbers in thousands)

Employment status and country	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Labor force										
United States	96,158	99,009	102,251	104,962	106,940	108,670	110,204	111,550	113,544	115,461
Canada	10,203	10,500	10,895	11,231	11,573	11,904	11,958	12,183	12,399	12,639
Australia	6,244	6,358	6,443	6,519	6,693	6,810	6,910	6,997	7,133	7,272
Japan	53,100	53,820	54,610	55,210	55,740	56,320	56,980	58,110	58,480	58,820
France	22,000	22,300	22,470	22,670	22,790	22,930	23,150	23,130	23,290	23,330
Germany	25,900	25,870	26,000	26,240	26,500	26,610	26,640	26,640	26,700	27,010
Great Britain	25,290	25,430	25,620	25,710	25,870	25,870	25,880	26,010	26,530	26,950
Italy	20,300	20,530	20,630	20,910	21,210	21,410	21,450	21,610	21,680	21,800
Netherlands	4,890	4,950	5,010	5,100	5,280	5,500	5,560	5,720	5,740	5,690
Sweden	4,149	4,168	4,203	4,262	4,312	4,326	4,350	4,369	4,385	4,418
Participation rate										
United States	61.6	62.3	63.2	63.7	63.8	63.9	64.0	64.0	64.4	64.8
Canada	61.1	61.6	62.7	63.4	64.1	64.8	64.1	64.4	64.8	65.2
Australia	62.7	62.7	62.0	61.7	62.2	62.0	61.8	61.5	61.5	61.8
Japan	62.4	62.5	62.8	62.7	62.6	62.6	62.7	63.1	62.7	62.3
France	57.3	57.6	57.5	57.5	57.2	57.1	57.1	56.6	56.7	56.5
Germany	53.8	53.4	53.3	53.3	53.2	52.9	52.5	52.3	52.7	53.4
Great Britain	63.2	63.2	63.3	63.2	63.2	62.2	61.9	61.9	62.7	63.7
Italy	47.8	48.0	47.7	47.8	48.0	48.0	47.4	47.2	47.3	47.2
Netherlands	49.1	49.0	48.8	49.0	50.0	51.3	51.2	52.1	52.0	51.2
Sweden	66.0	65.9	66.1	66.6	67.0	66.8	66.8	66.7	66.8	67.2
Employed										
United States	88,752	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005	107,150
Canada	9,477	9,651	9,987	10,395	10,708	11,006	10,644	10,734	11,000	11,311
Australia	5,946	6,000	6,038	6,111	6,284	6,416	6,415	6,300	6,490	6,670
Japan	52,020	52,720	53,370	54,040	54,600	55,060	55,620	56,550	56,870	57,260
France	21,010	21,180	21,260	21,300	21,320	21,200	21,230	21,170	20,980	20,910
Germany	25,010	24,970	25,130	25,460	25,730	25,520	25,060	24,650	24,610	24,880
Great Britain	23,810	23,840	24,040	24,360	24,100	23,190	22,820	22,680	23,100	23,410
Italy	19,600	19,800	19,870	20,100	20,380	20,480	20,430	20,470	20,390	20,490
Netherlands	4,630	4,700	4,750	4,830	4,950	4,990	4,930	4,890	4,880	4,890
Sweden	4,083	4,093	4,109	4,174	4,226	4,218	4,213	4,218	4,249	4,293
Employment-population ratio										
United States	56.8	57.9	59.3	59.9	59.2	59.0	57.8	57.9	59.5	60.1
Canada	56.7	56.6	57.5	58.7	59.3	59.9	57.0	56.7	57.4	58.4
Australia	59.7	59.2	58.1	57.9	58.4	58.4	57.3	55.4	56.0	56.6
Japan	61.1	61.2	61.3	61.4	61.3	61.2	61.2	61.4	61.0	60.6
France	54.8	54.7	54.4	54.0	53.5	52.8	52.3	51.8	51.1	50.6
Germany	52.0	51.6	51.5	51.7	51.6	50.7	49.4	48.4	48.6	49.2
Great Britain	59.5	59.3	59.4	59.8	58.9	55.8	54.6	54.0	54.6	55.3
Italy	46.1	46.2	45.9	45.9	46.1	45.9	45.2	44.7	44.5	44.4
Netherlands	46.5	46.5	46.3	46.4	46.9	46.5	45.4	44.5	44.2	44.0
Sweden	64.9	64.8	64.8	65.3	65.6	65.1	64.7	64.4	64.7	65.3
Unemployed										
United States	7,406	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539	8,312
Canada	726	849	908	836	865	898	1,314	1,448	1,399	1,328
Australia	298	358	405	408	409	394	495	697	642	602
Japan	1,080	1,100	1,240	1,170	1,140	1,260	1,360	1,560	1,610	1,560
France	990	1,120	[illegible]	1,370	1,470	1,730	1,920	1,960	2,310	2,420
Germany	890	900	870	780	770	1,090	1,580	1,990	2,090	2,130
Great Britain	1,480	1,590	1,580	1,350	1,770	2,680	3,060	3,330	3,430	3,540
Italy	700	740	760	810	830	920	1,020	1,140	1,290	1,310
Netherlands	260	250	260	270	330	510	630	830	860	800
Sweden	66	75	94	88	86	108	137	151	136	125
Unemployment rate										
United States	7.7	7.1	6.1	5.8	7.1	7.6	9.7	9.6	7.5	7.2
Canada	7.1	8.1	8.3	7.4	7.5	7.5	11.0	11.9	11.3	10.5
Australia	4.8	5.6	6.3	6.3	6.1	5.8	7.2	10.0	9.0	8.3
Japan	2.0	2.0	2.3	2.1	2.0	2.2	2.4	2.7	2.8	2.6
France	4.5	5.0	5.4	6.0	6.4	7.5	8.3	8.5	9.9	10.4
Germany	3.4	3.5	3.4	3.0	2.9	4.1	5.9	7.5	7.8	7.9
Great Britain	5.9	6.3	6.2	5.3	6.8	10.4	11.8	12.8	12.9	13.2
Italy	3.4	3.6	3.7	3.9	3.9	4.3	4.8	5.3	5.9	6.0
Netherlands	5.3	5.0	5.2	5.3	6.2	9.3	11.3	14.5	15.0	14.1
Sweden	1.6	1.8	2.2	2.1	2.0	2.5	3.1	3.5	3.1	2.8

47. Annual indexes of productivity and related measures, twelve countries

(1977 = 100)

Item and country	1960	1970	1973	1974	1976	1977	1979	1980	1981	1982	1983	1984	1985
Output per hour													
United States	62.2	80.8	93.4	90.6	97.1	100.0	101.4	101.4	103.6	105.9	112.9	118.5	121.8
Canada	50.3	78.8	91.3	93.4	96.2	100.0	104.2	101.9	104.0	101.0	107.8	111.5	115.1
Japan	23.2	64.8	83.1	86.5	94.3	100.0	114.8	122.7	127.2	135.0	142.3	152.2	159.9
Belgium	32.8	60.0	78.7	83.2	95.3	100.0	111.8	119.3	127.2	132.8	141.0	146.5	-
Denmark	37.2	65.5	83.2	88.0	98.2	100.0	106.5	112.3	114.2	114.6	117.3	118.3	118.4
France	36.4	69.5	82.2	85.2	95.0	100.0	110.3	112.0	116.4	123.5	129.3	135.0	140.2
Germany	40.3	71.2	84.0	87.4	96.5	100.0	108.2	108.6	111.0	112.6	119.0	124.7	131.9
Italy	36.5	72.7	90.9	95.3	96.9	100.0	110.5	116.9	121.0	123.4	126.6	135.0	139.1
Netherlands	32.4	64.3	81.5	88.1	95.8	100.0	112.3	113.9	116.9	119.4	126.1	139.3	-
Norway	54.6	81.7	94.6	97.7	99.7	100.0	107.1	109.3	109.7	112.6	119.2	122.2	125.0
Sweden	42.3	80.7	94.8	98.8	101.7	100.0	110.9	112.7	113.2	116.5	125.5	132.6	135.2
United Kingdom	53.8	77.6	92.9	95.2	99.1	100.0	102.2	101.2	107.9	112.7	121.2	126.2	129.7
Output													
United States	52.5	78.6	98.3	91.7	93.1	100.0	108.1	103.2	104.6	98.4	105.6	117.9	121.0
Canada	41.5	75.1	94.6	96.0	96.1	100.0	110.9	107.7	108.8	96.4	101.7	110.1	115.2
Japan	19.2	69.9	91.9	91.7	94.8	100.0	113.9	124.1	129.8	137.3	148.2	165.2	175.8
Belgium	41.7	78.1	95.8	99.6	99.5	100.0	104.2	107.2	105.9	106.1	110.7	112.8	-
Denmark	49.2	82.0	95.9	97.4	99.6	100.0	105.4	110.1	106.6	108.3	112.2	118.6	122.3
France	35.4	73.3	88.6	91.9	96.1	100.0	106.1	106.6	105.9	106.0	107.4	108.4	109.0
Germany	50.0	86.6	98.1	95.4	98.0	100.0	106.6	106.6	104.9	102.4	103.5	107.4	113.0
Italy	37.4	78.0	90.5	98.3	97.9	100.0	108.6	115.4	114.3	111.6	109.2	113.2	115.3
Netherlands	44.8	84.4	95.8	100.0	98.0	100.0	106.1	106.6	105.7	105.0	105.3	110.8	-
Norway	55.1	87.0	99.5	104.0	101.4	100.0	100.3	101.3	100.1	99.8	98.8	101.3	103.7
Sweden	52.6	92.5	100.3	105.7	106.1	100.0	103.6	104.0	100.6	100.1	105.2	112.4	114.8
United Kingdom	71.0	94.7	104.7	103.5	98.2	100.0	100.5	91.7	86.2	86.4	88.9	92.4	95.0
Total hours													
United States	84.4	97.3	105.1	101.2	95.9	100.0	106.5	101.7	101.1	92.9	93.5	99.5	99.3
Canada	82.6	97.7	103.6	105.0	102.0	100.0	106.4	105.7	104.6	95.4	94.6	98.7	100.1
Japan	82.7	107.9	110.7	108.1	100.6	100.0	99.3	101.2	102.0	101.7	104.2	108.5	110.0
Belgium	127.0	130.1	121.8	119.7	104.4	100.0	93.2	89.9	83.3	82.1	78.5	77.5	-
Denmark	132.4	125.1	115.2	113.2	101.4	100.0	99.0	98.1	93.4	94.5	95.7	100.2	103.3
France	97.2	105.3	107.8	107.8	101.2	100.0	96.2	95.2	91.0	89.9	83.0	80.3	77.8
Germany	123.8	121.7	114.4	109.2	101.6	100.0	98.5	98.1	94.6	91.0	87.0	86.2	85.7
Italy	102.3	107.4	99.6	101.0	99.0	100.0	98.2	98.7	94.5	90.4	86.2	83.9	82.9
Netherlands	138.4	131.2	117.6	113.5	103.3	100.0	94.4	93.6	91.2	88.0	83.5	79.5	-
Norway	101.0	106.4	106.1	108.5	101.7	100.0	93.6	92.6	91.3	88.6	82.9	82.8	83.0
Sweden	124.4	114.6	106.7	107.0	104.3	100.0	93.4	92.3	88.9	85.9	83.9	84.8	84.8
United Kingdom	131.9	122.1	112.7	108.7	99.0	100.0	98.3	90.7	79.9	76.7	73.3	73.2	73.3
Compensation per hour													
United States	36.5	57.3	68.8	70.2	92.1	100.0	118.6	132.4	145.2	157.5	163.2	169.1	176.6
Canada	27.1	46.5	59.2	68.5	89.9	100.0	116.3	130.6	151.5	167.1	179.3	182.1	191.4
Japan	8.9	33.9	55.1	72.3	90.7	100.0	113.4	120.7	129.8	136.6	140.7	144.8	148.3
Belgium	13.8	34.9	53.5	65.2	89.5	100.0	117.6	130.4	144.6	152.0	163.7	176.6	-
Denmark	12.6	36.3	56.1	67.9	90.4	100.0	123.1	135.9	149.6	162.9	174.3	183.9	195.5
France	15.1	36.6	52.3	62.0	88.9	100.0	129.3	147.5	170.3	200.8	226.2	246.5	262.7
Germany	18.8	48.0	67.5	76.9	91.3	100.0	116.1	125.6	134.5	141.0	148.4	155.3	164.7
Italy	8.3	26.1	43.7	54.5	84.2	100.0	134.7	160.2	197.1	237.3	276.4	303.0	334.0
Netherlands	12.5	39.0	60.5	71.9	91.9	100.0	117.0	123.6	129.1	137.5	144.7	152.8	-
Norway	15.8	37.9	54.5	63.6	88.8	100.0	116.0	128.0	142.8	156.0	173.5	188.3	205.2
Sweden	14.7	38.5	54.2	63.8	91.5	100.0	120.1	133.6	148.1	158.9	173.3	190.7	206.8
United Kingdom	14.8	30.8	44.8	58.9	88.4	100.0	137.7	165.8	188.9	206.4	222.4	237.2	257.0
Unit labor costs: National currency basis:													
United States	58.7	70.9	73.7	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.8	145.0
Canada	53.9	60.6	64.8	73.3	93.5	100.0	113.5	128.1	145.7	165.4	166.7	163.2	166.3
Japan	38.4	52.3	66.4	83.6	96.2	100.0	98.8	98.4	102.0	101.2	98.9	95.1	92.7
Belgium	42.0	58.1	68.0	78.3	93.9	100.0	105.2	109.3	113.6	114.4	116.1	121.4	-
Denmark	33.8	55.4	67.4	79.0	92.1	100.0	115.7	121.0	131.1	142.2	148.6	155.5	165.1
France	41.6	52.6	63.6	72.8	93.6	100.0	117.3	131.7	148.3	162.6	175.0	182.5	187.4
Germany	46.6	67.4	80.3	88.0	94.6	100.0	107.3	115.7	121.2	125.2	124.7	124.6	124.9
Italy	22.8	36.0	48.1	57.2	85.1	100.0	121.9	137.0	162.9	192.4	218.3	224.5	240.1
Netherlands	38.5	60.7	74.3	81.6	98.0	100.0	104.1	108.5	110.4	115.2	114.7	109.7	-
Norway	29.0	46.4	57.6	65.2	89.1	100.0	108.2	117.0	130.2	138.6	145.5	154.0	164.2
Sweden	34.8	47.7	57.2	64.6	90.0	100.0	108.3	118.6	130.9	138.3	138.1	143.8	152.2
United Kingdom	27.6	39.7	48.2	59.7	89.2	100.0	134.7	163.8	175.1	183.1	183.5	187.9	198.1
Unit labor costs: U.S. dollar basis:													
United States	58.7	70.9	73.7	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.8	145.0
Canada	59.0	61.7	68.8	79.7	100.7	100.0	103.0	116.4	129.1	142.3	143.7	133.9	129.4
Japan	26.5	39.1	65.6	76.8	86.9	100.0	121.3	116.8	123.8	108.8	111.5	107.2	104.2
Belgium	30.2	42.0	62.8	72.1	87.2	100.0	128.5	134.1	109.9	89.5	81.3	75.3	-
Denmark	29.5	44.4	67.2	77.9	91.5	100.0	132.0	129.0	110.3	102.3	97.5	90.1	93.5
France	41.7	46.8	70.4	74.5	96.3	100.0	135.5	153.4	132.2	121.5	112.9	102.7	102.6
Germany	25.9	42.9	70.4	79.1	87.3	100.0	136.9	147.9	124.9	119.7	113.4	101.6	98.6
Italy	32.5	50.6	73.1	77.6	90.5	100.0	129.5	141.4	126.3	125.4	120.8	112.8	111.1
Netherlands	25.1	41.2	65.6	74.6	89.1	100.0	127.4	134.2	108.9	105.8	98.6	83.9	-
Norway	21.7	34.5	53.4	62.8	86.9	100.0	113.8	126.2	120.6	114.2	106.1	100.4	101.7
Sweden	30.1	41.1	58.7	65.1	92.3	100.0	112.9	125.3	115.4	96.9	80.4	77.7	79.1
United Kingdom	44.4	54.4	67.7	80.1	92.3	100.0	163.9	218.3	203.1	183.5	159.4	143.9	147.3

- Data not available.

48. Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]								
	1976	1977	1978	1979	1980	1981	1982	1983	1984
PRIVATE SECTOR[3]									
Total cases	9.2	9.3	9.4	9.5	8.7	8.3	7.7	7.6	8.0
Lost workday cases	3.5	3.8	4.1	4.3	4.0	3.8	3.5	3.4	3.7
Lost workdays	60.5	61.6	63.5	67.7	65.2	61.7	58.7	58.5	63.4
Agriculture, forestry, and fishing[3]									
Total cases	11.0	11.5	11.6	11.7	11.9	12.3	11.8	11.9	12.0
Lost workday cases	4.7	5.1	5.4	5.7	5.8	5.9	5.9	6.1	6.1
Lost workdays	68.3	81.1	80.7	83.7	82.7	82.8	86.0	90.8	90.7
Mining									
Total cases	11.0	10.9	11.5	11.4	11.2	11.6	10.5	8.4	9.7
Lost workday cases	5.8	6.0	6.4	6.8	6.5	6.2	5.4	4.5	5.3
Lost workdays	114.4	128.8	143.2	150.5	163.6	146.4	137.3	125.1	160.2
Construction									
Total cases	15.3	15.5	16.0	16.2	15.7	15.1	14.6	14.8	15.5
Lost workday cases	5.5	5.9	6.4	6.8	6.5	6.3	6.0	6.3	6.8
Lost workdays	105.0	111.5	109.4	120.4	117.0	113.1	115.7	118.2	128.1
General building contractors:									
Total cases	14.5	15.0	15.9	16.3	15.5	15.1	14.1	14.4	15.4
Lost workday cases	5.2	5.7	6.3	6.6	6.5	6.1	5.9	6.2	6.9
Lost workdays	100.0	100.2	105.3	111.2	113.0	107.1	112.0	113.0	121.3
Heavy construction contractors:									
Total cases	16.3	16.0	16.6	16.6	16.3	14.9	15.1	15.4	14.9
Lost workday cases	5.5	5.7	6.2	6.7	6.3	6.0	5.8	6.2	6.4
Lost workdays	109.2	116.7	110.9	129.1	117.6	106.0	113.1	122.4	131.7
Special trade contractors:									
Total cases	15.3	15.6	15.8	16.0	15.8	15.2	14.7	14.8	15.8
Lost workday cases	5.6	6.1	6.6	6.9	6.7	6.6	6.2	6.4	7.1
Lost workdays	105.8	115.5	111.0	124.3	118.9	119.3	119.6	119.0	130.1
Manufacturing									
Total cases	13.2	13.1	13.2	13.3	12.2	11.5	10.2	10.0	10.6
Lost workday cases	4.8	5.1	5.6	5.9	5.4	5.1	4.4	4.3	4.7
Lost workdays	79.5	82.3	84.9	90.2	86.7	82.0	75.0	73.5	77.9
Durable goods									
Lumber and wood products:									
Total cases	22.1	22.3	22.6	20.7	18.6	17.6	16.9	18.3	19.6
Lost workday cases	9.7	10.4	11.1	10.8	9.5	9.0	8.3	9.2	9.9
Lost workdays	167.3	178.0	178.8	175.9	171.8	158.4	153.3	163.5	172.0
Furniture and fixtures:									
Total cases	16.9	17.2	17.5	17.6	16.0	15.1	13.9	14.1	15.3
Lost workday cases	6.0	6.0	6.9	7.1	6.6	6.2	5.5	5.7	6.4
Lost workdays	84.5	82.0	85.9	90.6	97.6	91.9	85.6	83.0	101.5
Stone, clay, and glass products:									
Total cases	16.1	16.9	16.6	16.8	15.0	14.1	13.0	13.1	13.6
Lost workday cases	6.4	6.9	7.8	8.0	7.1	6.9	6.1	6.0	6.6
Lost workdays	114.1	120.4	128.3	133.7	128.1	122.2	112.2	112.0	120.8
Primary metal industries:									
Total cases	16.6	16.2	17.0	17.3	15.2	14.4	12.4	12.4	13.3
Lost workday cases	6.3	6.8	7.5	8.1	7.1	6.7	5.4	5.4	6.1
Lost workdays	114.8	119.4	123.6	134.7	128.3	121.3	101.6	103.4	115.3
Fabricated metal products:									
Total cases	18.9	19.1	19.3	19.9	18.5	17.5	15.3	15.1	16.1
Lost workday cases	6.8	7.2	8.0	8.7	8.0	7.5	6.4	6.1	6.7
Lost workdays	109.8	109.0	112.4	124.2	118.4	109.9	102.5	96.5	104.9
Machinery, except electrical:									
Total cases	14.2	14.0	14.4	14.7	13.7	12.9	10.7	9.8	10.7
Lost workday cases	4.6	4.7	5.4	5.9	5.5	5.1	4.2	3.6	4.1
Lost workdays	70.6	69.9	75.1	83.6	81.3	74.9	66.0	58.1	65.8
Electric and electronic equipment:									
Total cases	8.5	8.6	8.7	8.6	8.0	7.4	6.5	6.3	6.8
Lost workday cases	2.8	3.0	3.3	3.4	3.3	3.1	2.7	2.6	2.8
Lost workdays	44.9	46.7	50.3	51.9	51.8	48.4	42.2	41.4	45.0
Transportation equipment:									
Total cases	12.4	11.8	11.5	11.6	10.6	9.8	9.2	8.4	9.3
Lost workday cases	4.7	5.0	5.1	5.5	4.9	4.6	4.0	3.6	4.2
Lost workdays	73.8	79.3	78.0	85.9	82.4	78.1	72.2	64.5	68.8
Instruments and related products:									
Total cases	7.2	7.0	6.9	7.2	6.8	6.5	5.6	5.2	5.4
Lost workday cases	2.4	2.4	2.6	2.8	2.7	2.7	2.3	2.1	2.2
Lost workdays	36.7	37.4	37.0	40.0	41.8	39.2	37.0	36.8	37.5
Miscellaneous manufacturing industries:									
Total cases	11.7	11.5	11.8	11.7	10.9	10.7	9.9	9.9	10.5
Lost workday cases	4.0	4.0	4.5	4.7	4.4	4.4	4.1	4.0	4.3
Lost workdays	59.4	58.7	66.4	67.7	67.9	68.3	69.9	66.3	70.2

See footnotes at end of table.

48. Continued— Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]								
	1976	1977	1978	1979	1980	1981	1982	1983	1984
Nondurable goods									
Food and kindred products:									
Total cases	18.3	18.5	19.4	19.9	18.7	17.8	16.7	16.5	16.7
Lost workday cases	8.0	8.5	8.9	9.5	9.0	8.6	8.0	7.9	8.1
Lost workdays	125.8	130.1	132.2	141.6	136.8	130.7	128.3	131.2	131.8
Tobacco manufacturing:									
Total cases	10.0	9.1	8.7	9.3	8.1	8.2	7.2	6.8	7.7
Lost workday cases	4.1	3.8	4.0	4.2	3.8	3.9	3.2	3.0	3.2
Lost workdays	62.5	66.7	59.6	64.8	45.8	58.5	44.6	42.8	51.7
Textile mill products:									
Total cases	10.5	10.2	10.2	9.7	9.1	8.8	7.6	7.4	8.0
Lost workday cases	2.7	2.9	3.4	3.4	3.3	3.2	2.8	2.9	3.0
Lost workdays	55.5	57.4	61.5	61.3	62.8	59.2	53.8	51.4	54.0
Apparel and other textile products:									
Total cases	6.7	6.7	6.6	6.5	6.4	6.3	6.0	6.4	6.7
Lost workday cases	1.9	2.0	2.2	2.2	2.2	2.2	2.1	2.4	2.5
Lost workdays	31.0	31.7	32.4	34.1	34.9	36.0	36.4	40.8	40.9
Paper and allied products:									
Total cases	13.7	13.6	13.5	13.5	12.7	11.6	10.6	10.0	10.4
Lost workday cases	4.7	5.0	5.7	6.0	5.8	5.4	4.9	4.5	4.7
Lost workdays	94.6	101.6	108.3	108.4	112.3	103.6	96.1	90.3	93.8
Printing and publishing:									
Total cases	6.6	6.8	7.0	7.1	6.9	6.7	6.6	6.6	6.5
Lost workday cases	2.8	2.7	2.9	3.1	3.1	3.0	2.8	2.9	2.9
Lost workdays	40.3	41.7	43.8	45.1	46.5	47.4	45.7	44.8	48.0
Chemicals and allied products:									
Total cases	8.2	8.0	7.8	7.7	6.8	6.6	5.7	5.5	5.3
Lost workday cases	3.1	3.1	3.3	3.5	3.1	3.0	2.5	2.5	2.4
Lost workdays	50.6	51.4	50.9	54.9	50.3	48.1	39.4	42.3	40.8
Petroleum and coal products:									
Total cases	7.9	8.1	7.9	7.7	7.2	6.7	5.3	5.5	5.1
Lost workday cases	3.2	3.3	3.4	3.6	3.5	2.9	2.5	2.4	2.4
Lost workdays	62.5	58.2	58.3	62.0	58.1	51.2	46.4	46.8	50.5
Rubber and miscellaneous plastics products:									
Total cases	16.6	16.8	17.1	17.1	15.5	14.6	12.7	13.0	13.6
Lost workday cases	7.1	7.8	8.1	8.2	7.4	7.2	6.0	6.2	6.4
Lost workdays	113.3	118.1	125.5	127.1	118.6	117.4	100.9	101.4	104.3
Leather and leather products:									
Total cases	11.6	11.5	11.7	11.5	11.7	11.5	9.9	10.0	10.5
Lost workday cases	4.1	4.4	4.7	4.8	5.0	5.1	4.5	4.4	4.7
Lost workdays	68.0	68.9	72.5	76.2	82.7	82.6	86.5	87.3	94.4
Transportation and public utilities									
Total cases	9.8	9.7	10.1	10.0	9.4	9.0	8.5	8.2	8.8
Lost workday cases	5.0	5.3	5.7	5.9	5.5	5.3	4.9	4.7	5.2
Lost workdays	94.0	95.9	102.3	107.0	104.5	100.6	96.7	94.9	105.1
Wholesale and retail trade									
Total cases	7.5	7.7	7.9	8.0	7.4	7.3	7.2	7.2	7.4
Lost workday cases	2.8	2.9	3.2	3.4	3.2	3.1	3.1	3.1	3.3
Lost workdays	43.2	44.0	44.9	48.0	48.7	45.3	45.5	47.8	50.5
Wholesale trade:									
Total cases	8.1	8.5	8.9	8.8	8.2	7.7	7.1	7.0	7.2
Lost workday cases	3.3	3.6	3.9	4.1	3.9	3.6	3.4	3.2	3.5
Lost workdays	51.6	52.5	57.5	58.1	58.2	54.7	52.1	50.6	55.5
Retail trade:									
Total cases	7.2	7.4	7.5	7.7	7.1	7.1	7.2	7.3	7.5
Lost workday cases	2.6	2.7	2.8	3.1	2.9	2.9	2.9	3.0	3.2
Lost workdays	39.7	40.5	39.7	44.7	44.5	41.1	42.6	46.7	48.4
Finance, insurance, and real estate									
Total cases	2.0	2.0	2.1	2.1	2.0	1.9	2.0	2.0	1.9
Lost workday cases	.7	.8	.9	.9	.8	.8	.9	.9	.9
Lost workdays	11.6	10.4	12.5	13.3	12.2	11.6	13.2	12.8	13.6
Services									
Total cases	5.3	5.5	5.5	5.5	5.2	5.0	4.9	5.1	5.2
Lost workday cases	2.0	2.2	2.4	2.5	2.3	2.3	2.3	2.4	2.5
Lost workdays	36.4	35.4	36.2	38.1	35.8	36.9	35.8	37.0	41.1

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[1] Total cases include fatalities.

[2] The incidence rates represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as:
(N/EH) X 200,000, where:
N = number of injuries and illnesses or lost workdays.
EH = total hours worked by all employees during calendar year.
200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year.)

[3] Excludes farms with fewer than 11 employees since 1976.

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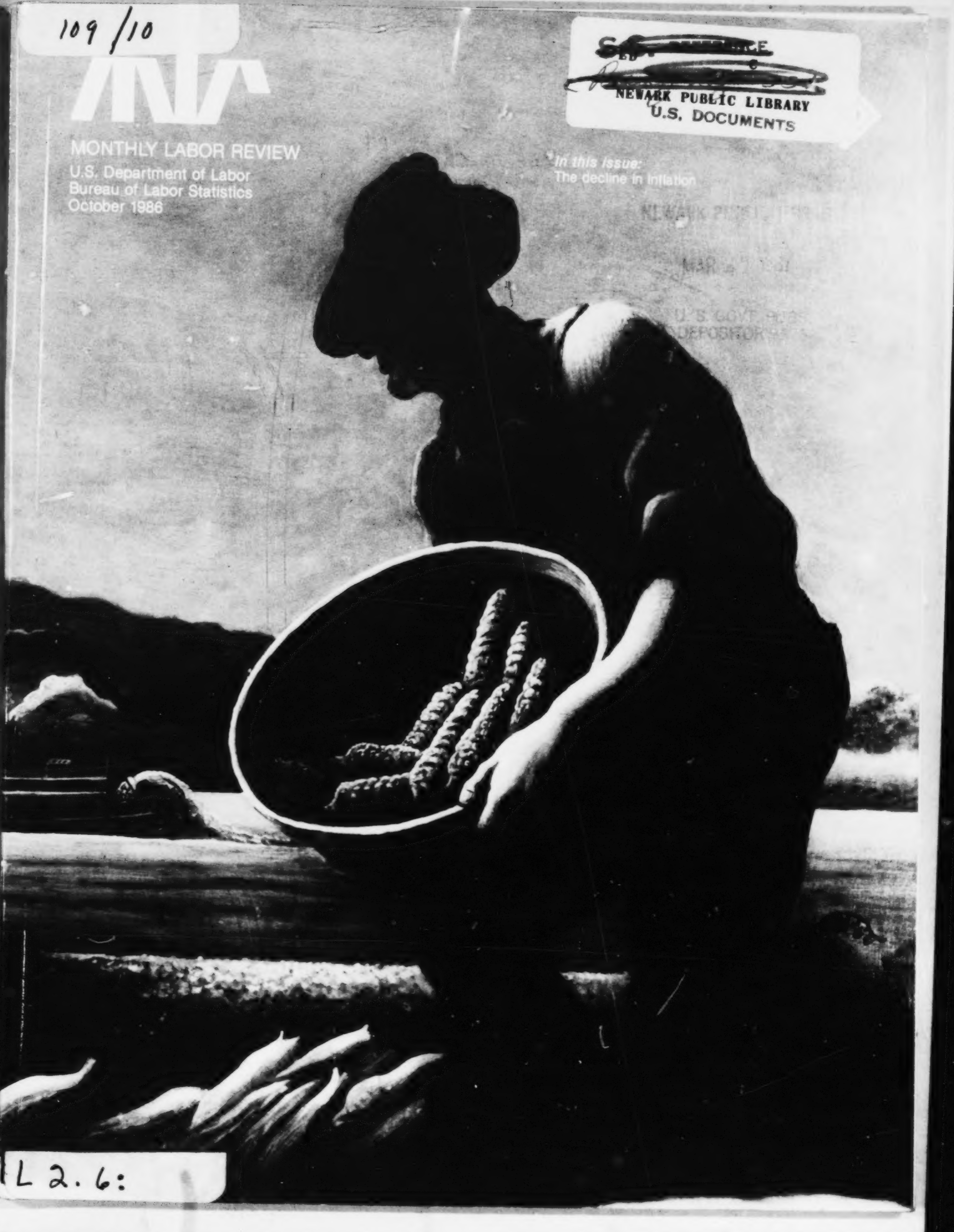

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MONTHLY LABOR REVIEW

U.S. Department of Labor
Bureau of Labor Statistics
October 1986

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The decline in inflation

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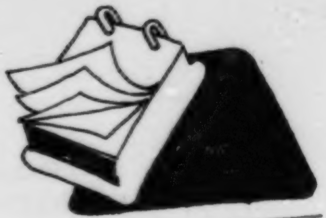


Labor Month In Review

TRANSITION. The Institute for Contemporary Studies published an evaluation of the role of unions in the 100th year after the founding of the American Federation of Labor. The book, *Unions in Transition* (ICS Press, 506 pages, $29.95), edited by Seymour Martin Lipset of the Hoover Institution, Stanford University, includes contributions from more than a dozen academic observers and labor practitioners. Some excerpts:

Walter Galenson, Cornell University: American unions have survived and prospered because they . . . were flexible enough to alter their strategies to meet the demands of the time. The present soul-searching that is going on within the labor movement suggests that some new approaches may emerge, particularly if unions are to move beyond the bounds of their present sectoral confines.

Leo Troy, Rutgers University: As the American labor movement begins its second century, it apparently has entered a new stage in its history, a stage of permanent decline. Organized labor has lost millions of members since its peak in 1975, while its grip on the labor market has dropped to the levels of the Great Depression. The market seems to have rejected unions in the large sectors of the private economy and in growth areas of the country.

Ray Marshall, University of Texas: Most economic and technological trends are against unions as traditionally organized. The unions will therefore need to develop new procedures to deal with the internationalized information world. Because of the importance of collective bargaining and free labor movements for the Nation's economic, political, and social health, it is in the public interest to encourage these adjustments and strengthen the workers' right to decide for themselves whether or not they want to be represented by unions.

Richard B. Freeman, Harvard University: In the world of perfect full employment and competitive markets, unions would be unnecessary. In the real world in which we live unions can and generally do perform valuable economic functions. An economy is likely to operate efficiently when there is a sufficient number of union and of nonunion firms to offer alternative work environments to workers, innovation in workplace rules and conditions, and competition in the market.

Seymour Lipset, Stanford University: Most Americans who are normally sympathetic to the needs of the weak and the underprivileged do not classify labor organizations among the oppressed. Rather, like big business, they are seen as powerful and essentially self-serving. But corporations have an advantage in that the public also thinks they inherently contribute to the community in the form of jobs, goods, and services. Unions are perceived as worse than business in two respects; first, they are viewed as giving low priority to the public interest and as working against the good of the whole society, and second, their leaders are believed to be exceptionally corrupt and unethical. In short, the principal virtue of unions is that they serve the interest of their members. Their principal defect is that, by doing exactly that, unions seem to do little to benefit the public interest.

Lane Kirkland, AFL-CIO: Any analysis of the state of American unions, especially one pointing to or predicting their decline, should include the following disclaimer in the interest of accuracy: It has all been said before.

Labor's obituary has been written at least once in every one of the 105 years of our existence, and nearly that many causes of death have been diagnosed. Some of our most prominent labor journalists have earned their keep by writing of our demise each Labor Day, just as some of our better-known labor economists and academics have earned tenure by publishing predictions that unions would perish. It seems we must be forever perishing so that others may be forever publishing.

Alexander Trowbridge, National Association of Manufacturers: Labor and management are at the crossroads in collective bargaining. Certainly, the growth of participative management mechanisms, gainsharing, employment security, and employee identification with productivity and profits of a company justify some optimism that both labor and management have seen the realities of global competition and its impact, as well as the responses that are necessary to successfully face this competition. □

A half-year pause in inflation: its antecedents and structure

The Consumer Price Index was almost unchanged during the first half, suggesting that 1986 will show the lowest inflation rate in 20 years; plunging energy prices offset strong increases for some services

John F. Early, Walter Lane, and Philip Sturm

Inflation as measured by the Consumer Price Index for all Urban Consumers (CPI-U) declined at a seasonally adjusted annual rate of 0.2 percent during the first 6 months of 1986. While a continuation of this pattern is unlikely throughout the remainder of the year, the resulting change for 1986 will probably be the smallest annual increase since the first half of the 1960's.[1]

The first-half decline reflected the sharp drop in crude oil prices, as the index for energy commodities—fuel oil, coal, bottled gas, and motor fuels fell at an annual rate of 40.2 percent in the first half of 1986. Prices for used cars and grocery store foods also declined in the first half. On the other hand, shelter costs continued to advance at an annual rate of about 5 percent. The index for all items excluding food, shelter, energy, and used cars increased at an annual rate of 4 percent during the first 6 months. Within this group, however, price movements for commodities and for services continued to diverge. Price increases in the goods sector moderated further, but prices for services, in particular medical care, accelerated. (See table 1.)

Background 1960 to 1981

The early 1960's were characterized by rapid economic expansion, with prices increasing at an annual rate of 1.3 percent for the 5-year period which ended in December 1965. (See chart 1.) Price pressures developed in the late 1960's, however, as expenditures for the Vietnam War stimulated an economy already at nearly full employment. The rate of inflation in consumer prices rose from less than 2 percent in 1965 to more than 6 percent in 1969.

From chart 2, one can identify the general composition of price change in each of these periods. The top line displays the average annual rate of change for the all-items CPI-U during the periods identified on the horizontal axis. This seasonally adjusted overall inflation rate can be constructed as the sum of the individual contributions of four major classes of consumer expenditures—energy, food, shelter, and all other—as follows:

Period	All items	Effect on all items: Energy	Food	Shelter	Other
Dec. 1960–Dec. 1965	1.3	.023	.406	.245	.626
Dec. 1965–Dec. 1969	4.3	.133	.937	1.115	2.115
Dec. 1969–Aug. 1971	4.8	.251	.707	1.274	2.568
Aug. 1971–July 1973	4.4	.280	1.975	.879	1.266
July 1973–Dec. 1974	12.0	1.517	3.694	2.470	4.319
Dec. 1974–Dec. 1976	5.9	.642	.869	1.237	3.152
Dec. 1976–Dec. 1978	7.9	.581	1.885	2.215	3.219
Dec. 1978–Sept. 1981	12.2	1.990	1.633	4.664	3.913
Sept. 1981–June 1986	3.4	−.195	.502	1.027	2.065

John F. Early is Assistant Commissioner for Consumer Prices and Price Indexes, Bureau of Labor Statistics. Walter Lane and Philip Sturm are economists in that office.

From the chart, one can see that the acceleration in prices from the first half to the second half of the 1960's was widespread, except that energy prices had very little impact.

The recession which began late in 1969 caused the rate of price increase to subside only partially, and much of that reduction was due to the effect of declining mortgage interest rates on the shelter component of the CPI. In reaction to the failure of inflation to abate swiftly and fully, President Nixon announced a wage and price freeze on August 15, 1971. The initial price freeze and subsequent Phase II economic controls were accompanied by a lower rate of inflation during the final months of 1971 and throughout 1972. Prices, however, started to rise more quickly in 1973, and further inflation followed with the relaxation of controls in August and the oil embargo in October. Although the direct effects of the oil embargo on inflation were substantial, they were far from unique. Sharply higher mortgage interest rates and house prices drove up shelter costs; food prices, influenced in part by worldwide commodity inflation, rose rapidly; and prices for most other goods and services began to accelerate.

Inflation climbed to double-digit rates during 1974 and registered what was then the largest calendar year change in the history of the CPI, except for the inflationary periods directly associated with the two World Wars. With the steep recession of 1973–75, inflation moderated substantially so that, by the end of 1976, consumer prices were rising at an annual rate of less than 5 percent. With the economic expansion in 1977, prices began to accelerate. Then sharp increases in energy prices were fueled by events associated with the Iranian crisis, and rapid price rises for food and shelter costs followed, pushing consumer price rises to unprecedented peacetime rates during 1979, 1980, and, indeed, for most of 1981.

Table 1. Annual percent changes for selected groupings of consumer prices, 1982–86

Item	12 months ended December—				6 months ended June—
	1982	1983	1984	1985	1986[1]
All items	3.9	3.8	4.0	3.8	−0.2
Food	3.1	2.6	3.8	2.7	1.0
Food at home	2.2	1.9	3.6	2.1	−.5
Food away from home	5.0	4.1	4.2	3.8	4.1
Energy	1.3	−.5	.2	1.8	−24.1
Energy commodities	−5.0	−3.2	−1.9	3.4	−40.2
Energy services	14.1	4.1	3.4	−0.5	3.5
Shelter	2.4	4.7	5.2	6.0	5.1
Used cars	10.9	14.4	7.0	−1.9	−7.1
All other items	5.6	4.1	4.1	4.2	4.0
Other commodities	4.1	3.3	2.3	3.0	1.6
Other services	7.3	4.9	6.0	5.4	6.3

[1] Seasonally adjusted annual rate of change.

Chart 1. Consumer Price Index for All Urban Consumers, 12-month percent changes, 1960–1986

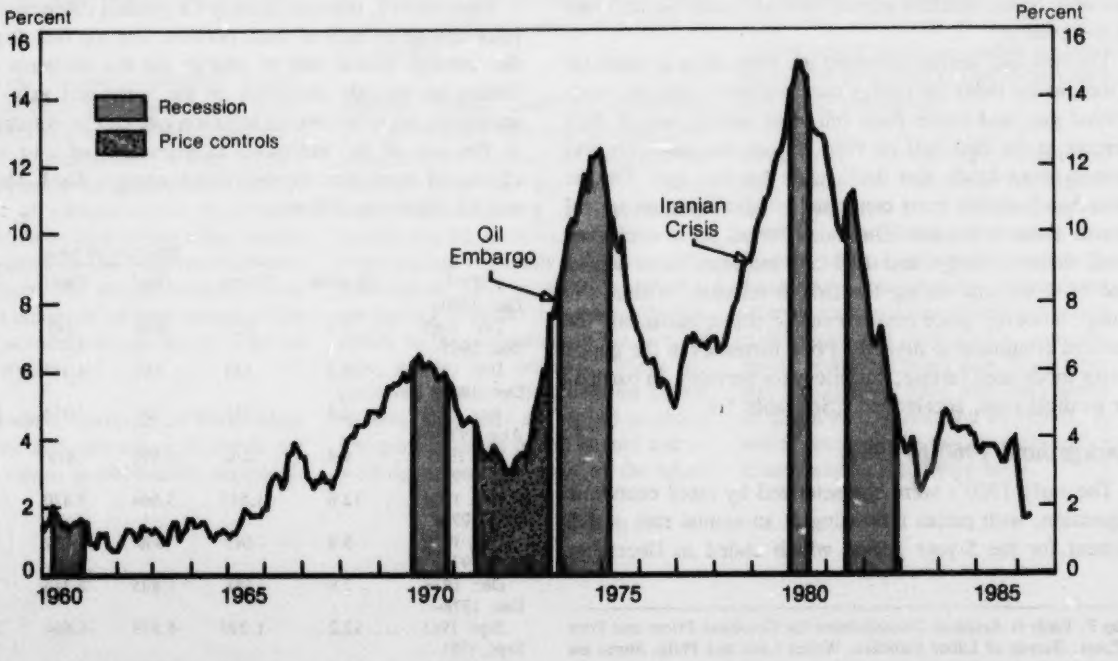
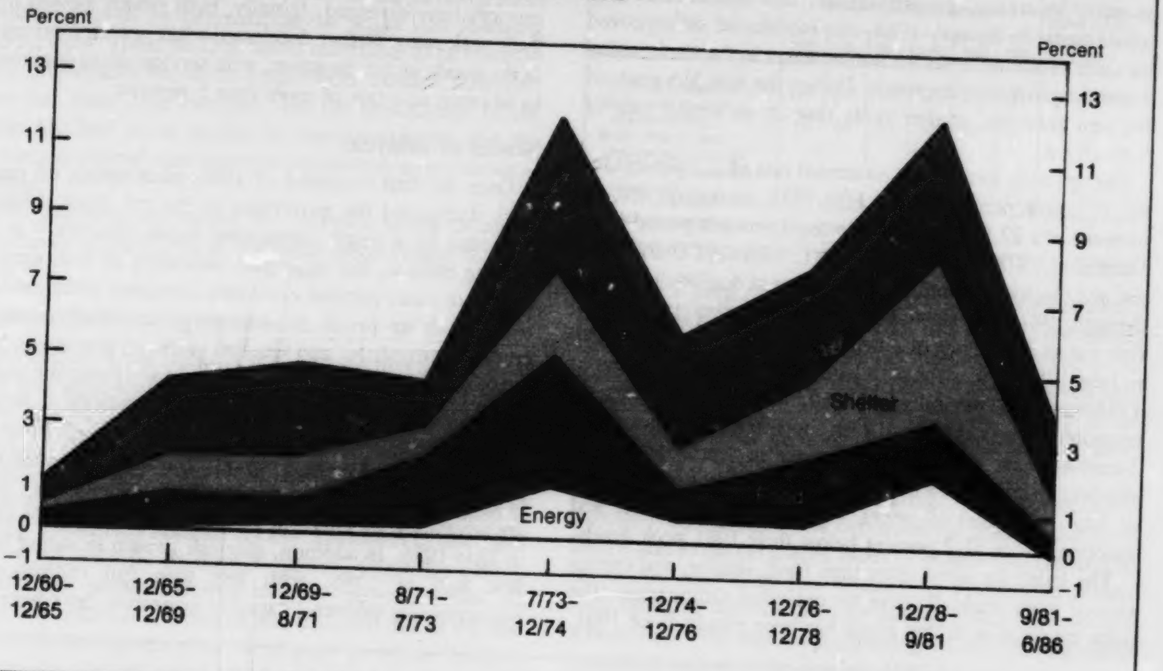


Chart 2. CPI average annual rate of change for selected periods by the effects of major components, December 1960 to June 1986



Deceleration since 1981

Two back-to-back recessions (1980 and 1981–82), a tight monetary policy, and lessened control by OPEC of world petroleum supplies all contributed to a rapid reduction in the rate of inflation beginning in the fourth quarter of 1981. This moderation in prices brought an end to the "ratchet phenomenon" that had characterized inflation since 1960. Before 1981, each succeeding low point in inflation was higher than the preceding low, and each high point was also higher than the preceding high. (See chart 1.) The 3.9-percent price increase for 1982 was the smallest annual increase in 10 years.

The price deceleration that occurred in the 57 months through June 1986 was particularly apparent in the energy, shelter, and food components of the CPI. (See charts 2 and 3.) Advances in these items had, of course, been responsible for much of the increase in the CPI in the past decade. Unlike earlier episodes, however, the index excluding the energy, shelter, and food components also moderated substantially, rising at a 4.8-percent seasonally adjusted annual rate during the 57 months through June 1986, compared with a 9.6-percent increase for the 12 months ended in September 1981. Chart 3 provides more detail than chart 2 on the post-1981 period. The data are as follows:

Period	All items	*Effect on all items*				
		Energy	*Food*	*Shelter*	*Other commodities*	*Other services*
Sept. 1981–Dec. 1982	4.0	.372	.488	.724	1.057	1.359
Dec. 1982–Dec. 1984	3.9	−.015	.606	1.071	1.059	1.179
Dec. 1984–Sept. 1985	3.2	.143	.296	1.284	.464	1.013
Sept. 1985–Dec. 1985	5.3	.402	1.022	1.405	1.103	1.368
Dec. 1985–June 1986	−.2	−2.580	.169	.971	.019	1.221

The slowdown in food prices preceded the deceleration in the overall CPI. For the 12-month period ended in September 1981, grocery store food prices had increased 5.5 percent, a rate half that of the overall index. Increases in each of the following 4 years were also less than those for the overall index. For the September 1981 to June 1986 period, grocery store food prices advanced at an average annual rate of 2.1 percent and the overall food component at a 2.8-percent rate.

The shelter component registered steep advances throughout most of the period from 1978 through September 1981. The rate of increase fell off sharply beginning in the fourth quarter of 1981, principally due to the behavior of house prices and mortgage interest rates, and advanced at an annual rate of 2.2 percent from September 1981 through

December 1982. Until January 1983, the CPI used an asset approach to measure shelter costs of homeowners. The asset treatment covered house prices, mortgage interest rates, property insurance, property taxes, and maintenance and repair costs. In January 1983, BLS introduced an improved measure of shelter costs for homeowners in the CPI-U, using a rental equivalence approach. During the first 3½ years of the new measure, shelter costs rose at an annual rate of 5.3 percent.

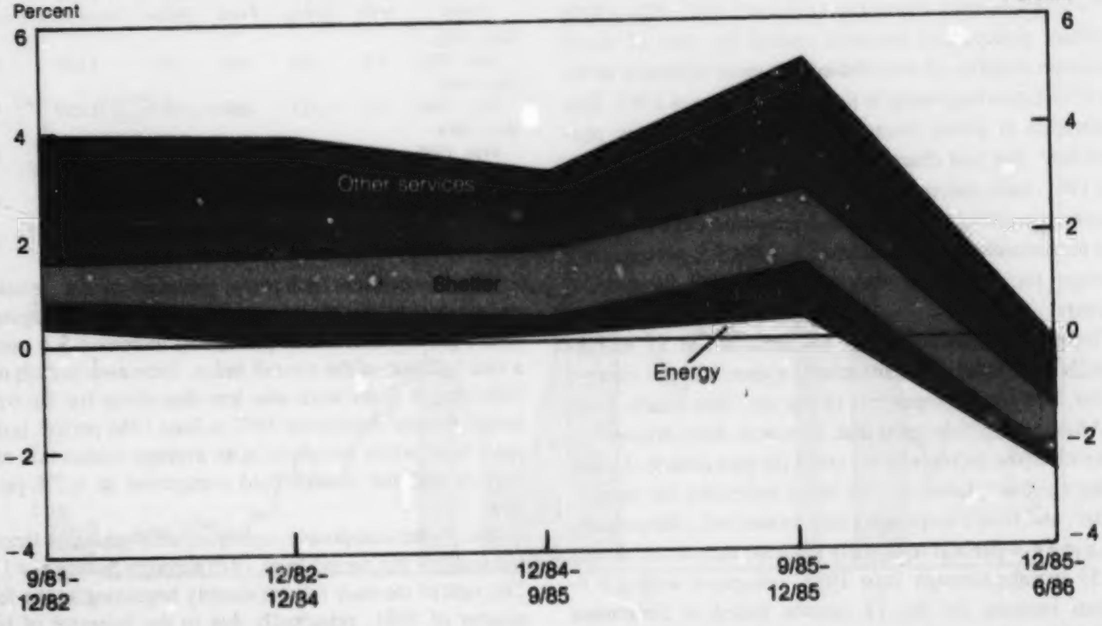
Energy costs declined at an annual rate of 2.1 percent for the 57-month period through June 1986, compared with an increase at a 22.9-percent rate in the 33-month period from December 1978 to September 1981. Although charges for gas and electricity continued to increase at double-digit rates through 1982, they slowed considerably beginning in 1983, rising at an annual rate of 2.6 percent in the 42 months ended in June 1986. Prices for petroleum products peaked in early 1981 and then generally declined, with the exception of temporary spurts associated with short-term shortages and a 5-cent-a-gallon gasoline tax increase in April 1983. The sharpest drop occurred during the first 6 months of 1986. As of June 1986, fuel oil prices were 35.2 percent lower and gasoline prices 31.2 percent below their 1981 peak levels.

The index for items other than food, shelter, and energy slowed more gradually than the excluded components. The price moderation in this group has been steady since 1981, when these prices rose, on average, by 9.4 percent. They increased less each year than in the preceding one, and by the end of 1985 the annual change was 3.7 percent. Within the group, however, price movements for commodities and services have diverged. Initially, both groups slowed from their peak rates; further deceleration has occurred primarily in the goods sector, however, with service prices continuing to advance at a rate of more than 5 percent.

Status at midyear

Over the first 6 months of 1986, plummeting oil prices have dominated the movement of the CPI. Such dramatic influence by a single component seems less likely in the coming months, but aggregate indicators of both material and labor costs portend continued consumer price moderation. Producer prices for nonenergy commodities at the crude, intermediate, and finished stages of processing have either declined or increased very moderately over the past 12 months. Measures of labor costs also indicate a lack of current pressure on prices. The Employment Cost Index has decelerated steadily since peaking at near double-digit rates in 1980, with total compensation for private industry workers advancing by only 3.8 percent in the 12 months ended in June 1986. In addition, sluggish growth in output in the first half of 1986, with less than full utilization of resources—at midyear, capacity utilization rates were less

Chart 3. CPI average annual rate of change for recent periods by the effects of major components, September 1981 to June 1986



than 79 percent and unemployment stood just under 7 percent—would appear to preclude any immediate cost pressures.

However, policymakers have taken measures designed to stimulate growth by depreciating the dollar and lowering interest rates. These policies could contribute to an increase in the CPI inflation rate in the longer term. To date, however, there has been little evidence that the devaluation of the dollar has had much impact on consumer prices and the declines in interest rates have not yet sparked an acceleration in output.

The following discussion is a detailed sector-by-sector assessment of the status of consumer price change in mid-1986.

The plunge in energy prices

The decline in the overall CPI during the first 6 months of 1986 was attributable to the sharp drop in energy prices—down 24.1 percent at an annual rate. (See chart 3.) The CPI excluding energy, during this period, advanced at a 3.1-percent annual rate. Prices for commodities and services within energy as well as within the overall CPI, continued to diverge. Principally because of OPEC's decision in late 1985 to abandon formally production quotas, prices for energy commodities plunged downward as contracted crude oil prices fell from $28 a barrel to less than half that at the end of June. Reflecting this drop, retail gasoline prices fell 22.3 percent and fuel oil prices, 27.6 percent, from December 1985 to June. From 1967 to the spring of 1981, prices for energy commodities rose about 80 percent faster than prices for nonenergy consumer items. As a result, the prices of energy commodities relative to the prices (on average) of nonenergy items were nearly 80 percent greater in early 1981 than in 1967, the base year for the CPI. By June of 1986, however, energy CPI commodity prices had fallen from their peaks and the prices for energy commodities stood in the same relationship to prices for nonenergy items as they had in 1967. (See chart 4.)

The index for energy services—natural gas and electricity—registered a moderate increase during the first 6 months of 1986. Charges for electricity rose at an annual rate of 4.8 percent and those for natural gas increased at a 1.6-percent annual rate. From 1967, the prices for energy services relative to those for nonenergy items rose somewhat more than half as fast as relative prices for energy commodities, peaking in mid-1983. Since then, charges for energy services have eased slightly, and by June 1986 they were in the same proportion to nonenergy prices as they had been in the spring of 1982.

Continuing rise in shelter costs

The movements in the CPI for shelter during the last 5 or 6 years are, on the surface, somewhat puzzling. As already noted, shelter costs were a major cause for the double-digit inflation during 1979, 1980, and first part of 1981. After rising 15.1 percent during 1980, the CPI for shelter rose a mere 2.4 percent in 1982. During this period, the shelter index was a major factor in the slowdown of the overall CPI. But since 1982 the shelter index has seemingly moved contrary to other prices—more than doubling its rate of increase, while other portions of the CPI continued to slow. (See table 2.)

Table 2. Annual changes in consumer prices for shelter, 1980–86

Item	12 months ended December—						6 months ended June—
	1980	1981	1982	1983	1984	1985	1986[1]
Official CPI for shelter	15.1	9.9	2.4	4.7	5.2	6.0	5.1
Shelter index on rental equivalence basis	9.0	8.8	6.2	4.7	5.2	6.0	5.1
Shelter index on rental equivalence basis, with estimated adjustment for vacant units	10.0	9.5	6.5	5.3	6.0	6.0	5.1

[1] Seasonally adjusted annual rate of change.

One can understand this unusual performance only through a careful review of two technical changes that have been made to the CPI shelter index. The first was the shift to an owners' equivalent rent measure for homeowner shelter costs effective with the CPI-U for January 1983.[2] The second was an improved method for treating vacant housing units, beginning with data for January 1985.[3]

The introduction of these two improvements affected both the shelter component and the All Items CPI. Consequently, it is advantageous for purposes of analyzing the trends in shelter costs to estimate these effects and adjust for them. The first line of data in table 2 contains annual inflation rates for the official CPI for shelter. It exhibits the unusual behavior noted above.

BLS has previously constructed and published enhanced experimental indexes which provide estimates of what the CPI would have been in years prior to 1983 if the owners' equivalent rent measure had been used.[4] The shelter component based on these rental equivalence estimates is contained in the second line of table 2. The owners' equivalent rent method produces indexes which reflect the change in shelter costs for homeowners. The previous method had included investment costs associated with purchasing a housing asset—costs that were inappropriate for the CPI. The differences between these two measures illustrate the problem. (See table 2.) The skyrocketing mortgage interest rates in early 1980 caused the official shelter index to rise 15.1 percent, two-thirds again as much as the actual shelter service cost rise measured using the more appropriate owners' equivalent rent measure. Similarly, when mortgage interest rates dropped sharply in 1982, the official shelter index rose less than half as much as the measure based on owners' equivalent rent.

The effects of the improved methods for treating vacant housing units in the CPI are a good deal less dramatic than those from the introduction of owners' equivalent rent. The final line of table 2 provides an analytical reconstruction of the shelter index as it would have looked had both owners' equivalent rent and the enhanced vacant unit procedure been used.

By adjusting the shelter index for the two methodological changes, it becomes easier to identify and explain the trends of shelter costs in the last few years. Like the CPI as a whole, shelter cost increases (on the reconstructed basis) began slowing in 1981. They continued to slow through 1983, then moved up slightly to a 6.0-percent annual rate in both 1984 and 1985. The first half of 1986 gives some indication of a further slowdown. Although the rise in shelter costs has clearly slowed, both the degree and speed of that adjustment have been considerably less than in the overall CPI. There are a number of institutional factors that contribute to the relatively slower adjustment of shelter costs—the almost universal use of leases that hold rent constant for extended periods, rent control in some local areas, and existing stable tenant-landlord relationships that make both reluctant to change terms too rapidly. In addition, the available stock of housing cannot adjust as quickly to changing demand conditions as can the supplies of most other consumer items.[5]

These institutional expectations are borne out historically. A long historical series is not available for the shelter CPI based on owners' equivalent rent, but the use of the residential rent CPI provides a reasonable proxy for the timing of changes in shelter costs in earlier years.[6] If we compare the points in time at which the residential rent CPI has reached its highest (peak) values and lowest (trough) values with the corresponding times for the All Items CPI, it is clear that the rate of rent increase almost always slows or accelerates well after the corresponding change occurs in the All Items CPI. (See table 3.) If the current episode of slowing inflation is consistent with earlier ones, one should not be too surprised if there were some additional modest slowing in shelter costs.[7]

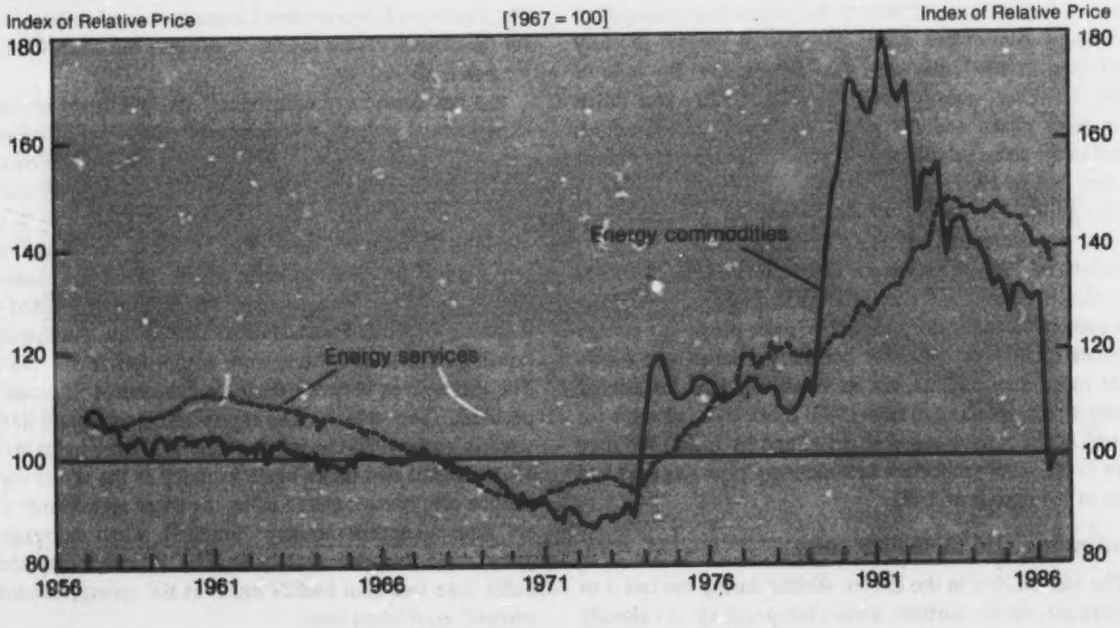
Table 3. Dates and timing of peak and trough rate for 12-month percent changes of consumer prices, 1947–80

All items		Residential rent		Months by which rent lags (leads) all items[1]	
Peak	Trough	Peak	Trough	Peak	Trough
March 1947	August 1949	June 1948	January 1951	15	17
February 1951	October 1954	October 1953	September 1955	30	11
April 1957	April 1959	December 1956	September 1964	– 4	65
February 1970	June 1972	April 1971	June 1972	14	0
December 1974	December 1976	(2)	(2)	–	–
March 1980	—	July 1980	—	4	–

[1] Positive numbers are lags—number of months after all items change. Negative numbers are leads—numbers of months before all items.

[2] Skipped cycle. Rate did not slow for any significant period of time.

Chart 4. Index of relative consumer prices of energy commodities and energy services, seasonally adjusted, 1957–1986



The trend in food prices

For the 6 months ended in June, the food index advanced at an annual rate of 1 percent with an increase in the cost of food away from home—up 4.1 percent at an annual rate—more than offsetting a decline in grocery store food prices—down 0.5 percent at an annual rate. Decreases in prices for beef and fruits and vegetables were responsible for the drop in the food-at-home component. Beef prices fell at an annual rate of 12.1 percent in the first 6 months. The drop in herd size, which has shrunk to its lowest levels in two decades, has not yet placed significant upward pressure on prices. Potential supplies were augmented when the U.S. Department of Agriculture (USDA) announced a large dairy cow buy-out program in late March. Nevertheless, in June, beef prices registered their first increase this year. Pork prices have already started upwards, as hog producers have begun to withhold breeding stock to rebuild their herds. As of June, the USDA estimated that pork cold storage supplies were 36 percent below their year-earlier levels. Poultry prices also advanced in the second quarter, partly due to increased demand and partly due to the impact on supplies of the adverse weather in the southeastern United States.

The decline in fruit and vegetable prices in the first half of 1986, however, is likely to continue. These prices, which rose sharply in response to adverse weather at the end of 1985, retreated and growing conditions generally were good in the first half of 1986. The severe drought in the Southeast should have only a limited effect on these prices because production is concentrated in other areas, which were not adversely affected by the weather conditions.

Other grocery store foods registered generally moderate increases during the first 6 months of the year. An exception was the index for nonalcoholic beverages, which advanced at double-digit rates, as coffee prices soared in the first quarter of 1986, before turning downward in the second quarter. This increase reflected the impact of the Brazilian drought in late 1985, which damaged the coffee bean crop.

Services except shelter and energy

As noted, price increases for services other than energy and shelter have, on average, slowed down significantly since 1981, but they remain substantially greater than the increases for nonenergy commodities.[8] This section will explore the structure and possible causes of the more limited deceleration response of service prices. In an effort to systematize this investigation, all consumer services besides shelter and energy have been classified into one of four groups: (1) those which have contributed to the overall slowing of prices and generally continue to demonstrate only modest price rises; (2) those for which prices have clearly slowed, but continue to rise a good deal faster than other prices; (3) those which provide continuing or growing upward pressure on inflation; and (4) those that defy classification even by these rather general categories. The results of this classification are displayed in table 4.

Price changes for a large number of services have slowed substantially since 1981. Perhaps most dramatic has been the sharp drop in finance charges for automobiles as interest rates generally have declined and automobile manufacturers have made extensive use of "below market rate" financing to stimulate car sales. Increases in airline fares have also fallen off markedly as declining fuel costs and fierce competition from both existing and newly formed airlines have driven fares down to very low levels on many of the more competitive routes. Another transportation service, namely taxis, has also had much slower fare growth, in part due to lower fuel costs and in part due to increased competition from improved availability of mass transit in some areas.

The AT&T divestiture, combined with competition from new long distance telephone carriers, has led to a number of substantial reductions in interstate long distance tolls. Although postage rates rose 10.2 percent in 1985, that was the only increase in more than 3 years, with the result that postage also contributed to the overall price slowdown.

The remaining services which have shown clear reductions in their inflation rates to levels of about 4 percent or less include appliance and furniture repair, apparel services, automobile maintenance and repair, personal care services (beauty and barber shops), and moving, storage, freight, household laundry, and drycleaning. (The 1985 increase in, moving costs may be related in part to the strengthening of the housing market and the associated demand for moving services.) These service establishments have benefited from moderation or declines in heating, transportation fuel, and supply costs. They also have a high proportion of relatively small establishments and fair amounts of local competition. Auto repair services may also be facing reduced demand because of the longer intervals between required maintenances on newer models.

Medical charges continue substantial rises

Other services have also experienced slowing price rises, but they continue to post substantial or even reaccelerating price increases. Medical care services are perhaps the most notable in that respect. Costs of professional medical services (physicians, dentists, optometrists, and so on) rose at double-digit rates during most of the 1979–81 period and slowed during 1982 and 1983 to annual rates of increase of between 7 and 8 percent. Beginning with 1984, charges for professional medical services have risen at a fairly constant rate of a bit over 6 percent. In addition to general reductions in inflation pressures on cost, factors which may have contributed to the slowing of professional medical service charges include (1) a voluntary 1-year freeze on physician fees urged by the American Medical Association (AMA) in February 1984; (2) declines in prices for precious metals used in dental fillings; (3) increased competition from advertising among dentists; and (4) modest increases in wages and benefits for employees in health industries—up 4.1 percent for the 12 months ended June 1986, about the same as for all civilian workers.[9]

Despite these factors, however, charges for services by medical professionals have stubbornly grown at annual rates in excess of 6 percent. One factor which may have contributed to this continued inflation is the widely publicized substantial increases in malpractice insurance premiums. These increases have tapered off, but continue to be quite high. After jumping more than 40 percent in 1982, average premium increases by 1984 were down to a smaller but still substantial 18.3 percent.[10] It is also possible that the measured CPI increases reflect more than pure price change. New diagnostic and treatment methods, procedures, and equipment may increase the costs of professional services. At the same time, however, they may improve the efficiency and efficacy of a diagnosis or treatment. To the extent that the higher charges are the result of better medical care, the increases are not pure price increases and should, in principle, not be included in the CPI. We do not know whether such quality increases are in fact contributing to the continued substantial rises in the medical care CPI, but it is a possibility that must be kept in mind.

Charges for hospital rooms and for other hospital and medical care services both rose at very high double-digit rates through 1982. Like many large service organizations, hospitals tend to be slow to adjust their fee schedules to reflect changes in their costs. As a result, slower price increases for hospitals came later than for many other segments of the economy—including those by medical professionals. Nevertheless, from 1983 through 1985, hospital fees slowed down quite significantly. Like the professional services component of the CPI, hospital costs have benefited from modest rises in compensation costs for employees. In addition, hospitals have come under increasing regulatory scrutiny by Federal, State and local government units in an effort to contain cost increases. In October 1983, the Federal Government imposed a Diagnostic Related Groups (DRG) fee structure on hospitals being reimbursed for Medicare-financed treatment. Under this process, a set fee is established for a specific class of treatment irrespective of the duration or specific procedures followed in a particular case. The objective is to encourage providers to identify and use the most cost-effective treatment. Some insurance carriers and health maintenance organizations (HMO's) are also establishing similar payment regimens.

Some of the slowing in hospital charges may reflect market adjustments to oversupply of hospital capacity. Between 1978 and 1984, occupancy rates in hospitals declined from 75.5 percent to 72.5,[11] at least partly as the result of shorter hospital stays. The average length of a hospital stay declined from 7.4 days in 1978 to 6.6 days in 1984.[12]

Following their substantial slowdown through 1985, hospital fees began to accelerate again during the first half of 1986. This rather abrupt turnaround is difficult to explain. The possible effects of liability insurance and higher quality care are, of course, factors for hospitals as well as professional services, but there is no obvious reason these effects should have become more pronounced in the first 6 months of 1986.

Table 4. Price change for consumer services other than shelter and energy, 1979–86

Consumer service	Seasonally adjusted annual rate of change (percent)					
	Dec. 1978 to Sept. 1981	Sept. 1981 to Dec. 1982	Dec. 1982 to Dec. 1983	Dec. 1983 to Dec. 1984	Dec. 1984 to Dec. 1985	Dec. 1985 to June 1986
Services excluding shelter and energy	10.1	7.8	4.9	6.0	5.4	6.3
Contributing to overall slowdown:						
Telephone—interstate toll calls	5.5	3.3	1.4	−4.3	−3.8	−11.0
Moving, storage, freight, household laundry, and drycleaning	10.9	7.6	6.2	4.9	7.2	3.1
Appliance and furniture repair	7.5	6.9	4.9	5.6	3.1	3.1
Postage	6.8	7.6	0	0	10.2	0
Apparel services	11.8	6.3	5.0	4.9	4.9	4.1
Automobile maintenance and repair	10.0	6.5	3.8	3.2	3.3	2.6
Automobile finance charges	19.4	−1.9	−7.9	6.8	−8.3	−13.1
Airline fares	28.0	7.7	4.8	6.5	6.3	1.6
Taxi fares	12.7	3.4	2.3	1.2	4.3	2.2
Personal care services	8.4	5.4	3.6	4.9	3.6	3.5
Contributing to slowdown, but remaining high:						
Water and sewage maintenance	8.8	8.3	8.5	5.5	5.5	7.2
Intercity train fares	18.2	12.0	5.5	4.7	4.8	7.5
Intracity mass transit	18.9	5.1	2.1	6.8	3.4	12.5
Professional medical services	10.5	7.3	7.6	6.3	6.5	6.1
Hospital rooms	13.5	14.6	9.3	7.4	4.8	8.3
Other hospital medical care services	13.1	12.0	11.2	7.8	5.2	7.0
Entertainment services	7.2	7.0	5.4	5.7	4.4	6.2
Tuition and other school fees	11.2	12.0	9.4	10.1	8.4	9.1
Personal expenses (bank charges, attorney fees, and funerals)	12.5	13.3	12.2	6.5	6.1	8.4
Contributing upward pressure:						
Telephone local charges	6.4	11.3	3.2	17.1	8.9	16.7
Refuse collection	–	–	–	6.1	6.4	7.8
Automobile insurance	6.2	8.1	9.1	7.9	12.0	13.6
Intercity bus fares	14.3	5.9	7.4	12.3	6.9	14.9
Little meaningful trend:						
Telephone—intrastate toll calls	0.9	5.8	7.4	3.7	.5	.5
Cable television	–	–	–	6.1	6.0	5.4
Automobile rental, registration, and other fees	5.3	12.6	5.9	7.4	3.0	6.2

Many cost containment efforts have been focused on reducing the length of hospital stays and shifting more treatment to an outpatient basis (up from 6.9 percent of hospital revenue in 1978 to 8.8 percent in 1985).[13] While these measures may have the effect of reducing the expenditure for a full treatment, they may actually place an upward pressure on the prices of separate services. On the one hand, higher vacant bed rates do increase the supply of hospital beds and, thereby, may exert some downward pressure on prices. On the other hand, the rather substantial fixed costs for a hospital must now be spread over fewer occupied beds. The final equilibrium price will depend, among other things, on the proportion that fixed costs are of total costs and on the consumer's price elasticity of demand.

The establishment of DRG pricing is intended to lower the total cost for those whose bills are paid by the third-party setting the DRG fee schedule. It is possible, therefore, that over time hospitals may restructure their prices in such a way that larger portions of the fixed costs are borne by those who are not covered by a DRG arrangement. Prices used in the CPI are not generally subject to such arrangements.

It may have taken several months for hospitals to sort out these consequences. As a result, hospital price indexes in the first half of 1986 may be reflecting restructuring of fee schedules to shift costs away from more highly regulated or competitive areas to those with less impact from regulation or competition. While plausible, this explanation is highly conjectural and is offered here primarily due to the lack of an obvious alternative explanation.

Tuition also continues high

Tuition and other school fees have also been slow to respond to the overall decline in inflation. Much of this is an institutional phenomenon. Tuition is usually set well in advance—often as much as 2 years. As a result, both accelerations and decelerations in tuition lag well behind many other price changes. Contributing to the substantial increases in the 1981–1984 period were steps by a number of State legislatures either to reduce funding for State higher education and/or to set higher levels of required student payment.

Intercity train fares have also been boosted as the result of reduced government funding. The Federal subsidy for Amtrak was cut by 4 percent in 85 and by 14 percent in 1986. Nevertheless, reduced fuel costs and competition from the airlines kept fare increases well below their 1979–82 rates.

Water and sewerage maintenance and intracity mass transit have both slowed down from their peak levels. Nevertheless, both continue to have relatively high rates of inflation, despite mass transit charges having benefited from lower energy costs. Because transit and water and sewer services are frequently owned and operated by local government units, the higher-than-average inflation for these services may reflect, in part, the higher-than-average compensation increases for State and local government employees—up 5.8 percent for the year ended June 1986, versus 3.8 percent for private industry workers in the same period.[14] Continued large price increases for refuse collection may reflect not only compensation increases, but also rising "tipping charges" being levied by local government units for use of dump sites and other disposal locations.

Continuing inflationary effects also arise from the charges for local telephone services. The first effects were the direct result of restructuring of AT&T in 1984. Then additional "access charges" were added to local bills in June 1985 and June 1986 as part of the procedure for equalizing both the cost and ease of access among competing long distance carriers and for allocating costs for different elements of the telephone system to the users of those elements. Coincident with the added access charges were partially offsetting declines in interstate long distance charges. Intrastate telephone service is a mixture of (1) toll service supplied by the local operating companies and (2) service provided by long distance carriers. As a result, the index for intrastate toll calls is a mixture of the two factors with no distinct trend of its own.

Auto insurance up sharply

Automobile insurance rates rose at an annual rate of 13.6 percent during the first half of 1986. Not only is this one of the highest inflation rates for items in the CPI, it is more than double the rate which existed in the 1979–81 period. The largest increases have been for the liability portions of auto insurance. A number of reasons have been offered for this. First, accidents are becoming more frequent—up nearly 5 percent between 1984 and 1985, possibly as the result of reduced adherence to the 55-mile-per-hour speed limit.[15] Second, the proportion of accident survivors who are severely injured has been increasing—ironically partly due to increased survival rates resulting from greater use of seatbelts, now mandatory in some States.[16] Third, as in medical care, there seems to be a significant increase in the frequency and magnitude of liability suits.[17] This fact not only increases direct insurance benefit outlays, it also increases uncertainty and carrier reserve levels. Fourth, declining interest rates have reduced insurance carriers' returns on their investments. While reduced interest income requires that additional income must be generated from premiums, the effect for automobile insurance is probably less than for some other types of insurance.

But automobile insurers are also benefiting from some significant reductions in cost pressures. The prices for automobile repair have slowed substantially. And, even though medical costs continue to rise more than many items, they are rising much more slowly than 6 years ago and much more slowly than the automobile insurance costs.

Intercity bus fares also rose at double-digit rates during the first half of 1986—up 14.9 percent. This large increase occurred despite the much more modest rises for the chief competing services—airlines and trains. This apparent anomaly can be understood, at least in part, by realizing that the competition is only partial. First, buses go many places that airlines and trains do not. Bus fares on these, usually shorter-haul, trips are not as constrained by competition. Second, airfares have not moved homogeneously. They have risen most slowly (or even fallen) on the routes with the heaviest competition and traffic. Other routes have had larger fare increases and given buses less competition.

Other commodities

Even excluding the sharp drop in energy prices and lower used car prices, prices for commodities have risen at a much slower rate than those for nonenergy services. This divergence in commodity and service prices suggests that commodity prices in this country may have been affected by lower priced imports resulting from the high value of the dollar relative to the currencies of other countries.

When the dollar was appreciating from 1981 to March 1985, foreign suppliers of imports could receive the same income in their own currency by selling the same quantity of imports at lower dollar prices, as each dollar received by them commanded a greater amount of their own currency. However, it may have taken some time for the rising value of the dollar to have translated into relatively lower costs of imports; a recent Federal Reserve Bulletin article estimated that such an impact may take up to 2 years to appear.[18] The impact of the changing value of the dollar on import prices can be delayed or reduced substantially as a result of changing profit margins of suppliers, the necessity to revise dollar denominated contracts, and specific trade restrictions such as import quotas. Also, changes in the rates of exchange between the dollar and the currencies of the Nation's various trading partners have not been uniform. While the dollar has depreciated significantly against the yen and a number of major European currencies, there has been little change against the currencies of many less developed countries which are significant trading partners. Another point to consider is that the relative price level of imports may be strongly affected by the growth rate of the domestic economy. Although U.S. economic growth has been quite modest, it still exceeds that of many of the country's principal trading partners. Thus, a large number of factors may have intervened to minimize the price-reducing effect of the 1981–85 dollar appreciation, and these same factors may vitiate or delay any inflationary impact of the post-March 1985 devaluation.

From June 1982 through March 1985, as the dollar was appreciating, prices paid by importers for consumer commodities (other than energy, food, and used cars) rose at an annual rate of only 0.7 percent, while prices paid by consumers for the same set of commodities (as measured by the CPI) rose at an annual rate of 3.0 percent.

In the 15 months following the March 1985 peak value of the dollar, these import prices accelerated sharply, rising at an annual rate of 7.9 percent, while the corresponding consumer prices actually slowed more and rose only 2.2 percent. At least for the first 15 months of the dollar's decline, therefore, there was no obvious aggregate effect on consumer prices. Prices paid by importers did not show any obvious impact of the dollar devaluation until the third quarter after it began. After two more quarters, prices paid by consumers still showed no major effects.

Comprehensive analysis relating changes in import prices to changes in consumer prices is difficult. However, some data on price changes have been compiled for nonfood, nonenergy components of the CPI which are judged to have an above average representation of imports in market sales. For each of the 16 commodity groups presented in table 5, import sales constituted more than 10 percent of 1984 total sales.

Table 5 presents annualized rates of change in the commodity price indexes for five periods; price changes shown for the first and last periods were periods of depreciation of the dollar in foreign exchange markets and the others, peri-

Table 5. Seasonally adjusted annual rates of change for Consumer Price Indexes for selected commodities with higher than average import proportions, December 1978 to June 1986

Item	Dec. 1978 to Sept. 1981	Sept. 1981 to Dec. 1982	Dec. 1982 to Dec. 1983	Dec. 1983 to Mar. 1985	Mar. 1985 to June 1986
Commodities less food and energy	8.7	5.1	5.0	3.5	0.7
Wine at home	8.4	2.0	−1.5	.7	2.6
Whiskey at home	5.9	2.6	1.5	1.3	7.8
Alcoholic spirits excluding whiskey	4.6	1.8	1.0	2.0	9.7
TV and sound equipment	1.9	−1.1	−2.2	−4.1	−5.1
Clocks, lamps, and decor items	8.3	1.7	2.4	1.0	1.6
Tableware, serving pieces, and nonelectric kitchenware	9.8	2.7	1.8	.5	2.2
Lawn equipment, power tools, other hardware	6.3	6.1	2.3	1.9	−1.9
Men's and boys' apparel	4.7	2.9	2.3	2.3	1.3
Women's and girls' apparel	2.0	.1	3.3	2.5	−2.3
Infants and toddlers' apparel	7.3	2.0	3.5	5.5	4.8
Jewelry and luggage	11.9	−2.2	3.4	.3	−1.1
Footwear	6.7	1.4	1.0	2.0	−1.4
New vehicles	7.2	2.6	3.3	3.0	4.1
Sporting goods and equipment	7.6	2.7	2.6	2.5	.4
Toys, hobbies, and other entertainment commodities	8.2	4.0	1.5	1.3	2.5
Other toilet goods and small personal care appliances	9.3	5.3	5.2	3.8	2.9

ods of dollar appreciation. On the one hand, as the dollar strengthened from 1981 to early 1985, one would expect, all other things being equal, that commodities with substantial proportions of imports would exhibit a reduction in prices relative to those of other commodities. That is, while inflation for nonfood, nonenergy commodities on average dropped from 5.1 percent in the early part of the period to 3.5 percent in the latter, one might expect that the price change for commodities with significant import concentrations would slow even more. In fact, only four of these commodity indexes (TV and sound equipment; tableware, serving pieces, and nonelectric kitchenware; lawn equipment, power tools, and other hardware; and toys, hobbies, and other entertainment commodities) showed such a greater reduction.

On the other hand, as the dollar weakened, one would expect that prices for import-affected items would accelerate relative to other prices. Prices for some items have accelerated as one might expect, although quite modestly—for example, tableware, serving pieces, and nonelectric kitchen-ware; toys, hobbies, and other entertainment commodities; wine at home; and new vehicles. But whiskey and other distilled spirit prices accelerated strictly as the result of the imposition of an additional Federal excise tax on distilled spirits in October 1985 and prices for many other items actually slowed or declined more.

The case of new vehicles is an interesting one and illustrates the fact that not only the foreign producer, but also the domestic distributor, may expand profit rates during periods of rising dollar value. During the past few years, it became increasingly common for imported car dealers to add sometimes substantial surcharges because of the limited supply available to them. As the import prices of new cars have begun to rise sharply, there is evidence that dealers are cutting back on their surcharges so that the final prices to the consumer are rising more slowly. While the price paid by the importer rose 14.7 percent in the 9 months ended June 1986, the prices paid by consumers for all cars rose only 3.8 percent. Most of this CPI increase has, however, occurred in the last 3 months.

There is some evidence that a strong dollar may have helped lower inflation and that subsequent dollar weakness may be causing some upward price pressure. Nevertheless, the analysis summarized in table 5 indicates that general exchange rate movements may not serve as a reliable guide in predicting changes in consumer costs for specific products having high import representation, as other factors influencing price change in particular markets may predominate.

Conclusion

The absence of any overall inflation for consumers during the first half of 1986 derived primarily from the sharp decline in petroleum prices. Nevertheless, price moderation was very widespread. On average, cost pressures from materials and labor remained very subdued, and consumer prices for most commodites and many services rose only slightly or declined. The rates of price increase for shelter costs were greater than for overall consumption, but they have been slowing and, based on experience, one would expect that continued moderation in overall inflation will slowly continue to bring them down. The remaining pockets of persistent inflation seem to derive from particular structural factors that may not be very responsive to additional market forces. Among these factors are: reductions in Government subsidies and services, possible cost shifting from regulated activities of an establishment to the unregulated, putative increases in liability litigation, above average increases in compensation for State and local government employees, the court-ordered restructuring of AT&T, and higher rates of nonfatal personal injury in automobile accidents. ☐

——FOOTNOTES——

[1] See, for example, *Blue Chip Economic Indicators*, Aug. 10, 1986, a consensus of 52 economists, who, on average, estimate an increase of 1.9 percent in the CPI for 1986.

[2] See Robert Gillingham and Walter Lane, "Changing the treatment of shelter costs for homeowners in the CPI," *Monthly Labor Review*, June 1982, pp. 9–14. See also "Changing the Homeownership Component of the Consumer Price Index to Rental Equivalence," *The CPI Detailed Report*, January 1983, pp. 7–13.

[3] Joseph D. Rivers and John P. Sommers, "Vacancy Imputation Methodology for Rents in the CPI," *Proceedings of the Business and Economics Section of the American Statistical Association*, 1983, pp. 201–05.

[4] "The effect of rental equivalence on the consumer price index, 1967–82," *Monthly Labor Review*, February 1985, pp. 53–55.

[5] There is also limited anecdotal evidence that in some rental markets landlords may be offering special incentives other than lower rents to attract new tenants. Such incentives as reduced security deposits and free merchandise would not be reflected in the CPI rent index.

[6] Residential rent and owners' equivalent rent constitute nearly 92 percent of the shelter CPI. (Other components are maintenance and repair, tenants' and household insurance, lodging while out of town, and college housing.) In addition, while residential rent has usually risen somewhat faster than owners' equivalent rent since 1983, the two series have been quite close.

[7] As in any such analysis, unpredictable external factors can occur. One such potential factor in the coming months is the impending new income tax legislation which some analysts believe may cause upward pressure on residential rent if tax treatment of real estate investment is changed.

[8] The acceleration in these service prices from 1983 to 1984 might suggest the hypothesis that at that point in time there were the early stirrings of renewed economywide inflation. However, it was a very narrow phenomenon; almost the entire acceleration between those 2 years can be attributed to a temporary rise in automobile finance charges and to sharply higher local telephone charges arising from the divestiture of AT&T.

[9] Employment Cost Index (ECI) for compensation, Bureau of Labor Statistics.

[10] American Medical Association, *Socioeconomic Characteristics of Medical Practice, 1985*.

[11] American Hospital Association, *Hospital Statistics, 1984*.

[12] *Vital and Health Care Statistics* (National Center for Health Statistics, various years).

[13] *Social Security Bulletin*, Health Care Financing Administration, various years.

[14] Employment Cost Index.

[15] Insurance Information Institute.

[16] *Ibid.*

[17] *Ibid.*

[18] Catherine L. Mann, "Prices, Profit Margins, and Exchange Rates," *Federal Reserve Bulletin*, July 1986.

A rope of sand

My job as the president of the A. F. of L. was coveted by no one in the early days. There was much work, little pay, and very little honor. Though the Federation had been created by agreement, it had to be given reality by making it a force in industrial affairs. The necessary first step was to win for the Federation the good will of the wage-earners. The Federation was the unified activity of the trade union men. It was dependent upon good will and understanding of economic power. So I became a seeker of men. I wanted to win them for a labor movement which was sound philosophically, competent economically, and inspiring spirtually. At times I was well-nigh consumed with zeal, so that I gave little thought to anything else. My work was my life. So in recording the events of my life the labor movement is the controlling purpose.

I watched our local unions and gave them suggestions and advice. I fostered the organization of city centrals and State federations. I sent reminders to national officers urging them to pay per capita dues. In the case of national bodies which the Federation had fostered, local unions and members expected me to be a sort of fatherly supervisor of the organization. I wrote letters and talked to officials, diplomatically urging them to performance of duties and constructive policies. I got trade unions to put on their letterheads "affiliated to the American Federation of Labor" and thus helped advertise the name. All this work had to be done in such a way as to win men to the cause. The Federation had no compulsory authority—it was absolutely dependent upon voluntary cooperation.

—Samuel Gompers,
Seventy Years of Life and Labor: An Autobiography, Nick Salvatore, ed.
(Ithaca, NY, ILR Press, 1984), p. 103.

Spending patterns of older persons revealed in expenditure survey

New estimates point up differences in characteristics, incomes, and expenditures of younger and older populations within the larger group of persons age 65 and over

BETH HARRISON

Interest in the characteristics of older persons is flourishing due to the increasing size of the population age 65 and over. According to projections by the U.S. Bureau of the Census, presented in table 1, every fifth American will be over 65 by the year 2040. This reflects the aging of the postwar baby boom and declining birth rates during the later decades of this century. Clearly, older persons will constitute a rapidly growing political, social, and economic force for many years to come.

Within this environment, new estimates from the Bureau of Labor Statistics Consumer Expenditure Survey (CE) program are likely to be an important tool for trend assessment and policy formation. To date, "65 and older" has been the oldest age class for which expenditure data have been published. (For study purposes, consumer units are assigned to the age category of the householder, or "reference person," as reported on the survey questionnaire.[1]) In recently released estimates, however, that class has been divided into two groups, ages 65–74 and 75 and over. The results reveal that, although persons 65 and over are often viewed as a homogeneous group, the characteristics, incomes, and needs of the younger and older populations within the larger group are actually quite different.

Expenditure differences. Tables 2 and 3 summarize the differences in the 1984 characteristics and spending patterns of the two major subgroups of older Americans.[2] Consumer units in the 65–74 age group spent almost 22 percent more on housing than those in the 75-and-over group. However, housing accounted for a higher *share* of the older group's total expenditures. The expenditure share for fuels, utilities,

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Beth Harrison is an economist in the Division of Consumer Expenditure Surveys, Bureau of Labor Statistics.

Table 1. Distribution of the older population by age subgroup, actual and projected, selected years, 1970–2040

Year	Total, 65 and over		65–74		75 and over	
	Number	Percent of total population	Number	Percent of total population	Number	Percent of total population
1970	20,087	9.9	12,487	6.2	7,600	3.7
1980	25,708	11.3	15,647	6.9	10,061	4.4
2000	35,036	13.1	17,693	6.6	17,343	6.5
2020	51,386	17.3	25,968	10.0	25,418	7.3
2040	66,642	21.6	20,228	9.4	46,414	12.2

SOURCE: *Demographic and Socioeconomic Aspects of Aging in the United States*, series P–23, No. 138 (Bureau of the Census, 1984), ch. 2, pp. 5–18, middle series.

and public services was also higher for the 75-and-over group, even though the amount spent was less than that for those age 65–74. The average expenditure on owned dwellings was more than one-third higher for those 65–74 than for the older class. This can be attributed to higher levels of homeownership and a higher percentage of consumer units still paying on their mortgages in the younger group. About 76 percent of those age 65–74 owned their homes compared to 67 percent of the older group. On the other hand, only 8 percent of the homeowners in the older group still owed on mortgages compared to 33 percent of their younger counterparts. There were also large differences in property taxes, for which the expenditures of those 65–74 were 33 percent more than those of the 75-and-over group. This reflects the higher rate of homeownership for the younger group and also suggests they owned more expensive houses or lived in areas with higher property taxes, or both.

Expenditures for transportation accounted for 19 percent of the total expenditures of those age 65–74, compared with 13 percent of the total for those 75 and over. The average expenditures of the former age group were more than twice as high as those of the latter. Much of the difference can be attributed to the higher level of vehicle ownership, 81 percent by those aged 65–74, compared to 59 percent by older persons. It is also likely that vehicles are used less frequently by the older group, further reducing their transportation expenditures.

The data for health care confirms the expectation that both mean expenditures for health care and the health care share of total expenditures are higher for the 75-and-over age group than for their younger counterparts. Health care accounted for 13 percent of the total expenditures of those 75 and over compared with 8 percent of the total for those 65–74.

Income differences. Because income is one of the important determinants of spending, differences in income may help to explain the differences in expenditure patterns. The following tabulation compares selected income components for the age groups.

Sources of income	*Age 65–74*	*Age 75 and over*
Income before taxes	$16,815	$12,442
Sources of income (percent)	100.0	100.0
Wage and salaries	29.3	9.3
Self-employment income	4.6	6.5
Social Security, railroad, and government retirement	52.7	62.9
Interest and dividends	9.6	17.6
Other income	3.8	3.7

The mean income before taxes of the 65–74 age group was more than one-third higher than for persons 75 and over. The largest components of income for both groups were retirement income (consisting of Social Security, private, and government retirement), which accounted for 53 percent of the income of the 65–74 group, compared with 63 percent for the 75-and-over group. Wages and salaries made up about 30 percent of the income of the younger group, which indicates that the reference person or other household member was still working, while it dropped to 10 percent of income for those 75 and over. This is consistent with the fact that the average number of earners is three times higher for the younger group.

The age groups in table 3 differ from those published in regular CE releases. The working age groups, those 25–54, are combined. Older age groups are subdivided into those approaching retirement, those 55–59 and 60–64, and into the two groups that are the focus of this article, those 65–74 and 75 and over.

Since 1980, the Consumer Expenditure Survey has been conducted on a continuing basis. As a result, trends for age and other demographic groups can be more effectively monitored over time. This article is but one of a series highlight-

Table 2. Selected characteristics and expenditure shares for urban consumer units in the age groups 65–74 and 75 and over, Interview Survey, 1984

Item	Age group	
	65–74	75 and over
Total expenditures	$15,873	$11,186
Consumer unit characteristics:		
Average number of earners	.6	.2
Average number of vehicles	1.4	.8
Percent homeowners:		
With mortgage	20	5
Without mortgage	56	62
Percent renters	24	33
Shares of total expenditures (percent):		
Total	100.0	100.0
Food at home	13.0	13.6
Food away from home	4.8	3.5
Housing	30.5	35.5
Transportation	19.2	13.0
Health care	8.4	13.3
Entertainment and reading	4.6	3.4
Personal insurance and pensions	4.9	2.1
Apparel	4.5	3.1
Other	10.1	12.5

Table 3. Selected characteristics and annual expenditures of urban consumer units classified by age of reference person, Interview Survey, 1984

Item	All consumer units	Under 25	25–54	55–59	60–64	65–74	75 and over
Total consumer units (in thousands)	74,884	7,266	42,688	5,416	5,592	8,312	5,608
Number of sample interviews	23,043	2,456	13,005	1,631	1,666	2,551	1,734
Consumer unit characteristics:							
Income before taxes[1]	$24,578	$12,579	$29,114	$30,670	$23,477	$16,815	$12,442
Average number of persons	2.6	1.8	3.1	2.7	2.3	1.9	1.5
Average age of reference person	46.2	21.5	38.0	56.9	62.0	69.3	80.6
Average number in consumer unit:							
Earners	1.4	1.3	1.7	1.8	1.2	.6	.2
Vehicles	1.9	1.1	2.1	2.3	2.0	1.4	.8
Children under 18	.7	.3	1.1	.4	.2	.1	.0
Persons 65 and over	.3	.0	.0	.1	.1	1.4	1.4
Percent homeowners	60	10	60	79	79	76	67
Average annual expenditures	$21,766	$13,178	$25,484	$25,369	$20,705	$15,873	$11,196
Food	3,391	2,030	3,834	4,092	3,413	2,831	1,912
Alcoholic beverages	299	364	347	320	225	179	90
Housing	6,626	3,740	7,857	7,044	5,877	4,848	3,972
Shelter	3,747	2,386	4,559	3,751	3,066	2,386	2,014
Owned dwellings	2,188	465	2,791	2,442	1,961	1,378	1,009
Rented dwellings	1,171	1,724	1,340	751	662	632	884
Other lodging	388	197	428	558	443	377	122
Utilities, fuels, and public services	1,679	722	1,827	2,058	1,837	1,644	1,311
Household operations	333	118	398	288	238	269	356
Housefurnishings and equipment	868	513	1,073	947	737	549	291
Apparel and services	1,192	787	1,457	1,459	995	715	346
Transportation	4,385	3,303	5,193	4,758	4,204	3,041	1,450
Vehicles	1,873	1,678	2,263	1,804	1,750	1,175	385
Gasoline and motor oil	1,047	759	1,225	1,246	993	764	354
Other vehicle expenses	1,176	732	1,401	1,389	1,096	800	473
Public transportation	288	133	304	319	366	302	238
Health care	899	305	796	986	1,132	1,340	1,487
Entertainment	1,040	678	1,288	1,209	851	604	291
Personal care	205	105	214	272	244	211	148
Reading	140	66	158	163	135	130	93
Education	312	601	343	416	139	88	101
Tobacco	225	151	260	299	221	173	65
Miscellaneous	311	129	381	421	291	172	135
Cash contributions	740	106	803	913	746	762	878
Personal insurances and pensions	2,023	814	2,554	3,017	2,233	778	229
Life and other personal insurance	302	57	337	640	360	220	86
Retirement, pensions, social security	1,721	757	2,216	2,377	1,873	558	142

[1] Income values are derived from the responses of only those units providing complete reports of income.

ing interesting results from the expenditure survey. As the survey continues, additional issues will be covered.

FOOTNOTES

[1] The terms "household" and "consumer unit" are used interchangeably throughout this text. However, the consumer unit definition is the accurate one for this survey. The Consumer Expenditure Survey is described in detail in *BLS Handbook of Methods*, 1982, ch. 6. Survey results are presented in annual reports and bulletins, the most recent of which is *Consumer Expenditure Survey Results from 1984*, USDL 86–258 (Bureau of Labor Statistics, June 22, 1986).

[2] The Consumer Expenditure Survey is composed of two independent surveys: An Interview Survey and a Diary Survey. The results in this article are from the Interview Survey.

European job creation in the wake of plant closing and layoffs

Confronted with massive layoffs in recent years,
firms, and often governments,
have taken a variety of initiatives
to stimulate business growth and job creation

WILLIAM SCHWEKE AND DAVID R. JONES

Over the past decade, millions of American workers lost their jobs through plant closings and work force reductions. According to the U.S. Department of Labor, between January 1979 and January 1984, 11.5 million adult workers were laid off because of plant shutdowns or relocations, abolition of shifts or positions, or slack work. Nearly 5.1 million of these people were considered displaced, having held their former jobs for 3 years or more.[1]

By January 1984, 1.3 million of these workers were still unemployed, and of those, 500,000 had been out of work for 27 weeks or more.[2] Hundreds of thousands more had taken pay cuts and part-time jobs simply to regain employment.

Europe, too, has undergone a massive economic shakeout over the past few years, generating little or no employment growth (in contrast to the increase in jobs in the United States). At the end of 1984, unemployment rates were at double-digit levels in the Netherlands (15 percent), Great Britain (13 percent), and France (10 percent).[3] This economic turmoil has drastically affected certain communities as well. Particularly in the United Kingdom, areas characterized by "mono-industrialism" suffered unemployment levels far above 20 percent.

By comparison, the United States outperformed Europe in creating jobs for its people from 1970 to 1984. From 1974 to 1984, the U.S. economy generated more than 26 million jobs. Of the four largest European nations—with a combined labor market slightly larger than the United States in 1970—West Germany lost close to 1.5 million jobs and Great Britain, 820,000, while France and Italy did better, creating around 380,000 and 1.3 million jobs respectively.

While layoffs and shutdowns proceed on both sides of the Atlantic, the response of government and corporations to the problems created has been significantly more vigorous in Europe than in the United States. American corporations tend to provide, at best, severance pay, relocation assistance, retraining, or job counseling, or a combination of these benefits, for the workers they dislocate. And while the Federal Government will authorize $195 million in 1986 to aid displaced workers through Title III of the Job Training Partnership Act, the program falls far short of helping all those in need, and fails to ensure that enough jobs are created or sustained to employ those trained.

In contrast, European corporations—often working in concert with local, regional, and central governments—in recent years have gone beyond traditional types of assistance to workers and communities.[4] While the programs vary considerably as to methods and scope, they share a common goal of stimulating job creation and new business growth in the wake of economic downturn. By examining both the achievements and limitations of these innovative efforts, American corporations can expand their repertoire of strategies for alleviating the problems of economic dislocation.[5]

William Schweke is vice president of programs at the Corporation for Enterprise Development, Washington, DC. David R. Jones is a freelance writer and editor specializing in public policy.

Effects of streamlining

Across Europe, industrial sectors are experiencing thorough restructuring. In France and Great Britain, for example, nationalized firms have cut their labor forces and increased their productivity through eliminating less profitable facilities and investing in modern machinery. Corporate leaders see most of these changes as positive: many industries are leaner and more competitive, and new types of labor-management cooperation, such as quality circles, are emerging.

Yet, this industrial streamlining has proven devastating to thousands of workers and communities dependent upon corporations for employment. Continued stagnation in employment growth has provoked widespread alarm over the future of job creation. By the end of the decade, more than half of the unemployed in European countries will be long-term unemployed youth.[6]

However, Europeans in business, government, and labor increasingly are seeing entrepreneurship as the key to solving these labor market problems. Public and private corporations are fostering a wide range of business development options, in concert with such adjustment assistance measures as training, early retirement, severance benefits, job placement and development, and financial and employment counseling.

Great Britain, France, and Italy offer the most promising examples of corporate job creation to address economic dislocation. Because the roles of government and unions differ considerably from country to country—and even from plant closing to plant closing—the initiatives discussed in this report will be examined in the context of their national economic circumstances. Having assessed the successes and failures in each country, we then will note the patterns that cut across national boundaries and discuss the implications for U.S. public policy.

Great Britain

Great Britain has endured continued high levels of unemployment since 1980. While the government of Prime Minister Margaret Thatcher has pursued some direct employment measures, it is corporations that have spurred the most successful initiatives. In the process, these companies have learned the value of forming partnerships with local and regional governments and voluntary organizations to achieve their goals.

BSC Industry, Ltd. This program, begun nearly a decade ago by the country's nationalized giant, British Steel Corporation, serves as Europe's showcase example of job creation and new business formation. BSC Industry was established as a wholly owned subsidiary of the company to create jobs in communities and regions hit by steel mill closures (British Steel slashed its work force from 225,000 workers in 1975 to 71,000 employees in 1985).

BSC Industry initially focused on recruiting other large firms to distressed areas. This approach has gradually given way to a broader range of efforts targeted to smaller firms and would-be entrepreneurs. The subsidiary, which became independent of British Steel in 1984, now operates in 18 steel-mill closure areas. Its activities include marketing new images for depressed steel communities ("opportunity areas") to provide a supportive climate for indigenous business development and to attract outside employers; providing comprehensive business assistance, including seed financing and loans, to new and existing firms; converting outdated facilities into incubators (or "workshops") for entrepreneurs; and encouraging the formation of independent and public-private partnerships—known as Local Enterprise Agencies—to bring together community resources in a united effort to regenerate distressed steel communities. BSC Industry has merged its technical assistance operations with those of the Local Enterprise Agencies.

From 1975 to 1984, British Steel committed about £40 million to BSC Industry's activities. The results have been impressive: 2,000 companies have been assisted in creating 30,000 new jobs, with another 20,000 jobs to be filled in the near future. Eight entrepreneurial workshops house hundreds of businesses. The organization's loan programs provide crucial gap financing that the private sector has been unable to provide to more than 200 firms, with £8 million to £9 million out at any one time; 90 percent of the loans are equal to or less than £25,000 (approximately $17,361).[7]

Scottish Development Agency. This is another organization taking a broad approach to the problem. The Scottish Development Agency was formed in 1975 by the merger of the Scottish Industrial Company with the National Investment Bank. It focuses on local small business development through factory building, management and marketing assistance, gap financing, and youth entrepreneurship development. One project, the Clydebank Enterprise Fund, has loaned nearly £700,000 (around $486,108) to 50 local companies, most of them new business start-ups; over £2 million have been leveraged.

Private corporate activity. United Biscuits, British American Tobacco, and the glassmaker, Pilkington Brothers, have followed BSC Industries' approach and now offer financing, comprehensive business assistance, and unused land and buildings to small firms in communities hit by shutdowns. In plant closure situations, United Biscuits has financed local economic and community development feasibility studies, as well as provided "challenge grants" to match local job creation resources. It supports project Fullemploy, which provides intensive training, mainly for ethnic minorities, for retail and sales work and boasts a 70-percent placement rate.

France

In France, larger firms must receive government approval before closing plants. Companies must offset the resulting job loss with job creation efforts. Thus, in contrast to Great Britain, the central government and unions in France serve as the main catalysts for responses to economic downturn. Nevertheless, a number of French firms like the Thomson Group, the BSN Group, St. Gobain, Rhone Poulenc, Elf Acquitaince, and others, have gone far beyond mere adjustment assistance.

SOFIREM. The country's nationalized coal company, Charbonnages de France, has pioneered efforts to rebuild distressed industrial communities through its job creation subsidiary, SOFIREM (Societe Financiere pour Favoriser l'Industrialisation des Regions Minieres). The central government empowered SOFIREM to offer a financial package of equity, loans, and subsidies to entice large firms to distressed coal communities. In addition, SOFIREM helped create 30 businesses in 1984 and another 30 in 1985, and plans on fostering another 70 over the next 2 years. Its Industrial Fund uses 300 million francs (approximately $43 million) annually for constructing buildings, promoting exports, providing training, and conducting feasibility studies.[8]

SOPRAN. Rhone Poulenc, a large chemical company, created SOPRAN (Societe pour la Promotion d'Activites Nouvelles) as a separate company in the late 1970's to create employment for workers it laid off. Along with providing adjustment assistance—early retirement for former employees 55 years and older and transfer rights to displaced employees—SOPRAN is currently helping about 40 people start their own firms. More than 1,200 new jobs have been created through SOPRAN'S efforts—about half of them going to former employees, a much higher ratio than BSC Industry has achieved. Each job has cost Rhone Poulenc roughly 65,000 francs ($9,312), a small sum compared with the cost of similar programs in other countries.[9]

St. Gobain. This company, which produces products for automobiles and construction, provides transfer assistance to displaced employees and technical and financial assistance to developing, small- to medium-sized firms. Working through five decentralized regional delegations, the St. Gobain Development Service has helped 230 businesses, creating 5,050 jobs, over the past 3 years. Of these firms, about 150 were established, growing companies, while 50 were start-ups, and 30 were new businesses attracted.[10]

Loans are typically extended for 10 years at the modest interest rate of 6 percent. The size of the loan is geared to the number of jobs involved, with the company aiming to spend 10,000 to 50,000 francs ($1,432 to $7,163) per job. If a former employee of St. Gobain is hired, the loan is changed into a direct grant.

Italy

Montedison. In Italy, as in France, the central government and unions provide most of the impetus for corporate job creation. A major exception is Montedison, a large diversified firm, that, on its own, has undertaken broad efforts to aid small- and medium-sized firms. Montedison helps small businesses in economically depressed southern Italy to qualify as its suppliers. It also assists new and established businesses throughout Italy, regardless of whether they are in industries related to Montedison's products or needs. Unlike many other European business assistance programs, Montedison shies away from financing in favor of providing such services as regulatory assistance, infrastructure design, and foreign marketing.

ENI. The giant petrochemical conglomerate ENI (Ente Nazionale Idrocarburi) has worked since 1978 on promoting industrial diversification and providing alternative employment for laid-off employees. Its activities center on aiding small and new businesses. Working in eight "crisis areas," ENI has helped create 1,000 jobs and has provided vocational training for another 3,400 workers.[11]

Implications and possibilities

Perhaps most importantly, these new European initiatives show that corporations and governments can considerably expand their efforts to launch enterprise and job creation programs in response to industrial restructuring. In America, best corporate practices focus only on picking up the pieces after closures, whereas the European efforts cited the way to moving from mere reaction to proaction.

Second, the most successful of these efforts indicate ways for corporations to integrate social responsibility into mainstream business operations. By synthesizing their longer-term business strategy with their employment and adjustment concerns, corporations can find ways to serve their goals of launching new products and services, developing new business ideas, improving employee morale, encouraging entrepreneurial initiative, and maintaining good public relations. The success of SOFIREM in France and Montedison in Italy demonstrates how closely these concerns can be integrated.

Third, as the Organization for Economic Cooperation and Development has noted, companies have found that their natural partners in employment initiatives are local government and voluntary organizations.[12] Prior involvement in community affairs and knowledge of the local political situation and its actors are crucial. From the partnerships between schools and industry that United Biscuits has forged, to the Local Enterprise Agencies that BSC Industry created, Great Britain has taken the lead in this area.

Fourth, the European actions suggest possibilities for union and community negotiations over closings. The initiatives serve as precedents for crafting either formal closure agreements or flexible responses to the impending problems that closures will generate.

Finally, a closely related point is the importance of prior notice of layoffs and shutdowns. This not only gives companies time to build partnerships with unions and communities; it is essential for giving firms enough lead time to develop and launch new businesses. Being a day late may mean being a dollar short. SOPRAN reports that is takes at least 18 months to get a new plant into operation.[13] Graham Ledger of United Biscuits in Great Britain notes that his company gave a 3-year closure notice for its Liverpool facility, and, "We think we did it right."[14]

Limitations

Like its achievements, Europe's problems with job creation are instructive. The chief barrier which European corporations have confronted is the nature of entrepreneurialism; it cannot solve all problems, nor should it be expected to do so. In particular, most initiatives have failed to integrate large numbers of blue-collar workers and their concerns into operation. Even BSC Industry has had very limited success in creating new jobs for displaced steelworkers.[15] Indeed, the program's leaders see its role as creating jobs in closure-affected communities, not as finding employment for displaced steelworkers.

This means that small and new business development must be complemented with more traditional strategies. For example, the Clwyd County Council and British Steel Corporation Industry in Great Britain and SOFIREM and St. Gobain in France have succeeded in attracting major new firms to their areas to supplement their work in indigenous business development.

Management problems pose a second major limitation. Many initiatives rely on inadequate assessments of local assets and liabilities. Then, too, the responses to problems tend to become formulaic; over and over, the same techniques—seed capital, workshops, and technical assistance—are used. New, riskier programs—such as the Clywd County Council's Project Live Wire for training young people as entrepreneurs—offer the promise of breaking the mold.

A third limitation arises from the very depth of the economic dislocation problem. In many communities, the amount of job creation is dwarfed by the numbers of jobs lost. The Organization for Economic Cooperation and Development (OECD) argues that it is impossible to estimate the number of jobs created by these initiatives. For instance, it is difficult to even define the terms "durable" job and "new" job. However, the Organization states that "it is hard to imagine that corporate job creation schemes have to date yielded much more than 100,000 new jobs in the whole of Western Europe."[16] Furthermore, it is virtually impossible to measure the number of second- and third-wave jobs created when new businesses start up.[17] In any case, these new initatives can only deal in limited ways with the underlying causes of closures and dislocation. (See box.)

Initiatives for Local Employment Creation

The growth of the Initiatives for Local Employment (ILE) program has been spearheaded by the failure of traditional solutions developed by central governments which attempt to produce satisfactory responses, let alone solutions, to the unemployment problems. The ILE program is run by a small team within the Organization for Economic Cooperation and Development (OECD) secretariat. Its function is to encourage cooperation, exchange, and analysis between the different participants in the program who meet regularly as the ILE's directing committee. The program's secretariat proposes and undertakes research and action; encourages and organizes the exchange of ideas, experience, and people; and assists countries in realizing the objectives of the program.

Taking part in the program are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Turkey, the United Kingdom, and the United States, and the Commission of the European Communities. Japan is an Observer Member.

The sharing and exchange of information and experience is a central and continuing part of the ILE program's work. This activity will increasingly provide a network of interested innovators with information drawn from seminars, case studies, and special studies. This information will be diffused through a liason letter as well as through a series of publications—ILE Notebooks. In the long term, it is planned to establish an advanced communications system linking internationally a wide network of groups and individuals involved in local employment initiatives.

The ILE program welcomes any initiatives, ideas, proposals, or information. Also, any requests for documentation or arranging contracts should be addressed to:

OECD ILE Programme
2, rue du Conseiller-Collignon,
75116 Paris
France

Problems in corporate dealings with unions and local communities present a fourth limitation. Understandably, both labor and management often feel compelled to debate the plant closure decision itself, preventing the timely development of contingency plans for creating new jobs. Similarly, many projects fail to involve other community actors and neglect the creation of new, community-based institutions to carry forward a longer-term renewal strategy.

Finally, disseminating these models to the United States requires considerable translation. European corporate leaders see themselves as responsible to a broader set of stakeholders than do their American counterparts, who tend to weigh shareholder concerns more heavily.

New corporate roles

While altruism plays a role in the European initatives discussed, time and again, corporate leaders in the three countries cited corporate self-interest as a motivating factor. Targeted business investment can help diminish pressing social problems that, if neglected, eventually can undermine business profits and long-term investment opportunities.

Such investments may prove especially important in layoff situations where firms plan to maintain operations. This not only generates goodwill among labor and the community, but also helps prevent the local business climate from unraveling to the point where the costs of doing business increase and retaining quality management and employees becomes prohibitive. As an executive of the British firm Pilkington Brothers noted, "You can't operate behind barbed wire. You can't operate in an area with 30 percent unemployment. You have to deal with the problem."[18]

Most of the job-creating tools, including incubators, technical and financial assistance, and entrepreneurial training, are already in place in the United States; in fact, options such as venture capital are far more abundant here than overseas. What is needed by American leaders is an understanding of how specifically to apply these tools in ameliorating the devastating effects of layoffs and shutdowns. This report provides an introduction to these development tools. The detailed work on their application should be written by corporate and government leaders themselves. ☐

FOOTNOTES

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[1] *Techology and Structural Unemployment: Re-employing Displaced Adults*, OTA-ITE-250 (U.S. Congress, Office of Technology Assessment, 1986), p. 1.

[2] *Ibid*, p. 7.

[3] Corporation for Enterprise Development, *Job Creation In The Wake of Plant Closings* (Washington, 1985), p. 1.

[4] Obviously, U.S. companies have been very active in the corporate responsibility and enterprise development fields for a number of years and have, in fact, been in the vanguard. American corporate philanthropic practice dwarfs that of Europe. (One of the principal reasons is that Europe's much more extensive safety net has not encouraged the development of this sector.) Yet, despite U.S. pathbreaking actions in urban development, antipoverty initiatives, and so on, these efforts have not focused on the issues of economic dislocation. Instead, initiatives from corporations like the Control Data Corporation to create small business incubators have been responses to the broader problems of new technology development and small business assistance. The sole U.S. exceptions are the Brown and Williamson Corporation which paid for a reuse plan for a closed facility in Petersburg, VA, and Levi Strauss and Company which hired The Corporation for Enterprise Development to develop an economic development feasibility study in two communities in rural Tennessee where they closed branch plants.

[5] Readers interested in more on this subject should know that the Organization for Economic Cooperation and Development in Paris publishes a wealth of books, articles, monographs, and memoranda on employment policy, labor market demograhics, and enterprise development. Its Initiatives for Local Employment Creation (ILE) program collects and disseminates information on local employment information, including publishing a newsletter. (See box; and for more information, contact: Chris Brooks, OECD, Local Employment Initiatives Programme, Monaco Annex, Rue du Conseiller, Collignon, 75775 Paris, France.)

[6] Organization for Economic Cooperation and Development (OECD), *High Level International Conference on the Role of Large Firms In Job Creation and Entrepreneurship*, SME/ILE/85-13 (Paris, November 1985), p. 1.

[7] Interview with Brian Margarett, Wales Director, British Steel Corporation Industries, 1985.

[8] Interview with Bernard July, SOFIREM, 1985.

[9] Jocelyn Gutchess, *Employment Security In Action: Strategies That Work* (New York, Pergamon Press, 1985), p. 147.

[10] Interview with Monsieur Guiu, General Director, St. Gobain Developpement, 1985.

[11] Interview with Gustavo DeSantis, Research Director, Ente Nazionale Idrocarburi (ISVET, ENI), 1985.

[12] OECD, *International Conference*, p. 2.

[13] Gutchess, *Employment Security*, p. 153.

[14] Interview with Peter Shepherdson, General Manager, New Opportunities, Pilkington Brothers, 1985.

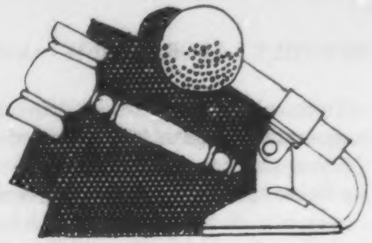
[15] OECD, *International Conference*, p. 8; and Gutchess, *Employment Security*, p. 153.

[16] OECD, *International Conference*, p. 3.

[17] *Ibid.*

[18] Shepherdson interview.

Conventions



Constitutional convention marks golden anniversary of the UAW

HENRY GUZDA

The United Automobile, Aerospace and Agricultural Implement Workers of America (UAW) ended a 2-year celebration with the close of their 28th constitutional convention (UAW conventions are triennial), held June 1–6, in Anaheim, CA. It marked the culmination of the UAW's golden anniversary (1935–85), 50 years of social and economic progress. The celebratory theme, "We make our own history," was replete with allegories and accounts of the union's existence, highlighted by an episodic pictorial exhibit of that struggle: photos of the 1937 sit-down strike against General Motors; pictures on the beatings delivered to union organizers Walter Reuther and Richard Frankensteen in the infamous "Battle of the Overpass"; scenes of production lines manned by UAW-CIO members who helped to make the U.S. Army "go and grow" during World War II; and photos spanning a decade of activism by the UAW in the civil rights movement. Every guest speaker and union official invoked the name and memory of past heroes and events.

The union's stormy past reflected poignantly on an equally turbulent present. Thousands of auto industry jobs have shifted to foreign shores, and many American automakers have asked the union for further sacrifices in the form of collective bargaining concessions to remain competitive in a global economy. The new industrial relations system (a term to describe the current mode of cooperative labor-management relations vis-a-vis an adversarial one) has confused and upset some rank-and-file UAW members, provoking emotional debate among the 2,500 delegates over the union's survival strategy. Complicating these internal problems was the decision by all but one of the UAW Canadian locals to secede and form their own union, the Canadian Auto Workers (CAW-Canada).

The convention climate, however, was upbeat and confident. Elected for a second consecutive 3-year term, UAW President Owen Bieber vowed to "go to war" to protect the union cause. While acknowledging the existence of internal union dissension caused by the tenor of troubled times, Bieber exclaimed that the "U" in UAW really does stand for "United." Industrial cooperation in today's economic world, he added, is imperative but also a two-way street.

Fair trade, a key issue

High on the UAW list of convention priorities was the American trade imbalance and the erosion of our industrial base. The auto industry has lost 400,000 jobs to foreign competition since 1980, and the delegates place much of the blame on trade policies. The delegates supported several resolutions calling for a national industrial policy to increase our competitiveness with low wage standard nations and encourage productivity in the United States, including the general "Resolution on International Trade and Related Matters." This resolution supports domestic auto content legislation, recognition of unfair trade practices, trade adjustment assistance for U.S. workers displaced by foreign competition, affirmative Federal action to protect U.S. jobs, and penalties against nations which disregard worker rights.

The trade resolution also called on the Federal Government to protect the American industrial base. The shift in emphasis to service and information sector jobs—which organized labor views as low paying jobs—is detrimental to the U.S. economy, stated several delegates from the floor. The delegation also voiced support for H.R. 4800, a trade bill passed by the U.S. House of Representatives and awaiting action by the U.S. Senate, that they believe will remedy some of the problems addressed at the convention.

Other convention speakers also focused on this theme. Senator Howard Metzenbaum, from a "rust belt" State with serious employment and trade problems, told the gathering that worker solidarity on a national industrial policy was imperative because nations with even lower wage rate structures than our current chief competitors are planning to export autos to the United States. Murray Finley, president of the Amalgamated Clothing Workers, reminded the delegates that all of U.S. industry faces this problem, and Shiro Umemura, acting president of the Japanese Auto Workers, underscored the need for global worker solidarity. Bieber had previously educated the audience about current and future plans by Brazil, Yugoslavia, The People's Republic of China, and South Korea, all with auto worker wage rates under $1 an hour, to export cars to the United States. Herman Rebhan, General Secretary of the International Metal Workers Federation—a body of auto worker and related trades organizations in the noncommunist world—discussed the lack of worker rights in these nations. The trade resolution calls for denial of favored-nation status to polities like Korea because of worker rights violations.

Henry Guzda is an industrial relations specialist with the Bureau of Labor Management Relations and Cooperative Programs, U.S. Department of Labor.

To complement the message delivered from the speakers' podium, the delegates held a spirited floor demonstration. Carrying placards calling for Federal support of plant closing legislation, protection against pension plan failures, and support of trade bill H.R. 4800, the delegates paraded around the convention floor while a speaker read out the names and locations of the participating locals: a litany of rust belt cities and towns. The demonstration was organized by the UAW's Industrial Parts Supplier Department, whose members have been deeply affected by the use of foreign parts in auto manufacturing. The resolution was vociferously adopted by the delegates.

Internal affairs

The UAW's reputation for honesty and internal democracy has been tarnished by recent events, but the convention quickly reapplied the lustre. Most embarrassing for the union was the conviction of Frank Runnels, director of region 1-E, for taking kickbacks from workers' compensation lawyers. The UAW executive board removed him from office following the conviction and confirmed their decision at the convention by consolidating region 1-E with region 1-A under director Earnest Lofton. The convention condemned Runnels' betrayal of his stewardship.

The union conducted additional housecleaning. Several officials from Chicago were reprimanded by the UAW Public Review Board, an oversight body of distinguished academics, for improper administration of pension funds. No other major union has such an internal oversight body.

More damaging in substance than reputation was the secession of the Canadian locals from the UAW. In 1984, Canadian auto worker locals, under the direction of UAW Vice President for Canada Robert White, requested broad autonomy in the administration of their affairs. The UAW executive board ruled the request excessive and demanding of more powers for White than were endowed to international President Bieber. Consequently, the Canadians established *de facto* independence in 1985, and made it *de jure* through the formal procedures of the convention. Amended constitution article 53 transferred property and more than $30 million to the new CAW-Canada. The UAW lost about $15 million per year in dues, but retained its international status through the Wallaceburg, Ontario, Local 251, with 1,800 members, which voted to remain in the Detroit-based union.

President Bieber and the delegates prologued the amicable separation, extending a friendly hand to the new union and promising to keep the lamp of hope lit for a future reconciliation. The departure of 120,000 Canadian members drops UAW membership to about 1.1 million, the lowest total since 1961.

The issue of Canadian autonomy reflected upon a proposed resolution for direct elections of union officials. Twenty locals submitted 31 resolutions on the adoption of a referendum system to replace the convention/delegate system. Proposals ranged from simple direct rank-and-file voting for international officers to conducting referenda on all important issues. Supporters argued that a change would stimulate internal democracy and make the international leadership more responsive to the wants and needs of grass roots membership. They blamed the convention system for encouraging abuses in some other international unions.

However, the constitutional committee of the convention encouraged retention of the existing system. Referendum voting, they argued, could engender constant factionalism and infighting which might open the UAW to monitoring by government agencies or other bodies. They believed incumbents would have unfair advantages which might lead challengers to seek assistance from sources not having the best interests of the union as a priority. According to the committee report, only two major unions, the Steelworkers and Mineworkers, still utilize the referendum system; the Electrical Workers union (IUE) switched to the convention format in 1978 to alleviate administrative problems. Considerable debate followed the committee report, and the convention eventually agreed to retain the current system.

Appropriately, the elections procedure debate fueled the controversy in a particularly intense contest for director of UAW region 5, comprising south central States. Incumbent Ken Worley defeated insurgent candidate, and onetime assistant, Jerry Tucker by a single vote, 325–324. Tucker's "New Directions" movement contested the eligibility of several delegates and convinced the entire convention to postpone Worley's installation as regional director until the credentials committee could rule on the matter. After deliberation, the committee upheld Worley's election by an official tally of 324.577 to 324.416 (fragmented voting is common under the delegate system). All other regional directorships were decided by acclamation, except for one noncontroversial race.

At the international level, Raymond Majerus was reelected secretary-treasurer, with Odessa Komer, Marc Stepp, Stephen Yokich, and Donald Ephlin retaining their respective vice presidencies. An attempt to remove Ephlin from office because of opposition to the Saturn agreement (discussed below) which he engineered failed when the dissidents' nominee refused to challenge. The delegates voted to increase the salaries of the president (from $74,893.97 per year to $82,268.76); the secretary-treasurer (from $67,252.05 to $74,359.37); international executive board members (from $56,634.97 to $63,360.34); and international representatives (from $42,227.51 to $48,151.12).

Cosmic controversy

Paradoxically, the issue stimulating the most controversy and debate was one that procedurally belonged in the realm of a collective bargaining convention, not a constitutional one. Saturn, the name of both an innovative collective bargaining agreement and the new subsidiary corporation of General Motors, proposes to operate an auto factory in Spring Hill, TN, utilizing a cooperative labor-management relations process. Workers will receive a salary in lieu of hourly wages, estimated at 80 percent of the industry average wage, but will be eligible for performance bonuses. Under the participatory management provisions of the agreement, workers will have positive roles in company decisionmaking. Another key provision of the contract is protection against layoffs. Also, management can utilize workers in a variety of job categories because the myriad of job classifications in the traditional auto factory have been greatly reduced.

Some dissidents charged that this departure from the traditional collective bargaining process places the worker on "the sacrificial altar of industry domination." It is concessionary, they charge and, citing the many violent struggles the union has fought to get current wage and benefit levels, insist that it endangers the future existence of the trade union movement. Victor Reuther, a UAW cofounder, has served as the symbolic leader of this group.

Under article 19 of the union's constitution, the dissidents succeeded in getting the floor to debate Saturn. Delegates Peter Kelley of Local 160 and Al Gardner of Local 600 argued that the article's section 3 prohibited union officials from negotiating contracts without prior approval and ratification by workers in the collective bargaining unit. Given that the workers for Saturn have not been hired, they claimed the agreement was invalid. In addition, they challenged the agreement for violating section 6 of the same article which states that the executive board shall not encourage rivalry among locals and shall protect superior agreements. Gardner charged that Saturn allowed "whipsawing" of one local against another because its concessionary provisions would cause employers to demand similar contract concessions from other locals. The protests noted that officials of Chrysler Corp. and General Motors have hailed the future "Saturnization" of the auto industry.

The Saturn debate lasted 2 hours and extended the convention well past the scheduled recess time, with the delegates eventually voting to table the issue for the proper forum of the 1987 collective bargaining convention. But the catalyst for convention action was Bieber. He pleaded with the delegates not to tie the hands of the executive board by abrogating the agreement and thereby create another unorganized auto plant. The Saturn experiment was a conduit through which the UAW would get its foot in the door of a right-to-work area and then branch out to organize the nearby Nissan factory in Smyrna, TN, and the proposed Toyota plant in Georgetown, KY. Citing the joint GM-Toyota venture in Freemont, CA (New United Motor Manufacturing, Inc.), Bieber reminded the convention that the UAW members working there would have lost their jobs to plant closure if not for the implementation of a cooperative concept. He also reminded the dissidents that Chrysler Corp. failed to get Saturn-like agreements in collective bargaining contracts negotiated in 1985, and that once hired, the work force at Saturn could vote to change conditions. The delegates supported Bieber. (As the UAW debated the issue, the National Labor Relations Board upheld the UAW-Saturn pact as legal and not in conflict with Tennessee right-to-work or Federal laws as charged by the National Right-to-Work Committee.)

A milder controversy arose over the question of dues payments. A resolution called for supplemental funding for the UAW Walter and May Reuther Educational Center in Black Lake, MI, appropriated from dues payments. Dues are collected on 2 hours pay per month for each individual and surpluses over the $500 million strike fund are rebated to locals. Some delegates, not opposing aid for the educational center, used the opportunity of debate to criticize procedures approved at the 1983 convention for taking extra dues from members based on bonuses and profit-sharing amounts. The anti-Saturn delegates charged that this system aided the cause of employers who desired bonuses and profit-sharing pay increases over the annual improvement wage plan. A third protest contingent argued that bonuses and profit-sharing sums were not wages and should not be considered in dues payments. Protests notwithstanding, the delegates voted to accept the resolution designed by the constitutional committee for additional funding of the educational center and continuance of the dues system adopted at the 1983 convention.

Other resolutions were recommended and adopted with little controversy. The UAW reaffirmed its commitment to social and economic progress by supporting women's rights, the concerns of the needy, civil rights, protection of the environment, and similar concerns.

Solidarity forever

Historically, the UAW has sought to build bridges of cooperation with others in the labor movement. This convention reinforced that effort. The UAW cancelled reservations at the Disneyland Hotel to honor picket lines of the Hotel Employees and Restaurant Employees Union, depriving the struck hotel of an estimated $600,000 in revenue. The convention promised more assistance for distressed unions as when the UAW sent supplies to the flood ravaged coal miners of West Virginia in 1985.

Just as important was the international flavor of the convention's call for worker solidarity. The UAW invited trade unionists from 16 countries to attend, including Yugoslavia, Malaysia, India, and South Africa. Resolutions were adopted condemning supression of workers' rights in Poland, South Africa, and Chile.

Bieber's keynote address contained a fitting summation for this convention and the end of the first 50 years of the union. "Brothers and sisters," he said, "there have been dark moments along our 50 years of struggle. By ourselves, we could not have survived, let alone prospered. We did—because we stood together." He then closed by paraphrasing labor's anthem, Solidarity Forever, stating, "together there is no power greater anywhere beneath the sun, for the UAW makes us strong." ☐

Research Summaries

BLS white-collar pay survey now covers small firms

JOHN D. MORTON

Clerical workers and recent hires in professional and administrative positions typically are paid 10 to 20 percent more in large firms employing 2,500 workers or more than in small firms employing 50 to 999 workers. In contrast, the pay advantage for fully experienced professionals in these large firms is usually under 5 percent. (See table 1.)

The national survey of professional administrative, technical, and clerical pay (PATC survey) in 1986 increased its coverage of firms with as few as 50 workers. As a result of the expansion, 156,000 establishments employing 33.5 million workers were covered in 1986 (previously, the survey covered 47,000 establishments employing 23.3 million workers). Establishments in Alaska and Hawaii are excluded. The survey is conducted by the Bureau of Labor Statistics, but survey occupations and coverage, such as establishment size and the private industries to be included, are determined by the President's Pay Agent (the Secretary of Labor and the Directors of the Office of Management and Budget and the Office of Personnel Management).[1]

In addition to the size of a firm's work force, skill and experience also influence white-collar pay, as can be readily seen from the survey results. (See table 2.) Engineers, the survey's most numerous occupational group, illustrate the effect of rising skill levels on pay: recent engineering graduates (level I) averaged $27,866 annually in March 1986, while engineers responsible for highly complex engineering programs (level VIII) averaged $79,021.[2]

In contrast, skill levels can act as a source of pay uniformity for the same level of work among different occupations. The following tabulation shows a relatively narrow (9 percent) spread separated the highest paid and lowest paid of six equivalent work levels in the survey:

Work levels	*Annual salary level*
Attorney IV	$63,933
Director of personnel III	63,855
Chief accountant III	62,880
Accountant VI	61,546
Chemist VI	60,796
Engineer VI	58,883

Table 1. Relative pay levels by size of establishment, selected white-collar occupations in the national survey of professional, administrative, technical, and clerical pay, March 1986

Job classification	Mean salaries for establishment size groups as a percent of surveywide averages			
	All establishments	50 to 999 workers	1,000 to 2,499 workers	2,500 workers or more
Accountants I	100	96	104	107
Accountants III	100	98	101	107
Accountants IV	100	99	101	102
Engineers I	100	93	102	104
Engineers III	100	97	104	101
Engineers IV	100	98	103	100
Computer programmers I	100	94	102	110
Computer programmers III	100	97	98	104
Computer programmers IV	100	96	98	102

NOTE: Level I staff are trainees; level III are experienced nonsupervisory staff working on conventional assignments; and level IV are experienced staff working on more complex assignments in a supervisory or nonsupervisory capacity.

Unequal market demands, however, can nullify this cluster effect. For example, average pay for beginning engineers in the survey was well above that of their accountant and chemist counterparts.

Although the PATC survey focuses on salary levels at a given time, its history permits a look at salary trends. White-collar salaries increased moderately between March 1985 and March 1986 in medium and large firms. Average salaries for most occupations surveyed rose between 3.0 and 5.5 percent—in line with gains reported a year earlier. In contrast, occupational salary increases averaged about 7 percent a year during the 1970's and more than 9 percent in 1981 and 1982. However, the rate of increase has been declining since 1982.[3]

A detailed analysis of white-collar salaries and complete results of this year's survey are included in the *National Survey of Professional, Administrative, Technical, and Clerical Pay, March 1986*, Bulletin 2271 (Bureau of Labor Statistics, 1986). The bulletin contains, for example, separate salary data by size of community and size of establishment. ☐

John D. Morton is an economist in the Division of Occupational Pay and Employee Benefit Levels, Bureau of Labor Statistics.

FOOTNOTES

[1] The Pay Agent has designated the industrial coverage as follows: mining; construction; manufacturing; transportation, communications, and public utilities; wholesale and retail trade; finance, insurance, and real estate; and selected services. The pay-setting role of the PATC survey is described in George L. Stelluto's "Federal pay comparability: facts to temper the debate," *Monthly Labor Review*, June 1979, pp. 18–28.

Table 2. Average salaries for selected occupations, national survey of professional, administrative, technical, and clerical pay, March 1986

Occupation and class	Number of employees[1]	Average annual salaries[2]
Accountants and auditors		
Accountants I	13,846	$21,024
Accountants II	28,311	25,554
Accountants III	46,228	31,143
Accountants IV	23,733	38,293
Accountants V	8,227	48,231
Accountants VI	1,397	61,546
Auditors I	1,758	21,545
Auditors II	2,828	26,108
Auditors III	4,709	32,121
Auditors IV	2,022	39,705
Public accountants I	11,698	20,468
Public accountants II	11,585	22,714
Public accountants III	6,887	26,633
Public accountants IV	4,275	32,116
Chief accountants II	1,454	47,963
Chief accountants III	475	62,880
Chief accountants IV	230	80,409
Attorneys		
Attorneys I	1,377	31,014
Attorneys II	3,199	39,635
Attorneys III	4,347	50,119
Attorneys IV	3,500	63,933
Attorneys V	1,847	78,396
Attorneys VI	587	101,169
Buyers		
Buyers I	6,914	21,242
Buyers II	22,980	26,369
Buyers III	18,323	33,580
Buyers IV	4,798	41,304
Programmers and systems analysts		
Computer programmers I	15,974	20,832
Computer programmers II	38,540	24,558
Computer programmers III	46,996	29,324
Computer programmers IV	21,524	34,919
Computer programmers V	9,482	42,934
Systems analysts I	21,402	29,141
Systems analysts II	47,518	34,881
Systems analysts III	38,943	41,997
Systems analysts IV	15,506	49,515
Systems analysts V	2,886	58,404
Systems analysts VI	233	71,770
Personnel management		
Job analysts I	103	22,240
Job analysts II	350	25,288
Job analysts III	624	30,805
Job analysts IV	520	38,206
Directors of personnel I	1,848	39,817
Directors of personnel II	2,082	48,328
Directors of personnel III	1,179	63,855
Directors of personnel IV	395	75,170
Chemists and engineers		
Chemists I	3,580	22,539
Chemists II	6,673	27,205
Chemists III	10,244	34,141
Chemists IV	9,257	41,548
Chemists V	7,298	50,678
Chemists VI	3,632	60,796
Chemists VII	848	74,607
Engineers I	40,489	27,866
Engineers II	71,358	31,184
Chemists and engineers—continued		
Engineers III	145,165	$35,715
Engineers IV	157,033	42,677
Engineers V	111,913	50,769
Engineers VI	52,105	58,883
Engineers VII	13,395	68,602
Engineers VIII	3,097	79,021
Technical support		
Engineering technicians I	5,797	16,882
Engineering technicians II	17,342	20,312
Engineering technicians III	32,193	23,896
Engineering technicians IV	35,397	28,412
Engineering technicians V	19,399	32,718
Drafters I	2,982	13,054
Drafters II	12,102	15,854
Drafters III	25,970	20,201
Drafters IV	24,371	24,652
Drafters V	14,362	31,004
Computer operators I	10,704	13,727
Computer operators II	37,530	17,219
Computer operators III	25,696	21,524
Computer operators IV	8,059	24,550
Computer operators V	1,260	28,966
Photographers I	401	16,636
Photographers II	873	22,896
Photographers III	791	27,009
Photographers IV	331	31,584
Photographers V	104	35,094
Clerical		
Accounting clerks I	36,023	12,517
Accounting clerks II	133,183	14,687
Accounting clerks III	79,215	17,954
Accounting clerks IV	22,354	21,872
File clerks I	20,916	10,335
File clerks II	10,110	12,156
File clerks III	2,100	15,625
Key entry operators I	68,827	13,146
Key entry operators II	30,770	16,901
Messengers	9,842	12,276
Personnel clerks/assistants I	2,521	14,193
Personnel clerks/assistants II	4,414	16,903
Personnel clerks/assistants III	3,255	19,896
Personnel clerks/assistants IV	1,298	23,702
Purchasing clerks/assistants I	4,014	13,994
Purchasing clerks/assistants II	5,585	17,282
Purchasing clerks/assistants III	4,197	22,381
Purchasing clerks/assistants IV	1,037	29,384
Secretaries I	59,859	16,326
Secretaries II	89,450	18,306
Secretaries III	110,604	21,152
Secretaries IV	49,403	23,839
Secretaries V	16,038	28,051
Stenographers I	6,811	18,374
Stenographers II	5,648	21,739
Typists I	25,125	12,584
Typists II	12,842	16,854
General clerks I	11,811	10,478
General clerks II	59,359	12,730
General clerks III	65,101	15,500
General clerks IV	33,472	19,322

[1] Occupational employment estimates relate to the total in all establishments within scope of the survey and not to the number actually surveyed.

[2] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts. Also excluded are performance bonuses and lump-sum payments of the type negotiated in the auto and aerospace industries, as well as profit-sharing payments, attendance bonuses, Christmas or year-end bonuses, and other nonproduction bonuses. Pay increases—but not bonuses—under cost-of-living clauses and incentive payments, however, are included.

NOTE: The following occupational levels were surveyed but insufficient data were obtained to warrant publication: chief accountant I and V; director of personnel V; chemist VIII; computer programmer VI; and personnel clerk/assistant V. Published in 1986 but not in 1985 are photographer V, a new first level of purchasing clerk/assistant, and a newly added series of general clerks.

[2] In the survey coding structure, the level designations among various occupations are not synonymous: for example, the first level of attorneys equates to the third levels of engineers, accountants, and most other professional and administrative occupations. Classification of employees in the occupations and work levels surveyed is based on factors detailed in definitions which are available upon request.

[3] For a broader-based picture of wage and compensation trends in the United States, see the *Employment Cost Index*, a BLS quarterly news release.

What happened to the high school class of 1985?

SHARON R. COHANY

Almost 3.3 million youths either graduated from high school or dropped out between October 1984 and 1985.[1] The proportion of graduates who enrolled in college set a record.[2] Graduates who did not attend college were typically in the labor force, and their unemployment rate was 11 percentage points lower than the 36-percent rate recorded for those who dropped out of high school and entered the labor force. The differing labor market experiences for these three groups highlight the fact that youth with educational deficiencies typically encounter work-related problems which may last for the rest of their lives.

Going on to college

Reflecting the declining school-age population of the "baby-bust" generation, the high school graduating class of 1985 was smaller than those in recent years. A total of 2.7 million young people graduated from high school, down half a million from the peak reached in the mid-1970's. (See table 1.) Despite the smaller number, the proportion of seniors going on to college has been rising gradually over the past few years. It reached a record 58 percent in 1985, after hovering between 50 and 55 percent for most of the 1970's and early 1980's. (See table 2.)

Sex. In recent years, college enrollment rates for men and women just out of high school have drawn closer together, eliminating the wide differences that existed in the early 1970's. By 1985, enrollment rates for men and women were 59 and 57 percent, respectively. The rate for men had returned to the high levels recorded during the early 1970's—the tail end of the Vietnam-era's military draft—while that for women was at its highest level ever.

Once enrolled in college, men and women have roughly the same labor force participation rates—around 44 percent. Despite substantial increases in tuition and other college expenses, this overall participation rate has changed little since the late 1970's. Grants, loans, family contributions, and summer earnings have continued to enable a majority of full-time students to stay out of the labor force during the school year.[3] (See table 3.)

Race. A large gap still exists in the proportion of black and white high school graduates who go on to college. In October 1985, the proportion of enrolled black seniors was 42 percent, compared with 59 percent for whites. Despite some improvement over the last few years, the black proportion was still well below their 46- to 48-percent range during the 1970's.

Large differences by race also persist with regard to labor force participation. Only 31 percent of the black college enrollees were in the labor force, compared with almost 47 percent of the whites. One reason for this difference was that a higher proportion of black students were enrolled in 2-year institutions, which are, on average, less expensive than 4-year colleges and universities.[4]

Not going on to college

About 1.1 million members of the class of 1985 did not enroll in college. Their overall rate of labor force participation was 82 percent, somewhat lower than that prevailing during the past decade. Participation rates for men in this category were higher than those for women, and rates for whites were higher than those for blacks and Hispanics.

The incidence of unemployment for these high school graduates in the labor force has drifted upward during the 1980's. In 1985, about 1 of 4 were looking for work, compared with around 1 of 6 during the 1970's. Thus, despite a shrinking youth population and less competition for entry-level positions, young people who end their formal education with a high school diploma still have a hard time finding jobs. In part, this may result from the increasing demands of employers for better educated workers, given the higher educational level of the work force and a surplus of college graduates in some fields.[5]

High school dropouts

A total of 612,000 youths dropped out of high school between October 1984 and 1985. This was about the same number as in the previous 2 years, but lower than in the 1970's, reflecting mainly the declining teenage population.

Male dropouts were much more likely to be labor force participants than the women, a fourth of whom had family responsibilities. One study showed that many of the young women who dropped out of high school as sophomores in 1980 gave such family-related reasons as marriage or plans to marry (31 percent), pregnancy (23 percent), and the need to support a family (8 percent).[6]

Leaving school before graduation particularly affects the labor force participation of black youth. While 72 percent of the white dropouts were in the labor force, only 52 percent

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Sharon R. Cohany is an economist in the Division of Employment and Unemployment Analysis, Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

Table 1. School enrollment and labor force status of 1985 high school graduates and 1984–85 school dropouts 16 to 24 years old by sex, race, and Hispanic origin, October 1985

[Numbers in thousands]

Characteristic	Civilian noninstitutional population	Civilian labor force				
		Number	Participation rate	Employed	Unemployed	
					Number	Percent of labor force
Total, 1985 high school graduates	2,666	1,610	60.4	1,292	318	19.8
Men	1,286	785	61.0	626	159	20.3
Women	1,380	825	59.8	666	159	19.3
White	2,241	1,383	61.7	1,177	206	14.9
Black	333	191	57.4	95	96	50.3
Hispanic origin	141	86	61.0	61	25	29.1
Enrolled in college	1,539	683	44.4	593	90	13.2
Men	754	327	43.4	280	47	14.4
Women	785	356	45.4	313	43	12.1
Full-time students	1,418	577	40.7	494	83	14.4
Part-time students	122	106	86.9	99	7	6.6
White	1,332	620	46.5	552	68	11.0
Black	141	44	31.2	29	15	(2)
Hispanic origin	72	37	(2)	32	5	(2)
Not enrolled in college	1,127	927	82.3	699	228	24.6
Men	532	458	86.1	346	112	24.5
Women	595	469	78.8	353	116	24.7
White	909	763	83.9	625	138	18.1
Black	192	147	76.6	66	81	55.1
Hispanic origin	69	49	(2)	29	20	(2)
Total, 1984-85 high school dropouts[1]	612	413	67.5	266	147	35.6
Men	321	261	81.3	163	98	37.5
Women	291	152	52.2	103	49	32.2
Single	220	117	53.2	78	39	33.3
Other marital status	72	36	(2)	26	10	(2)
White	458	330	72.1	214	116	35.2
Black	132	69	52.3	39	30	(2)
Hispanic origin	106	73	68.9	40	33	(2)

[1] Data refer to persons who dropped out of school between October 1984 and October 1985. In addition, 80,000 persons 14 and 15 years old dropped out of school during this period.

[2] Data not shown where base is less than 75,000.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups. Because of rounding, sums of individual items may not equal totals.

of the black dropouts were. This was a much wider spread than for the graduates not enrolled in college.

Reflecting their relatively low skill and experience levels, recent dropouts have extremely high unemployment rates, nearly 36 percent in 1985. This jobseeking rate has averaged 35 percent thus far in the 1980's, compared with a 27-percent average in the 1970's. In this respect, the jobless picture for dropouts has paralleled the upturn in the unemployment rate for workers in general, although at much higher levels.

Table 2. Percent of recent high school graduates 16 to 24 years old enrolled in college, by year of graduation, sex, and race, selected years, October 1970–85

[Numbers in thousands]

Year	Total graduates	Percent enrolled in college				
		Total	Men	Women	White	Black[1]
1970	2,757	52	55	49	52	48
1975	3,186	51	53	49	51	46
1980	3,089	49	47	52	50	43
1981	3,053	54	55	53	55	43
1982	3,100	51	49	52	52	37
1983	2,964	53	52	53	55	39
1984	3,012	55	56	54	58	40
1985	2,666	58	59	57	59	42

[1] Data prior to 1977 refer to black and other workers.

Not surprisingly, dropouts also tend to come from families with lower income levels than high school graduates. For example, just 16 percent of dropouts are members of families with annual incomes of more than $30,000, compared with 31 percent of high school graduates not enrolled in college, and 56 percent of high school graduates enrolled in college.

Looking down the road at adulthood, the earnings situation can be bleak for those who do not complete high school. As shown below, median earnings for high school dropouts who work all year at full-time jobs lag behind their better-educated peers throughout their working lives.

	Age 16 to 24	*Age 25 to 64*
Total, year-round, full-time median earnings, 1984	$11,537	$20,752
Less than 4 years of high school	9,551	14,776
4 years of high school	11,331	18,350
1 to 3 years of college	11,897	21,079
4 years or more of college	16,470	27,777

The exceptionally high unemployment rates and poor earnings prognosis for dropouts suggest that a lack of liter-

Table 3. Labor force status of recent high school graduates and dropouts 16 to 24 years old, selected years, October 1970–85

[Numbers in thousands]

Year	High school graduates						High school dropouts		
	Enrolled in college			Not enrolled in college					
	Civilian labor force	Labor force participation rate[1]	Unemployment rate[2]	Civilian labor force	Labor force participation rate[1]	Unemployment rate[2]	Civilian labor force	Labor force participation rate[1]	Unemployment rate[2]
1970	509	35.7	16.1	1,027	77.2	18.1	427	60.0	25.5
1975	641	39.7	11.7	1,281	81.2	19.9	462	62.6	34.0
1980	662	43.4	12.5	1,339	85.0	19.0	486	63.8	31.5
1985	683	44.4	13.2	927	82.3	24.6	413	67.5	35.6

[1] Labor force as a percent of population.

[2] Unemployed as a percent of labor force.

acy is a serious problem for unemployed youth. The study by the National Center for Education Statistics shows that about one-third of the the sophomores who had dropped out of high school reported their reason as poor grades, or that "school was not for me."[7]

—— *FOOTNOTES* ——

[1] Data in this report are derived primarily from information collected in the October 1985 Current Population Survey (CPS), conducted and tabulated for the Bureau of Labor Statistics by the Bureau of the Census. Most data relate to persons 16 to 24 years of age in the civilian noninstitutional population in the week ending Oct. 12, 1985. Because it is a sample survey, estimates derived from the CPS may differ from the actual counts that could be obtained from a complete census. Therefore, small estimates or small differences between estimates should be interpreted with caution. For further information on sampling reliability, see *Students, Graduates, and Dropouts, October 1980–82*, Bulletin 2192 (Bureau of Labor Statistics, 1983).

For the most recent report on this topic, see Anne McDougall Young, "Fewer students in work force as school age population declines," *Monthly Labor Review*, July 1984, pp. 34–37.

[2] Figures for recent high school graduates 16 to 24 years old and enrolled in college include only those in schools that grant academic degrees. However, there are sizable numbers of students in "special schools," offering business, health, trades, technology, and cosmetology programs, among others. The U.S. Department of Education estimates that there were 1.8 million 16- to 24-year-olds in these schools in 1982. For further information, see *Participants in Postsecondary Education: October 1982*, Bulletin 84–309 (National Center for Education Statistics, November 1984).

[3] See *Packaging of Grants, Loans, and Earnings for Financing Postsecondary Education*, Bulletin 83–220b (National Center for Education Statistics, February 1984), pp. 1–6.

[4] For additional information on school enrollment by race and data on tuition and other costs, see *Digest of Education Statistics, 1985–86* (Center for Statistics, U.S. Department of Education, 1986), pp. 109 and 158.

[5] Jon Sargent, "An Improving Job Market for College Graduates: The 1986 Update of Projections to 1995," *Occupational Outlook Quarterly*, Summer 1986, pp. 3–7.

[6] Samuel S. Peng, *High School Dropouts: Descriptive Information from High School and Beyond*, Bulletin 83–221b (National Center for Education Statistics, November 1983), pp. 1–9.

[7] Peng, *High School Dropouts*, pp. 4–6.

Foreign Labor Developments

ILO adopts asbestos standard; focuses on employment issues

TADD LINSENMAYER

The 1986 International Labor Organization (ILO) Conference agreed to new standards to protect workers from asbestos hazards and urged governments to adopt policies to reduce youth unemployment, create jobs through small enterprise development, and counteract the negative employment consequences of international debt. These standards were among the highlights of the 3-week Conference, held in Geneva, Switzerland, June 4 to 25, and attended by 1,800 delegates from 140 countries.

U.S. Secretary of Labor William E. Brock cited the nuclear disaster in Chernobyl as an example of the serious safety and health hazards which can be associated with some new technologies and called on the ILO and its members to intensify efforts to share information on such perils. Brock pledged to make greater use of the ILO's occupational health hazard alert system in developing safety and health standards for Americans.

The heart of the ILO's annual Conference is its standard-setting activities—the development of conventions, which are legally binding treaties when ratified by governments, and recommendations. In recent years, many ILO members have advocated slowing the pace in the development of new standards to allow governments time to act on those already on the books. (The ILO has adopted 162 conventions since its creation in 1919.)

The 1986 Conference adopted only two new standards: a convention and a recommendation on asbestos. The convention requires that ratifying governments develop national programs to prevent worker exposure to asbestos health hazards, including worker exposure limits and effective inspection programs. The convention prohibits the use of crocidolite—a type of asbestos considered particularly dangerous—as well as the spraying of asbestos. The question of banning other types of asbestos was left to the discretion of national governments. Special provisions deal with demolition of buildings containing asbestos, the handling and cleaning of work clothing, and environmental and medical surveillance. The asbestos recommendation covers many of these same questions in greater detail.

The Conference also considered youth unemployment and small enterprise development. Unlike asbestos, these did not lead to new standards, but rather resulted in nonbinding conclusions.

According to the U.S. Government representative, the work of the committee on youth was complicated by the efforts of some delegates to raise extraneous political issues. For example, the Soviet Union and certain Eastern European countries introduced a resolution which attempted to link youth unemployment to the arms race. While this resolution was never seriously considered, the youth committee did adopt a paragraph sponsored by its worker and employer members urging that "socially unproductive activities which pose a threat to peace should be redirected towards socially and economically productive activities . . ."

The Conference's conclusions on youth recognized that the modern sector of the economy in many countries has only a limited capacity to absorb the estimated 1 billion youth who will be in the world labor force by the year 2000—84 percent of them in developing countries. It advocated, therefore, that more resources should be focused on the creation of employment in the private sector, self-employment, and jobs for youth in the rural agricultural and nonagricultural sectors of the economy. The Conference also urged better-designed national training and educational programs that would provide "employable skills" to young jobseekers.

The Conference's conclusions on small enterprise development also dealt primarily with employment creation. The U.S. Government representative noted, for example, that two-thirds of the 43 million new jobs created in the United States since 1960 were in small businesses. The Conference called on governments to adopt policies to promote small enterprise development, including "simplifying and streamlining" government regulations which hinder the establishment of small enterprises. This latter point was qualified by an explicit recognition of the need for "fully protecting workers' rights."

To assist entrepreneurs in establishing new enterprises, the ILO's conclusions call for national small enterprise development policies which include effective management training programs, the creation of technology centers, and financial assistance programs (including credit guarantees). The Conference also encouraged the ILO to expand its own small enterprise development efforts.

Tadd Linsenmayer is director of the Office of International Organizations, Bureau of International Labor Affairs, U.S. Department of Labor.

Perhaps the most controversial issue during the Conference was a resolution on the employment implications of international debt. The worker delegates at the Conference, joined by a majority of governments, particularly from Latin America, supported adoption of a resolution calling on the ILO to become more involved in finding solutions to the debt problem. The resolution urged creditor governments to extend debt repayment schedules, reduce interest rates, and stabilize foreign exchange rates and commodity prices. It also called for a special "high-level" ILO meeting involving key government labor and finance officials, the heads of international financial organizations such as the International Monetary Fund, and worker and employer representatives. The purpose of this meeting would be to examine "the impact of international trade and financial and monetary policies on employment and poverty."

The sponsors of this resolution argued that the austerity programs required to cope with the debt crisis were leading to higher unemployment in many countries. They insisted that the ILO should work with the international financial organizations and with debtor and creditor governments to find more equitable solutions. Although the United States and most other Western governments opposed the resolution on the grounds that the ILO lacked both the responsibility and expertise to deal with international financial questions, it was adopted by a wide margin.

Almost equally controversial was the adoption, after more than 20 years of debate, of proposals to change the ILO's structure. Most of these proposals concern the ILO Governing Body, the organ responsible for budget and administrative decisionmaking. Specifically, the proposals would expand the Governing Body from 56 to 112 members and make all seats elective (presently, 10 of the 28 government seats are nonelective and reserved for the "states of chief industrial importance": United States, the Soviet Union, United Kingdom, France, Federal Republic of Germany, Italy, Japan, India, China, and Brazil. Other proposals relate to the election of the ILO's director general, the quorum needed for valid Conference votes, and procedures for considering resolutions which condemn ILO members.

The major point of controversy, according to U.S. Government Delegate Ambassador Robert W. Searby, stemmed from Soviet demands for guaranteed seats in the employer benches of the Governing Body. The employers have steadfastly refused to elect any Communist "employers" to the Governing Body, arguing that they are, in reality, agents of the government and not free employers.

According to Searby, the Soviets found themselves virtually without support for their proposal for guaranteed seats. (The majority of ILO members supported the ILO's principle of tripartism, including the autonomy of the worker and employer groups.) Unable to block final agreement on the other structural proposals, the Soviets manifested their displeasure through a series of procedural maneuvers during the opening days of the Conference which thwarted, for 5 days, the start of the campaign which began with the committees on resolutions and the application of ILO standards. The Soviet opposition to these committees stemmed from their alleged underrepresentation of Communist employers (virtually the same complaint they have with the employer benches in the Governing Body). When the structure proposals were presented for a preliminary decision near the end of the Conference, the Soviets continued their protest campaign by insisting on time-consuming votes.

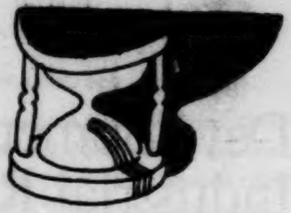
The Conference overwhelmingly approved the structure proposals as amendments to the ILO constitution and standing orders. The constitutional amendments must now be submitted to governments for ratification. None of the amendments will go into effect until they are ratified by two-thirds of the member governments, including 5 of the 10 states of chief industrial importance.

The Conference committee which deals with the application of standards—normally controversial because of its focus on significant human rights violations—was relatively quiet this year. Because of delays due to Soviet opposition to its composition, the committee considered far fewer cases than in previous years, and, according to U.S. members of the committee, considered no Soviet bloc cases. Of the three Soviet bloc cases identified for discussion by the committee, one (Poland's violation of trade union rights) could not be discussed because that government did not send a delegation to the Conference, in view of its announced withdrawal from the ILO. Two other cases (involving Nicaragua and Romania) could not be considered because those governments refused to attend the committee to discuss any of the allegations. The Soviet policy of boycotting the ILO's supervisory machinery provoked a strong reaction from the worker and employer members of the committee and from many governments, and promises to be a major issue at the 1987 Conference.

The Conference committee cited Iran for "continued failure" to eliminate discrimination against the Baha'i religious sect, and adopted "special paragraphs" expressing concern over the nonapplication of ratified conventions in Pakistan (forced labor and fee-charging employment agencies) and Bangladesh (treatment of tribal populations).

In other actions, the Conference adopted proposals to help the ILO offset budget shortfalls arising from the declining value of the dollar. (The ILO receives its income in dollars, but pays most of its bills in Swiss francs.) It also strongly urged, over U.S. Government objections, economic sanctions against South Africa as a weapon to eliminate apartheid. ☐

Major Agreements Expiring Next Month

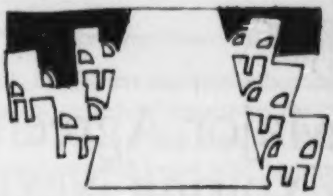


This list of selected collective bargaining agreements expiring in November is based on information collected by the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more. Private industry is arranged in order of Standard Industrial Classification.

Industry or activity	Employer and location	Labor organization[1]	Number of workers
Private			
Food products	General Foods Corp. (Battle Creek, MI)	Retail, Wholesale and Department Store	1,350
	Tropicana Products, Inc. (Bradenton, FL)	Teamsters (Ind.)	1,350
Fabricated metal products	Olin Corp. (East Alton, IL)	Machinists	2,300
Electrical products	Gibson Products Corp. (Greenville, MI)	Auto Workers	3,500
Transportation equipment	Dana Corp., Parish Division (Reading, PA)	Steelworkers	2,200
Instruments	Leeds and Northrup Co. (North Wales, PA)	Auto Workers	1,000
Miscellaneous manufacturing	Armstrong World Industries (Lancaster, PA)	Rubber Workers	1,600
Air transportation	American Airlines (Interstate)	Association of Professional Flight Attendants (Ind.)	6,200
Utilities	Columbia Gas Transmission Corp. (Interstate)	Oil, Chemical and Atomic Workers	1,000
Retail trade	Kroger Co. (Interstate)	Food and Commercial Workers	5,700
	Century Food Stores (Milwaukee, WI)	Food and Commercial Workers	2,000
Insurance	Blue Cross-Blue Shield of Wisconsin (Milwaukee, WI)	Office and Professional Employees	1,450
Real estate	Chicago walk-up apartments (Chicago, IL)	Service Employees	4,900
	Chicago fireproof buildings (Chicago, IL)	Service Employees	2,600
Services	Textile Maintenance Institute of Chicagoland, dry cleaning contract (Chicago, IL)	Textile Processors (Ind.)	1,700
	Textile Maintenance Institute of Chicagoland, laundry, linen and industrial contract (Chicago, IL)	Textile Processors (Ind.)	1,000
	Associated Press (Interstate)	Wire Service Guild, Newspaper Guild	1,400
	RCA Corp., RCA Service Co. Division (Interstate)	Electrical Workers (IBEW)	2,500
Amusements	Phonograph Record Labor Agreement (Interstate)	Musicians	6,000
Hospitals	Johns Hopkins Hospital (Baltimore, MD)	Hospital and Health Care Employees	1,400
	Major Honolulu hospitals (Hawaii)	Nurse's Association (Ind.)	1,500
Public			
Utilities	Arizona: Phoenix Salt River Project	Electrical Workers (IBEW)	3,500
General government	Michigan: Wayne County multiunit	State, County and Municipal Employees	3,000
Transit	Illinois: Chicago Transit Authority multidepartments	Transit Union	11,000
	Pennsylvania: Allegheny County Port Authority	Transit Union	2,550

[1] Affiliated with AFL-CIO except where noted as independent (Ind.).

Developments in Industrial Relations



New retirement system for Federal employees

Pension eligibility requirements, financing, and benefits were significantly revised under provisions of the Federal Employees' Retirement System Act of 1986. The new system (FERS), effective January 1, 1987, will cover all Federal civilian employees hired on or after that date and virtually all earlier hires with fewer than 5 years of nonmilitary service on December 31, 1986. Since January 1, 1984, these employees have been subject to interim retirement rules under which they are covered by both the existing Civil Service Retirement System (CSRS) and the Social Security system. However, they make reduced payments to the CSRS (1.3 percent of earnings instead of the usual 7 percent) and contribute the full employee share to Social Security.

Employees currently covered by the interim retirement rules with more than 5 years of service on December 31, 1986, will continue under the dual benefit coverage unless they opt to transfer to the FERS between July 1 and December 31, 1987.

Employees covered only by CSRS will remain under that system unless they opt to shift to the FERS. Eligibility for unreduced benefits under CSRS is age 62 after 5 years of service; age 60 after 20 years of service; or age 55 after 30 years (beginning in 2003, this age requirement will be increased, in stages, to age 57 in 2025). Retirement benefits continue to be based on the employee's average annual earnings during the three highest consecutive years. The formula is 1.5 percent of the average annual earnings figure for each of the first 5 years of service, plus 1.75 percent of the earnings figure for each of the next 5 years of service, plus 2 percent of the earnings figure for each year of service in excess of 10. For 30 years of service, the result is a benefit equal to 56.25 percent of the average annual earnings figure.

The FERS consists of three benefits—Social Security, CSRS, and a thrift savings plan.

Under Social Security, employees will pay a reduced Old Age, Survivors, and Disability Insurance (OASDI) tax of 5.7 percent (6.2 percent in 1990), in addition to the medicare tax which all Federal employees pay. The OASDI and medicare taxes are applied on earnings up to a specified amount (currently $42,000).

The second benefit is the CSRS, to which employees will contribute 1.3 percent of their annual earnings, dropping to 0.94 percent in 1988 and to 0.8 percent in 1990. Age and length of service requirements are as described above for employees staying in the CSRS. The annual benefit will be calculated at 1.0 percent of a retiring employee's average annual earnings for the three highest consecutive years, multiplied by the number of years of service. If the employee is age 62 or older at retirement, the calculation factor will be 1.1 percent. If younger, the employee will receive a supplement equal to the estimated Social Security benefit that would be payable based on current Federal service under Social Security, calculated as if the employee was age 62. The supplement, which is subject to reduction if outside earnings exceed limits, will cease at age 62, when the retiree begins drawing actual Social Security benefits.

The third benefit is a thrift savings plan. It offers three types of tax deferred investments: special Government securities, fixed income securities, and a stock index fund. The Government will contribute an amount equal to 1 percent of each employee's pay to the plan, even if the employee does not participate. In addition, the Government will contribute a dollar for each employee dollar contributed up to 3 percent of pay, and 50 cents for each employee dollar up to the next 2 percent of pay. The maximum employee contribution is 10 percent of pay.

Employees who opt for coverage by CSRS only may invest up to 5 percent of their pay in the special Government securities, but the Government will not contribute matching funds.

The Federal Employees' Retirement System Act limits automatic cost-of-living adjustments payable from the CSRS fund. Annual adjustments will be the actual 12-month rise in the BLS Consumer Price Index if it is less than 2 percent, 2 percent if the rise is 2 to 3 percent, and the rise minus 1 percentage point if the rise is 3 percent or more. The adjustments apply to all retirees, beginning at age 62. Previously, the formula provided for unreduced adjustments for all retirees, regardless of age.

The new retirement system is expected to save the Government $42 million in 1987, rising to $2.67 billion a year in 1991. Major changes also were made in the retirement system for military personnel. (See *Monthly Labor Review*, September 1986, pp. 39–40.)

"Developments in Industrial Relations" is prepared by George Ruben of the Division of Developments in Labor-Management Relations, Bureau of Labor Statistics, and is largely based on information from secondary sources.

Entertainers settle, avert strike

A strike in the entertainment industry was averted when the Alliance of Motion Picture and Television Producers settled with two actors' unions in a 14-hour bargaining session. The last time members of the Screen Actors Guild and the American Federation of Television and Radio Artists struck was in 1980, when they were out for 10 weeks. This cost the industry a reported $40 million and delayed the start of the 1980 prime time television season by 2 months.

Under the 3-year contracts, the $361 minimum daily pay rate for actors was raised by 5 percent effective immediately, and by another 5 percent on January 1, 1988. In another compensation change, the actors will receive 4.5 percent of the producers' first $1 million of annual gross receipts from the sale of videocassettes, plus 5.4 percent of sales in excess of $1 million. They will also receive a $3 million lump-sum payment. Previously, they received 3.6 percent of gross receipts.

There also were improvements in pension and insurance benefits and changes in affirmative action hiring, safety procedures for stunt people, and working conditions for child actors. The contracts cover 92,000 members of the unions, of whom only a small percentage are working at a given time.

Lengthy talks between Delta, Air Line Pilots end

Thirteen months of negotiations between Delta Air Lines and the Air Line Pilots ended when the parties agreed on a 30-month contract that included a temporary two-tier pay system. A union official said Delta insisted on the two-tier system "for the perception" among its other employees, who are nonunion and are already covered by such plans, as well as for the resulting labor cost saving.

Under the system, new pilots are paid at 66 percent of the rates applicable to those hired earlier. After 5 years of service, the employees in the lower tier will move into the upper tier.

In another provision, the pilots agreed to fly 80 hours a month, a 5-hour increase. To some extent, the resulting savings will be offset by a requirement that the carrier increase the number of captains and first officers. Reportedly, Delta now has 4,200 pilots and plans to hire 50 a month for an indefinite period.

The contract also provides for cuts in paid vacation and leave time and changes in training, staffing, and hours of service which the union said will enable Delta to "compete effectively in the deregulated marketplace." In return for these changes, Delta agreed that there will be no job eliminations or downgradings stemming from the productivity improvements.

The contract, which is amendable on March 1, 1989, also provided for a 1-percent wage increase on January 1, 1988, and a 2-percent increase on January 1, 1989.

Engineers at RCA get new contract

About 2,000 professional engineers at RCA Corp. facilities in Bloomfield, Camden, and Moorestown, NJ, were covered by a 3-year contract that provided for general salary increases of 3, 3, and 2.5 percent in the respective years, and minimum merit increases of 3 percent in each year for eligible employees. Engineers who are promoted will also receive lump-sum payments of $400, $600, or $900.

The system of determining who will stay on the payroll in the event of operation cuts was modified to give engineers 9 "retention points" for completing 50 percent of the course work for a master's degree and 10 points for completing 75 percent of the requirements. Employees continue to receive 8 points for a bachelor's degree, 12 points for a master's degree, and 14 points for a Ph.D.

The union, the Association of Scientists and Professional Engineering Personnel, and RCA also adopted provisions to contain the rise in health care costs by more closely monitoring hospital stays and surgery.

Delaney to head Locomotive Engineers

Discord within the Brotherhood of Locomotive Engineers was reflected in convention delegates' selection of Robert Delaney to head the union, replacing incumbent John F. Sytsma. Delaney, who will serve for a 5-year term, prevailed by a vote of 371 to 301. The discord resulted, in part, from Delaney's assertion that Sytsma had misused union funds and had rigged the outcome of a 1985 referendum in which he narrowly averted a recall that would have ended his second 5-year term of office. The resulting legal case is now before a Federal appeals court for a decision on whether the Department of Labor or a Federal district court should rule on the validity of the referendum results.

Convention delegates also criticized the union's December 1985 settlement with the Nation's railroads, contending that Sytsma erred in accepting terms—including cuts in some types of pay and revisions in work rules—similar to those negotiated by the rival United Transportation Union. (See *Monthly Labor Review*, January 1986, pp. 7–8.)

In other actions, the delegates cut the president's salary to $100,000 a year, from $145,000. Membership in the union stands at 31,000 today, including 5,000 retirees, compared with a peak of about 100,000 in the early 1940's.

Clerks, meatcutters get lump-sum payments

In Eastern Pennsylvania, lump-sum payments were a feature of a settlement between Acme Markets and the United Food and Commercial Workers. About 2,400 clerks and meatcutters at 55 stores were covered by the 3-year accord. Each of the six semiannual payments will be calculated at 25 cents for each hour worked and each hour of paid leave during the preceding 6 months. Employees below the top scale are not eligible for the payments but they will continue to receive progression step increases, which were set at 25 cents an hour (previously, the increases varied). Prior to the settlement, pay rates ranged from $5.15 an hour for part-time clerks hired after June 22, 1980, to $10.51 for meat department heads.

The parties also agreed to raise the top scale for part-time employees to $6 an hour (from $5.15), narrowing the difference with part-timers hired earlier, who are paid $6.97. Acme also agreed to:

- Change 100 part-time workers to full time status.
- Restore to full-time status 50 employees who had been reduced to part-time status without fault.
- Raise the night work premium to 50 cents an hour from 25 cents.
- Make payments into the health and welfare fund for all hours worked. Previously, payments were made only for hours worked in excess of 90 a month.
- Raise the pension rate to $20 a month for each year of credited service, from $19, beginning January 1, 1987.

Drug store chains negotiate pattern contract

In Southern California, the United Food and Commercial Workers and three drug store chains negotiated a contract that was expected to set a pattern for independent drug stores and pharmacies operated by grocery chains in the region. The three drug store chains that settled were Thrifty Drugs, Clark Drugs, and Sav-on Drug Stores, which for the first time coordinated their bargaining with the union. The 12,000 workers covered by the settlement consisted of 10,000 clerks at the three companies and pharmacists at Thrifty and Clark. (Sav-On pharmacists are represented by the Guild for Professional Pharmacists.)

The accord for the pharmacists provided for wage increases of 85 cents an hour on July 1, 1986, and 50 cents on July 1 of 1987 and 1988 and on January 1, 1989, bringing their pay rate to $22.25 an hour. In July 1987 and January 1988, they will receive lump-sum payments based on hours worked during the preceding 6 months. The payments will be calculated at 25 cents and 50 cents an hour, respectively. Finally, the 3.5-cent bonus paid for each prescription filled in excess of 80 per shift was increased, in stages, to 10 cents.

A longtime, two-tier pay structure was eliminated by giving an immediate 21-cent-an-hour pay increase to top-scale clerks hired in 1969 or later, compared with 11 cents for those hired earlier. The result was a uniform $8.35 rate, which will be increased by 10 cents in the third year. All top-scale clerks will receive four lump-sum payments over the term, each calculated at 20 cents for each hour worked during the preceding 6 months.

Clerks below the top rate will receive only progression increases during the term and the progression schedule was stretched to 5 years for those hired after July 1, 1986, compared with the existing 20 months for those hired earlier.

Other provisions included:

- A 30-cent reduction in the employers' $1.70 an hour payment into the health and welfare fund and the return of a $6 million fund excess to the employers. The requirement that the stores provide whatever financing is needed to maintain benefits was eliminated. Instead, the stores will be subject to a possible obligation increase of up to 15 cents an hour in July of 1987 and 1988.
- A 5-cent reduction in the employers' 52.5-cent-an-hour pension fund obligation, also attributed to the healthy condition of the fund.
- Permission for vendors to stock and price merchandise as long as it does not result in the layoff of employees in the bargaining unit.
- An increase to four (formerly three) in the number of "management" employees in the store permitted to perform bargaining unit work.
- Elimination of the $1 an hour premium for Sunday work for inexperienced employees hired after July 1, 1986.

In addition, jury duty makeup pay will now be paid only to full-time employees, new hires who had worked in the industry prior to 1969 will no longer be automatically entitled to start work at top scale, and new hires will now receive pay progression credit only for work performed in the industry during the last 5 years.

Nurses' contract provides pay increases

The Washington Hospital Center and the District of Columbia Nurses Association negotiated a 27-month contract that provided for 3-percent salary increases in June and December of 1986, and 2-percent increases in June and December of 1987. In addition, each nurse will receive a regular 3.5-percent progression increase on his or her anniversary date in the second contract year. Such increases, which were made annually under the prior contract, were frozen during the first year of the new contract. The initial 3-percent wage increase brought hourly pay rates to $11.36 for newly hired registered nurses, $14.35 for those with 5 years' service, and $18.33 for those at the top of the salary scale.

Nurses who work any of five paid holidays will now receive a $50 a day bonus. The previous provision, which had applied to all nine paid holidays, continues to apply to the remaining four. Under that provision, nurses who work on a paid holiday receive another day off, instead of additional pay.

The accord continued a provision giving employees the choice of working Monday through Friday or on weekends. For weekend work, employees on the day shift receive 30 hours' pay for 24 hours' work and those on night shift receive 34 hours' pay for 24 hours' work. About one-third of the 1,200 employees in the bargaining unit work exclusively on weekends.

Other terms include extension of unpaid maternity leave to 1 year, from 6 months, with an assurance that returning nurses will regain their job or one in the same specialty; and a requirement that the hospital give the union 30 days' notice of impending layoffs and negotiate which employees will be laid off.

City workers in Detroit end strike

The city of Detroit and 7,000 members of the American Federation of State, County and Municipal Employees (AFSCME) ended a 19-day work stoppage by agreeing on a 3-year contract. The picket lines were observed by 5,000 other city employees, leaving the 1.2 million residents of the Nation's sixth largest city without bus, trash collection, and other services.

Following membership rejection of an earlier tentative settlement, the city asked a judge to order a return to work. The judge declined the request but did order the parties to resume bargaining, leading to the settlement.

The contract provides for a 5-percent wage increase and a $500 lump-sum payment in the first year, a 3-percent wage increase and $200 lump-sump payment in the second year, and a $400 lump-sum payment in the third year, which could be raised to as much as $800, depending on the city's financial condition.

A two-tier longevity pay system was eliminated by giving larger pay increases to workers in the lower tier. The city also agreed to finance a prototype day care facility and to give the union information on female employment for use in a pay equity study.

County employees subject to drug, alcohol testing

In Florida, about 10,700 employees were covered by a settlement that gives Metro-Dade County the right to test them for alcohol or drugs as part of a regular physical examination or when the county has a "reasonable suspicion" of abuse. If a test result is positive, actions would range from counseling to dismissal, depending on the circumstances and the degree of cooperation by the employee.

The 3-year contract, negotiated by the State, County and Municipal Employees, also provided for 4-percent pay increases in the second and third years.

School system adopts merit pay for teachers

Adoption of a merit pay plan for 8,300 teachers resulted from discussions between the Fairfax County, VA, school system and the Fairfax Education Association. School superintendent Robert R. Spillane said the proposal would make Fairfax County "the first school system in the nation to really step out and do some things" recommended in recent reports by national panels on education reform.

Under the first stage of the plan, to begin with the 1987–88 school year, teachers would be denied longevity pay increases if they are rated unsatisfactory by their principals.

Beginning with the 1989–90 school year, the rating system would be expanded to five levels. Teachers in the lowest level would be dismissed and those in the next or "marginal" level would receive no salary increase or only a small increase. Teachers rated in the mid or competent level would receive a full salary increase. Those in the top two levels—"skillful" and "exemplary"—with 6 years' service would be eligible to move to a "career level two" status and receive a 10-percent salary increase after a further year of evaluation. According to the union, top-rated teachers with 26 years of service could earn as much as $64,000 a year, compared with a current maximum of about $44,000.

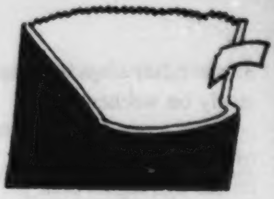
The rating of teachers would be decided by principals after consulting with two other classroom observers: a recognized outstanding teacher and a curriculum specialist. New teachers would be observed each year for the first 3 years, then once every 3 years, then every 4 years. Teachers could appeal their rating to a review board dominated by teachers.

According to Spillane, the proposal calls for substantial salary increases to ensure the cooperation of teachers in the new system. The increases average 12.1 percent effective at the beginning of the 1987–88 school year and 8.8 percent at the beginning of the 2 following years. All three amounts include usual longevity step pay increases. Implementation of the proposal was contingent on allocation of the required money by the school board in its February 1987 budget decision, and on approval by county supervisors.

Members of the union, which is an affiliate of the National Education Association, favored the proposal in a September vote and ended a work-to-rule slowdown they had begun in December 1985 to protest the size of the salary increase (4 percent) they received in July 1985.

The revamping of the teacher rating system was opposed by another union, the 900-member Fairfax County Federation of Teachers, an affiliate of the American Federation of Teachers. Rick Nelson, president of the local union, said that the proposal was unacceptable because it would give principals too much power in deciding salary raises.

Under Virginia law, the unions could only meet and confer with Spillane rather than engage in legally binding collective bargaining. Fairfax County has the Nation's 10th largest school system. □



Book Reviews

The art of conflict resolution

Techniques of Mediation. By Walter A. Maggiolo. New York, Oceana Publications, Inc., 1985. 458 pp. $45.

Walter A. Maggiolo is an acknowledged authority on conflict resolution and his book is the distillation of the experiences and techniques he used in cases spanning more than 33 years as a full-time professional mediator.

Arthur J. Goldberg, former Supreme Court Justice and Secretary of Labor, remarks in the foreword, "His book is an important text for an age which has come to recognize that conflict resolution by mediation is preferable to imposed solutions. It is must reading."

The author, building on his earlier book, *Techniques in Labor Disputes*, demonstrates the value of mediation in many areas. The major emphasis in *Techniques of Mediation* is on the practical rather than theoretical side. The book is a very successful attempt to assist mediators by describing and discussing techniques used in reaching constructive compromises.

All 32 chapters contained in this volume are written in a direct, succinct style with the practitioner always in mind. For example, chapter II is an excellent discussion of the differences between mediation and arbitration and conciliation and factfinding, as well as a description of how arbitration works, including the selection of arbitrators.

Chapter VII offers an insider's view on the history, activities, and recent changes in the Federal Mediation and Conciliation Service.

In the chapter, "Anatomy of a Mediator," the author lists 16 qualities required of a mediator. Two of these qualities struck a responsive chord—the patience of Job and the hide of a rhinoceros.

A major contribution that this book offers to the rapidly growing field of mediation is its specific treatment of topics, for example, intervention, creating doubt in the parties' minds, proposing alternate solutions, confidentiality, caucus, and aids used in reaching an agreement.

Jerome T. Barrett authored chapters on preventive mediation and ethical considerations in mediation. Barrett provides an insider's view of the Federal Mediation and Conciliation Service and an excellent review of dispute resolution in the public sector, a subject which has become critically important because of the dramatic growth of unionization among government employees.

One of the most informative chapters is the nonlabor relations use of mediation, ranging from the homeowners' warranty program to age discrimination in employment.

The appendix contains a wealth of material, including all of the major statutes, arbitration rules and regulations, and codes of professional ethics of the major mediation organizations in the United States.

The book is a treasure house of information and practical techniques on the uses of mediation and is written in a highly readable style.

Goldberg is right. This is must reading for anyone interested in mediation.

—John J. Martin
Arbitrator
Martin Associates, Inc.
Falls Church, VA

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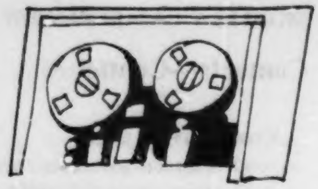

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Schedule of release dates for BLS statistical series

Series	Release date	Period covered	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	October 3	September	November 7	October	December 5	November	1; 4–21
Producer Price Index	October 10	September	November 14	October	December 12	November	2; 33–35
Consumer Price Index	October 23	September	November 25	October	December 19	November	2; 30–32
Real earnings	October 23	September	November 25	October	December 19	November	14–17
Major collective bargaining settlements	October 27	1st 9 months	...	...	...	...	3; 25–28
Employment Cost Index	October 28	3rd quarter	...	...	...	...	1–3; 22–24
Productivity and costs:							
Nonfarm business and manufacturing	October 29	3rd quarter	...	...	...	...	2; 42–44
Nonfinancial corporations	...	...	...	...	December 2	3rd quarter	2; 42–44
U.S. Import and Export Price Indexes	October 30	3rd quarter	...	...	...	...	36–41
Occupational injuries and illnesses	...	...	November 13	1985	...	...	48

NOTES ON CURRENT LABOR STATISTICS

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics: series on labor force, employment, unemployment, collective bargaining settlements, consumer, producer, and international prices, productivity, international comparisons, and injury and illness statistics. In the notes that follow, the data in each group of tables are briefly described, key definitions are given, notes on the data are set forth, and sources of additional information are cited.

General notes

The following notes apply to several tables in this section:

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect on the data of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might prevent short-term evaluation of the statistical series. Tables containing data that have been adjusted are identified as "seasonally adjusted." (All other data are not seasonally adjusted.) Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. (Seasonally adjusted data appear in tables 1–3, 4–10, 13, 14, 17, and 18.) Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are seasonally adjusted with a procedure called X–11 ARIMA, which was developed at Statistics Canada as an extension of the standard X–11 method previously used by BLS. A detailed description of the procedure appears in *The X–11 ARIMA Seasonal Adjustment Method* by Estela Bee Dagum (Statistics Canada, Catalogue No. 12–564E, February 1980). The second change is that seasonal factors are calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at midyear for the July-December period. However, revisions of historical data continue to be made only at the end of each calendar year.

Seasonally adjusted labor force data in tables 1 and 4–10 were revised in the February 1986 issue of the *Review*, to reflect experience through 1985.

Annual revisions of the seasonally adjusted payroll data shown in tables 13, 14, and 18 were made in the July 1986 *Review* using the X–11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in table 42 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the Hourly Earnings Index in table 17—are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is $2 ($3/150 × 100 = $2). The $2 (or any other resulting values) are described as "real," "constant," or "1967" dollars.

Additional information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. News releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule preceding these general notes. More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in *Employment and Earnings*, a monthly publication of the Bureau. More data from the household survey are published in the two-volume data book—*Labor Force Statistics Derived From the Current Population Survey*, Bulletin 2096. More data from the establishment survey appear in two data books—*Employment, Hours, and Earnings, United States*, and *Employment, Hours, and Earnings, States and Areas*, and the annual supplements to these data books. More detailed information on employee compensation and collective bargaining settlements is published in the monthly periodical, *Current Wage Developments*. More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report*, and *Producer Prices and Price Indexes*. Detailed data on all of the series in this section are provided in the *Handbook of Labor Statistics*, which is published biennally by the Bureau. BLS bulletins are issued covering productivity, injury and illness, and other data in this section. Finally, the *Monthly Labor Review* carries analytical articles on annual and longer term developments in labor force, employment, and unemployment; employee compensation and collective bargaining; prices; productivity; international comparisons; and injury and illness data.

Symbols

p = preliminary. To increase the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally, this revision reflects the availability of later data but may also reflect other adjustments.
n.e.c. = not elsewhere classified.
n.e.s. = not elsewhere specified.

COMPARATIVE INDICATORS
(Tables 1–3)

Comparative indicators tables provide an overview and comparison of major BLS statistical series. Consequently, although many of the included series are available monthly, all measures in these comparative tables are presented quarterly and annually.

Labor market indicators include employment measures from two major surveys and information on rates of change in compensation provided by the Employment Cost Index (ECI) program. The labor force participation rate, the employment-to-population ratio, and unemployment rates for major demographic groups based on the Current Population ("household") Survey are presented, while measures of employment and average weekly hours by major industry sector are given using nonagricultural payroll data. The Employment Cost Index (compensation), by major sector and by bargaining status, is chosen from a variety of BLS compensation and wage measures because it provides a comprehensive measure of employer costs for hiring labor, not just outlays for wages, and it is not affected by employment shifts among occupations and industries.

Data on **changes in compensation, prices, and productivity** are presented in table 2. Measures of rates of change of compensation and wages from the Employment Cost Index program are provided for all civilian nonfarm workers (excluding Federal and household workers) and for all private nonfarm workers. Measures of changes in: consumer prices for all urban consumers; producer prices by stage of processing; and the overall export and import price indexes are given. Measures of productivity (output per hour of all persons) are provided for major sectors.

Alternative measures of wage and compensation rates of change, which reflect the overall trend in labor costs, are summarized in table 3. Differences in concepts and scope, related to the specific purposes of the series, contribute to the variation in changes among the individual measures.

Notes on the data

Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data. For detailed descriptions of each data series, see BLS *Handbook of Methods*, Volumes I and II, Bulletins 2134–1 and 2134–2 (Bureau of Labor Statistics, 1982 and 1984, respectively), as well as the additional bulletins, articles, and other publications noted in the separate sections of the *Review*'s "Current Labor Statistics Notes." Historical data for many series are provided in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). Users may also wish to consult *Major Programs, Bureau of Labor Statistics*, Report 718 (Bureau of Labor Statistics, 1985).

EMPLOYMENT DATA
(Tables 1; 4–21)

Household survey data

Description of the series

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 59,500 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons include (1) all civilians who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. Members of the Armed Forces stationed in the United States are also included in the employed total. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **overall unemployment rate** represents the number unemployed as a percent of the labor force, including the resident Armed Forces. The **civilian unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **labor force** consists of all employed or unemployed civilians plus members of the Armed Forces stationed in the United States. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons who are retired, those engaged in their own housework, those not working while attending school, those unable to work because of long-term illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy, and members of the Armed Forces stationed in the United States. The **labor force participation rate** is the proportion of the noninstitutional population that is in the labor force. The **employment-population ratio** is total employment (including the resident Armed Forces) as a percent of the noninstitutional population.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 4–10 are seasonally adjusted, based on the seasonal experience through December 1985.

Additional sources of information

For detailed explanations of the data, see BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 1, and for additional data, *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). A detailed description of the Current Population Survey as well as additional data are available in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*. Historical data from 1948 to 1981 are available in *Labor Force Statistics Derived from the Current Population Survey: A Databook*, Vols. I and II, Bulletin 2096 (Bureau of Labor Statistics, 1982).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

Establishment survey data

Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by more than 250,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

An **establishment** is an economic unit which produces goods or services (such as a factory or store) at a single location and is engaged in one type of economic activity.

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include working supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 12–17 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in the following industries: transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and

services. These groups account for about four-fifths of the total employment on private nonagricutural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W). The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

The Diffusion Index, introduced in the May 1983 *Review*, represents the percent of 185 nonagricultural industries in which employment was rising over the indicated period. One-half of the industries with unchanged employment are counted as rising. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. The diffusion index is useful for measuring the dispersion of economic gains or losses and is also an economic indicator.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of May 1986 data, published in the July 1986 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Unadjusted data have been revised back to April 1984; seasonally adjusted data have been revised back to January 1981. These revisions were published in the *Supplement to Employment and Earnings* (Bureau of Labor Statistics, 1986). Unadjusted data from April 1985 forward, and seasonally adjusted data from January 1982 forward are subject to revision in future benchmarks.

In the establishment survey, estimates for the 2 most recent months are based on incomplete returns and are published as preliminary in the tables (13 to 16 in the *Review*). When all returns have been received, the estimates are revised and published as final in the third month of their appearance. Thus, August data are published as preliminary in October and November and as final in December. For the same reason, quarterly establishment data (table 1) are preliminary for the first 2 months of publication and final in the third month. Thus, second-quarter data are published as preliminary in August and September and as final in October.

Additional sources of information

Detailed data from the establishment survey are published monthly in the BLS periodical, *Employment and Earnings*. Earlier comparable unadjusted and seasonally adjusted data are published in *Employment, Hours, and Earnings, United States, 1909–84*, Bulletin 1312–12 (Bureau of Labor Statistics, 1985) and its annual supplement. For a detailed discussion of the methodology of the survey, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 2. For additional data, see *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

Unemployment data by State

Description of the series

Data presented in this section are obtained from two major sources—the Current Population Survey (CPS) and the Local Area Unemployment Statistics (LAUS) program, which is conducted in cooperation with State employment security agencies.

Monthly estimates of the labor force, employment, and unemployment for States and sub-State areas are a key indicator of local economic conditions and form the basis for determining the eligibility of an area for benefits under Federal economic assistance programs such as the Job Training Partnership Act and the Public Works and Economic Development Act. Insofar as possible, the concepts and definitions underlying these data are those used in the national estimates obtained from the CPS.

Notes on the data

Data refer to State of residence. Monthly data for 11 States—California, Florida, Illinois, Massachusetts, Michigan, New York, New Jersey, North Carolina, Ohio, Pennsylvania, and Texas—are obtained directly from the CPS, because the size of the sample is large enough to meet BLS standards of reliability. Data for the remaining 39 States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates for the 11 States are revised to new population controls. For the remaining States and the District of Columbia, data are benchmarked to annual average CPS levels.

Additional sources of information

Information on the concepts, definitions, and technical procedures used to develop labor force data for States and sub-State areas as well as additional data on sub-States are provided in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*, and the annual report, *Geographic Profile of Employment and Unemployment* (Bureau of Labor Statistics). See also *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 4.

COMPENSATION AND WAGE DATA

(Tables 1–3; 22–29)

COMPENSATION AND WAGE DATA are gathered by the Bureau from business establishments, State and local governments, labor unions, collective bargaining agreements on file with the Bureau, and secondary sources.

Employment Cost Index

Description of the series

The **Employment Cost Index** (ECI) is a quarterly measure of the rate of change in compensation per hour worked and includes wages, salaries, and employer costs of employee benefits. It uses a fixed market basket of labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over time in employer costs of employing labor. The index is not seasonally adjusted.

Statistical series on total compensation costs and on wages and salaries are available for private nonfarm workers excluding proprietors, the self-employed, and household workers. Both series are also available for State and local government workers and for the civilian nonfarm economy, which consists of private industry and State and local government workers combined. Federal workers are excluded.

The Employment Cost Index probability sample consists of about 2,200 private nonfarm establishments providing about 12,000 occupational observations and 700 State and local government establishments providing

3,500 occupational observations selected to represent total employment in each sector. On average, each reporting unit provides wage and compensation information on five well-specified occupations. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Fixed employment weights from the 1980 Census of Population are used each quarter to calculate the indexes for civilian, private, and State and local governments. These fixed weights, also used to derive all of the industry and occupation series indexes, ensure that changes in these indexes reflect only changes in compensation, not employment shifts among industries or occupations with different levels of wages and compensation. For the bargaining status, region, and metropolitan/nonmetropolitan area series, however, employment data by industry and occupation are not available from the census. Instead, the 1980 employment weights are reallocated within these series each quarter based on the current sample. Therefore, these indexes are not strictly comparable to those for the aggregate, industry, and occupation series.

Definitions

Total compensation costs include wages, salaries, and the employer's costs for employee benefits.

Wages and salaries consist of earnings before payroll deductions, including production bonuses, incentive earnings, commissions, and cost-of-living adjustments.

Benefits include the cost to employers for paid leave, supplemental pay (including nonproduction bonuses), insurance, retirement and savings plans, and legally required benefits (such as Social Security, workers' compensation, and unemployment insurance).

Excluded from wages and salaries and employee benefits are such items as payment-in-kind, free room and board, and tips.

Notes on the data

The Employment Cost Index data series began in the fourth quarter of 1975, with the quarterly percent change in wages and salaries in the private nonfarm sector. Data on employer costs for employee benefits were included in 1980 to produce, when combined with the wages and salaries series, a measure of the percent change in employer costs for employee total compensation. State and local government units were added to the ECI coverage in 1981, providing a measure of total compensation change in the *civilian* nonfarm economy (excluding Federal employees). Historical indexes (June 1981 = 100) of the quarterly rates of change are presented in the May issue of the BLS monthly periodical, *Current Wage Developments*.

Additional sources of information

For a more detailed discussion of the Employment Cost Index, see the *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 11, and the following *Monthly Labor Review* articles: "Employment Cost Index: a measure of change in the 'price of labor'," July 1975; "How benefits will be incorporated into the Employment Cost Index," January 1978; "Estimation procedures for the Employment Cost Index," May 1982; and "Introducing new weights for the Employment Cost Index," June 1985.

Data on the ECI are also available in BLS quarterly press releases issued in the month following the reference months of March, June, September, and December; and from the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

Collective bargaining settlements

Description of the series

Collective bargaining settlements data provide statistical measures of negotiated adjustments (increases, decreases, and freezes) in compensation (wage and benefit costs) and wages alone, quarterly for private industry and semiannually for State and local government. Compensation measures cover all collective bargaining situations involving 5,000 workers or more and wage measures cover all situations involving 1,000 workers or more. These data, covering private nonagricultural industries and State and local governments, are calculated using information obtained from bargaining agreements on file with the Bureau, parties to the agreements, and secondary sources, such as newspaper accounts. The data are not seasonally adjusted.

Settlement data are measured in terms of future specified adjustments: those that will occur within 12 months after contract ratification—first-year—and all adjustments that will occur over the life of the contract expressed as an average annual rate. Adjustments are worker weighted. Both first-year and over-the-life measures exclude wage changes that may occur under cost-of-living clauses that are triggered by future movements in the Consumer Price Index.

Effective wage adjustments measure all adjustments occurring in the reference period, regardless of the settlement date. Included are changes from settlements reached during the period, changes deferred from contracts negotiated in earlier periods, and changes under cost-of-living adjustment clauses. Each wage change is worker weighted. The changes are prorated over all workers under agreements during the reference period yielding the average adjustment.

Definitions

Wage rate changes are calculated by dividing newly negotiated wages by the average hourly earnings, excluding overtime, at the time the agreement is reached. Compensation changes are calculated by dividing the change in the value of the newly negotiated wage and benefit package by existing average hourly compensation, which includes the cost of previously negotiated benefits, legally required social insurance programs, and average hourly earnings.

Compensation changes are calculated by placing a value on the benefit portion of the settlements at the time they are reached. The cost estimates are based on the assumption that conditions existing at the time of settlement (for example, methods of financing pensions or composition of labor force) will remain constant. The data, therefore, are measures of negotiated changes and not of total changes in employer cost.

Contract duration runs from the effective date of the agreement to the expiration date or first wage reopening date, if applicable. Average annual percent changes over the contract term take account of the compounding of successive changes.

Notes on the data

Care should be exercised in comparing the size and nature of the settlements in State and local government with those in the private sector because of differences in bargaining practices and settlement characteristics. A principal difference is the incidence of cost-of-living adjustment (COLA) clauses which cover only about 2 percent of workers under a few local government settlements, but cover 50 percent of workers under private sector settlements. Agreements without COLA's tend to provide larger specified wage increases than those with COLA's. Another difference is that State and local government bargaining frequently excludes pension benefits which are often prescribed by law. In the private sector, in contrast, pensions are typically a bargaining issue.

Additional sources of information

For a more detailed discussion on the series, see the *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 10. Comprehensive data are published in press releases issued quarterly (in January, April, July, and October) for private industry, and semi-

annually (in February and August) for State and local government. Historical data and additional detailed tabulations for the prior calendar year appear in the April issue of the BLS monthly periodical, *Current Wage Developments*.

Work stoppages

Description of the series

Data on **work stoppages** measure the number and duration of major strikes or lockouts (involving 1,000 workers or more) occurring during the month (or year), the number of workers involved, and the amount of time lost because of stoppage.

Data are largely from newspaper accounts and cover only establishments directly involved in a stoppage. They do not measure the indirect or secondary effect of stoppages on other establishments whose employees are idle owing to material shortages or lack of service.

Definitions

Number of stoppages: The number of strikes and lockouts involving 1,000 workers or more and lasting a full shift or longer.

Workers involved: The number of workers directly involved in the stoppage.

Number of days idle: The aggregate number of workdays lost by workers involved in the stoppages.

Days of idleness as a percent of estimated working time: Aggregate workdays lost as a percent of the aggregate number of standard workdays in the period multiplied by total employment in the period.

Notes on the data

This series is not comparable with the one terminated in 1981 that covered strikes involving six workers or more.

Additional sources of information

Data for each calendar year are reported in a BLS press release issued in the first quarter of the following year. Monthly data appear in the BLS monthly periodical, *Current Wage Developments*. Historical data appear in the *BLS Handbook of Labor Statistics*.

Other compensation data

Other BLS data on pay and benefits, not included in the Current Labor Statistics section of the *Monthly Labor Review*, appear in and consist of the following:

Industry Wage Surveys provide data for specific occupations selected to represent an industry's wage structure and the types of activities performed by its workers. The Bureau collects information on weekly work schedules, shift operations and pay differentials, paid holiday and vacation practices, and information on incidence of health, insurance, and retirement plans. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Monthly Labor Review*.

Area Wage Surveys annually provide data for selected office, clerical, professional, technical, maintenance, toolroom, powerplant, material movement, and custodial occupations common to a wide variety of industries in the areas (labor markets) surveyed. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Review*.

The National Survey of Professional, Administrative, Technical, and Clerical Pay provides detailed information annually on salary levels and distributions for the types of jobs mentioned in the survey's title in private employment. Although the definitions of the jobs surveyed reflect the duties and responsibilities in private industry, they are designed to match specific pay grades of Federal white-collar employees under the General Schedule pay system. Accordingly, this survey provides the legally required information for comparing the pay of salaried employees in the Federal civil service with pay in private industry. (See Federal Pay Comparability Act of 1970, 5 U.S.C. 5305.) Data are published in a BLS news release issued in the summer and in a bulletin each fall; summaries and analytical articles also appear in the *Review*.

Employee Benefits Survey provides nationwide information on the incidence and characteristics of employee benefit plans in medium and large establishments in the United States, excluding Alaska and Hawaii. Data are published in an annual BLS news release and bulletin, as well as in special articles appearing in the *Review*.

PRICE DATA
(Tables 2; 30–41)

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Consumer Price Indexes

Description of the series

The **Consumer Price Index** (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI–W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all urban consumer index (CPI–U) introduced in 1978 is representative of the 1972–73 buying habits of about 80 percent of the noninstitutional population of the United States at that time, compared with 40 percent represented in the CPI–W. In addition to wage earners and clerical workers, the CPI–U covers professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items are kept essentially unchanged between major revisions so that only price changes will be measured. All taxes directly associated with the purchase and use of items are included in the index.

Data collected from more than 24,000 retail establishments and 24,000 tenants in 85 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 28 major urban centers are presented in table 31. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

Notes on the data

In January 1983, the Bureau changed the way in which homeownership costs are measured for the CPI–U. A rental equivalence method replaced the

asset-price approach to homeownership costs for that series. In January 1985, the same change was made in the CPI-W. The central purpose of the change was to separate shelter costs from the investment component of homeownership so that the index would reflect only the cost of shelter services provided by owner-occupied homes.

Additional sources of information

For a discussion of the general method for computing the CPI, see *BLS Handbook of Methods, Volume II, The Consumer Price Index*, Bulletin 2134–2 (Bureau of Labor Statistics, 1984). The recent change in the measurement of homeownership costs is discussed in Robert Gillingham and Walter Lane, "Changing the treatment of shelter costs for homeowners in the CPI," *Monthly Labor Review*, June 1982, pp. 9–14.

Additional detailed CPI data and regular analyses of consumer price changes are provided in the *CPI Detailed Report*, a monthly publication of the Bureau. Historical data for the overall CPI and for selected groupings may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

Producer Price Indexes

Description of the series

Producer Price Indexes (PPI) measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 60,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The stage of processing structure of Producer Price Indexes organizes products by class of buyer and degree of fabrication (that is, finished goods, intermediate goods, and crude materials). The traditional commodity structure of PPI organizes products by similarity of end use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

Since January 1976, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

Notes on the data

Beginning with the January 1986 issue, the *Review* is no longer presenting tables of Producer Price Indexes for commodity groupings, special composite groups, or SIC industries. However, these data will continue to be presented in the Bureau's monthly publication *Producer Price Indexes*.

The Bureau has completed the first major stage of its comprehensive overhaul of the theory, methods, and procedures used to construct the Producer Price Indexes. Changes include the replacement of judgment sampling with probability sampling techniques; expansion to systematic coverage of the net output of virtually all industries in the mining and manufacturing sectors; a shift from a commodity to an industry orientation; the exclusion of imports from, and the inclusion of exports in, the survey universe; and the respecification of commodities priced to conform to Bureau of the Census definitions. These and other changes have been phased in gradually since 1978. The result is a system of indexes that is easier to use in conjunction with data on wages, productivity, and employment and other series that are organized in terms of the Standard Industrial Classification and the Census product class designations.

Additional sources of information

For a discussion of the methodology for computing Producer Price Indexes, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 7.

Additional detailed data and analyses of price changes are provided monthly in *Producer Price Indexes*. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

International price indexes

Description of the series

The BLS **International Price Program** produces quarterly export and import price indexes for nonmilitary goods traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national income accounts: it includes corporations, businesses, and individuals but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents. With publication of an all-import index in February 1983 and an all-export index in February 1984, all U.S. merchandise imports and exports now are represented in these indexes. The reference period for the indexes is 1977 = 100, unless otherwise indicated.

The product universe for both the import and export indexes includes raw materials, agricultural products, semifinished manufactures, and finished manufactures, including both capital and consumer goods. Price data for these items are collected quarterly by mail questionnaire. In nearly all cases, the data are collected directly from the exporter or importer, although in a few cases, prices are obtained from other sources.

To the extent possible, the data gathered refer to prices at the U.S. border for exports and at either the foreign border or the U.S. border for imports. For nearly all products, the prices refer to transactions completed during the first 2 weeks of the third month of each calendar quarter—March, June, September, and December. Survey respondents are asked to indicate all discounts, allowances, and rebates applicable to the reported prices, so that the price used in the calculation of the indexes is the actual price for which the product was bought or sold.

In addition to general indexes of prices for U.S. exports and imports, indexes are also published for detailed product categories of exports and imports. These categories are defined by the 4- and 5-digit level of detail of the Standard Industrial Trade Classification System (SITC). The calculation of indexes by SITC category facilitates the comparison of U.S. price trends and sector production with similar data for other countries. Detailed indexes are also computed and published on a Standard Industrial Classification (SIC-based) basis, as well as by end-use class.

Notes on the data

The export and import price indexes are weighted indexes of the Laspeyres type. Price relatives are assigned equal importance within each weight category and are then aggregated to the SITC level. The values assigned to each weight category are based on trade value figures compiled

by the Bureau of the Census. The trade weights currently used to compute both indexes relate to 1980.

Because a price index depends on the same items being priced from period to period, it is necessary to recognize when a product's specifications or terms of transaction have been modified. For this reason, the Bureau's quarterly questionnaire requests detailed descriptions of the physical and functional characteristics of the products being priced, as well as information on the number of units bought or sold, discounts, credit terms, packaging, class of buyer or seller, and so forth. When there are changes in either the specifications or terms of transaction of a product, the dollar value of each change is deleted from the total price change to obtain the "pure" change. Once this value is determined, a linking procedure is employed which allows for the continued repricing of the item.

For the export price indexes, the preferred pricing basis is f.a.s. (free alongside ship) U.S. port of exportation. When firms report export prices f.o.b. (free on board), production point information is collected which enables the Bureau to calculate a shipment cost to the port of exportation. An attempt is made to collect two prices for imports. The first is the import price f.o.b. at the foreign port of exportation, which is consistent with the basis for valuation of imports in the national accounts. The second is the import price c.i.f. (cost, insurance, and freight) at the U.S. port of importation, which also includes the other costs associated with bringing the product to the U.S. border. It does not, however, include duty charges.

Additional sources of information

For a discussion of the general method of computing International Price Indexes, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 8.

Additional detailed data and analyses of international price developments are presented in the Bureau's quarterly publication *U.S. Import and Export Price Indexes* and in occasional *Monthly Labor Review* articles prepared by BLS analysts. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

PRODUCTIVITY DATA

(Tables 2; 42–47)

U. S. productivity and related data

Description of the series

The productivity measures relate real physical output to real input. As such, they encompass a family of measures which include single factor input measures, such as output per unit of labor input (output per hour) or output per unit of capital input, as well as measures of multifactor productivity (output per unit of labor and capital inputs combined). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

Corresponding indexes of hourly compensation, unit labor costs, unit nonlabor payments, and prices are also provided.

Definitions

Output per hour of all persons (labor productivity) is the value of goods and services in constant prices produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the value of goods and services in constant dollars produced per unit of capital services input.

Multifactor productivity is the ratio output per unit of labor and capital inputs combined. Changes in this measure reflect changes in a number of factors which affect the production process such as changes in technology, shifts in the composition of the labor force, changes in capacity utilization, research and development, skill and efforts of the work force, management, and so forth. Changes in the output per hour measures reflect the impact of these factors as well as the substitution of capital for labor.

Compensation per hour is the wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, and the wages, salaries, and supplementary payments for the self-employed (except for nonfinancial corporations in which there are no self-employed)—the sum divided by hours paid for. **Real compensation per hour** is compensation per hour deflated by the change in the Consumer Price Index for All Urban Consumers.

Unit labor costs are the labor compensation costs expended in the production of a unit of output and are derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from current dollar value of output and dividing by output. **Unit nonlabor costs** contain all the components of unit nonlabor payments *except* unit profits.

Unit profits include corporate profits and the value of inventory adjustments per unit of output.

Hours of all persons are the total hours paid of payroll workers, self-employed persons, and unpaid family workers.

Capital services is the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories—weighted by rental prices for each type of asset.

Labor and capital inputs combined are derived by combining changes in labor and capital inputs with weights which represent each component's share of total output. The indexes for capital services and combined units of labor and capital are based on changing weights which are averages of the shares in the current and preceding year (the Tornquist index-number formula).

Notes on the data

Output measures for the business sector and the nonfarm businesss sector exclude the constant dollar value of owner-occupied housing, rest of world, households and institutions, and general government output from the constant dollar value of gross national product. The measures are derived from data supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are developed from data of the Bureau of Labor Statistics and the Bureau of Economic Analysis.

The productivity and associated cost measures in tables 42–44 describe the relationship between output in real terms and the labor time and capital services involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input. Although these measures relate output to hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; capital investment; level of output; utilization of capacity, energy, and materials; the organization of production; managerial skill; and the characteristics and efforts of the work force.

Additional sources of information

Descriptions of methodology underlying the measurement of output per hour and multifactor productivity are found in the *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 13. Historical data for selected industries are provided in the Bureau's *Handbook of Labor Statistics*, 1985, Bulletin 2217.

INTERNATIONAL COMPARISONS

(Tables 45–47)

Labor force and unemployment

Description of the series

Tables 45 and 46 present comparative measures of the labor force, employment, and unemployment—approximating U.S. concepts—for the United States, Canada, Australia, Japan, and six European countries. The unemployment statistics (and, to a lesser extent, employment statistics) published by other industrial countries are not, in most cases, comparable to U.S. unemployment statistics. Therefore, the Bureau adjusts the figures for selected countries, where necessary, for all known major definitional differences. Although precise comparability may not be achieved, these adjusted figures provide a better basis for international comparisons than the figures regularly published by each country.

Definitions

For the principal U.S. definitions of the **labor force**, **employment**, and **unemployment**, see the Notes section on EMPLOYMENT DATA: Household Survey Data.

Notes on the data

The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country, rather than to the U.S. standard of 16 years of age and over. Therefore, the adjusted statistics relate to the population age 16 and over in France, Sweden, and from 1973 onward, Great Britain; 15 and over in Canada, Australia, Japan, Germany, the Netherlands, and prior to 1973, Great Britain; and 14 and over in Italy. The institutional population is included in the denominator of the labor force participation rates and employment-population ratios for Japan and Germany; it is excluded for the United States and the other countries.

In the U.S. labor force survey, persons on layoff who are awaiting recall to their job are classified as unemployed. European and Japanese layoff practices are quite different in nature from those in the United States; therefore, strict application of the U.S. definition has not been made on this point. For further information, see *Monthly Labor Review*, December 1981, pp. 8–11.

The figures for one or more recent years for France, Germany, Great Britain, Italy, and the Netherlands are calculated using adjustment factors based on labor force surveys for earlier years and are considered preliminary. The recent-year measures for these countries are, therefore, subject to revision whenever data from more current labor force surveys become available.

Additional sources of information

For further information, see *International Comparisons of Unemployment*, Bulletin 1979 (Bureau of Labor Statistics, 1978), Appendix B and unpublished Supplements to Appendix B available on request. The statistics are also analyzed periodically in the *Monthly Labor Review*. Additional historical data, generally beginning with 1959, are published in the *Handbook of Labor Statistics* and are available in unpublished statistical supplements to Bulletin 1979.

Manufacturing productivity and labor costs

Description of the series

Table 47 presents comparative measures of manufacturing labor productivity, hourly compensation costs, and unit labor costs for the United States, Canada, Japan, and nine European countries. These measures are limited to trend comparisons—that is, intercountry series of changes over time—rather than level comparisons because reliable international comparisons of the levels of manufacturing output are unavailable.

Definitions

Output is constant value output (value added), generally taken from the national accounts of each country. While the national accounting methods for measuring real output differ considerably among the 12 countries, the use of different procedures does not, in itself, connote lack of comparability—rather, it reflects differences among countries in the availability and reliability of underlying data series.

Hours refer to all employed persons including the self-employed in the United States and Canada; to all wage and salary employees in the other countries. The U.S. hours measure is hours paid; the hours measures for the other countries are hours worked.

Compensation (labor cost) includes all payments in cash or kind made directly to employees plus employer expenditures for legally required insurance programs and contractual and private benefit plans. In addition, for some countries, compensation is adjusted for other significant taxes on payrolls or employment (or reduced to reflect subsidies), even if they are not for the direct benefit of workers, because such taxes are regarded as labor costs. However, compensation does not include all items of labor cost. The costs of recruitment, employee training, and plant facilities and services—such as cafeterias and medical clinics—are not covered because data are not available for most countries. Self-employed workers are included in the U.S. and Canadian compensation figures by assuming that their hourly compensation is equal to the average for wage and salary employees.

Notes on the data

For most of the countries, the measures refer to total manufacturing as defined by the International Standard Industrial Classification. However, the measures for France (beginning 1959), Italy (beginning 1970), and the United Kingdom (beginning 1976), refer to manufacturing and mining less energy-related products and the figures for the Netherlands exclude petroleum refining from 1969 to 1976. For all countries, manufacturing includes the activities of government enterprises.

The figures for one or more recent years are generally based on current indicators of manufacturing output, employment, hours, and hourly compensation and are considered preliminary until the national accounts and other statistics used for the long-term measures become available.

Additional sources of information

For additional information, see the *BLS Handbook of Methods*, Bulletin 2134, Vol. 1, Chapter 16 (Bureau of Labor Statistics, 1982) and periodic *Monthly Labor Review* articles. Historical data are provided in the Bureau's *Handbook of Labor Statistics*, Bulletin 2217, 1985. The statistics are issued twice per year—in a news release (generally in May) and in a *Monthly Labor Review* article (generally in December).

OCCUPATIONAL INJURY AND ILLNESS DATA

(Table 48)

Description of the series

The Annual Survey of Occupational Injuries and Illnesses is designed to collect data on injuries and illnesses based on records which employers in the following industries maintain under the Occupational Safety and Health Act of 1970: agriculture, forestry, and fishing; oil and gas extraction; construction; manufacturing; transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. Excluded from the survey are self-employed individuals, farmers with fewer than 11 employees, employers regulated by other Federal safety and health laws, and Federal, State, and local government agencies.

Because the survey is a Federal–State cooperative program and the data must meet the needs of participating State agencies, an independent sample is selected for each State. The sample is selected to represent all private industries in the States and territories. The sample size for the survey is dependent upon (1) the characteristics for which estimates are needed; (2) the industries for which estimates are desired; (3) the characteristics of the population being sampled; (4) the target reliability of the estimates; and (5) the survey design employed.

While there are many characteristics upon which the sample design could be based, the total recorded case incidence rate is used because it is one of the most important characteristics and the least variable; therefore, it requires the smallest sample size.

The survey is based on stratified random sampling with a Neyman allocation and a ratio estimator. The characteristics used to stratify the establishments are the Standard Industrial Classification (SIC) code and size of employment.

Definitions

Recordable occupational injuries and illnesses are: (1) occupational deaths, regardless of the time between injury and death, or the length of the illness; or (2) nonfatal occupational illnesses; or (3) nonfatal occupational injuries which involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment (other than first aid).

Occupational injury is any injury such as a cut, fracture, sprain, amputation, and so forth, which results from a work accident or from exposure involving a single incident in the work environment.

Occupational illness is an abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. It includes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion, or direct contact.

Lost workday cases are cases which involve days away from work, or days of restricted work activity, or both.

Lost workday cases involving restricted work activity are those cases which result in restricted work activity only.

Lost workdays away from work are the number of workdays (consecutive or not) on which the employee would have worked but could not because of occupational injury or illness.

Lost workdays—restricted work activity are the number of workdays (consecutive or not) on which, because of injury or illness: (1) the employee was assigned to another job on a temporary basis; or (2) the employee worked at a permanent job less than full time; or (3) the employee worked at a permanently assigned job but could not perform all duties normally connected with it.

The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked even though able to work.

Incidence rates represent the number of injuries and/or illnesses or lost workdays per 100 full-time workers.

Notes on the data

Estimates are made for industries and employment-size classes and for severity classification: fatalities, lost workday cases, and nonfatal cases without lost workdays. Lost workday cases are separated into those where the employee would have worked but could not and those in which work activity was restricted. Estimates of the number of cases and the number of days lost are made for both categories.

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses, or lost workdays, per 100 full-time employees. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Only a few of the available measures are included in the *Handbook of Labor Statistics*. Full detail is presented in the annual bulletin, *Occupational Injuries and Illnesses in the United States, by Industry*.

Comparable data for individual States are available from the BLS Office of Occupational Safety and Health Statistics.

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration, respectively. Data from these organizations are included in BLS and State publications. Federal employee experience is compiled and published by the Occupational Safety and Health Administration. Data on State and local government employees are collected by about half of the States and territories; these data are not compiled nationally.

Additional sources of information

The Supplementary Data System provides detailed information describing various factors associated with work-related injuries and illnesses. These data are obtained from information reported by *employers* to State workers' compensation agencies. The Work Injury Report program examines selected types of accidents through an employee survey which focuses on the circumstances surrounding the injury. These data are not included in the *Handbook of Labor Statistics* but are available from the BLS Office of Occupational Safety and Health Statistics.

The definitions of occupational injuries and illnesses and lost workdays are from *Recordkeeping Requirements under the Occupational Safety and Health Act of 1970*. For additional data, see *Occupational Injuries and Illnesses in the United States, by Industry*, annual Bureau of Labor Statistics bulletin; BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 17; *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985), pp. 411–14; annual reports in the *Monthly Labor Review*; and annual U.S. Department of Labor press releases.

1. Labor market indicators

Selected indicators	1984	1985	1984		1985				198
			III	IV	I	II	III	IV	I
Employment data									
Employment status of the civilian noninstitutionalized population (household survey)[1]									
Labor force participation rate	64.4	64.8	64.4	64.5	64.8	64.7	64.7	64.9	65.1
Employment-population ratio	59.5	60.1	59.7	59.8	60.1	60.0	60.1	60.4	60.5
Unemployment rate	7.5	7.2	7.4	7.2	7.3	7.3	7.2	7.0	7.1
Men	7.4	7.0	7.3	7.1	7.1	7.1	7.0	6.9	6.8
16 to 24 years	14.4	14.1	14.5	13.8	14.1	14.2	14.0	14.0	13.3
25 years and over	5.7	5.3	5.5	5.4	5.4	5.4	5.3	5.2	5.3
Women	7.6	7.4	7.6	7.5	7.6	7.5	7.4	7.2	7.3
16 to 24 years	13.3	13.0	13.1	12.9	13.1	13.0	12.7	13.1	13.2
25 years and over	6.0	5.9	6.0	5.9	6.0	6.0	5.9	5.5	5.7
Unemployment rate, 15 weeks and over	2.4	2.0	2.3	2.1	2.0	2.0	2.0	1.9	1.9
Employment, nonagricultural (payroll data):[1]									
Total	94,496	97,614	94,977	95,907	96,581	97,295	97,897	98,668	99,403
Private sector	78,472	81,199	78,914	79,736	80,341	80,958	81,414	82,069	82,731
Goods-producing	24,727	24,930	24,891	24,943	24,970	24,947	24,866	24,937	25,028
Manufacturing	19,378	19,314	19,489	19,486	19,439	19,323	19,241	19,261	19,284
Service-producing	69,769	72,684	70,086	70,964	71,611	72,347	73,031	73,731	74,375
Average hours									
Private sector	35.2	34.9	35.1	35.1	35.0	34.9	34.9	34.9	34.9
Manufacturing	40.7	40.5	40.6	40.5	40.4	40.4	40.6	40.8	40.7
Overtime	3.4	3.3	3.3	3.4	3.3	3.2	3.3	3.5	3.4
Employment Cost Index[2]									
Percent change in the ECI, compensation:[3]									
All workers (excluding farm, household, and Federal workers)	–	–	1.3	1.2	1.3	.7	1.6	.6	1.1
Private industry workers	–	–	.8	1.3	1.2	.8	1.3	.6	1.1
Goods-producing[4]	–	–	.9	1.1	1.5	.7	.6	.6	1.1
Servicing-producing[4]	–	–	.7	1.4	1.0	1.0	1.8	.5	1.1
State and local government workers	–	–	3.5	1.0	1.2	.2	3.4	.7	1.0
Workers by bargaining status (private industry)									
Union	–	–	.7	1.1	.7	.6	.8	.5	1.0
Nonunion	–	–	.9	1.3	1.6	1.0	1.4	.6	1.2

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[1] Quarterly data seasonally adjusted.

[2] Beginning June 1986, ECI measures are based on fixed employment counts from the 1980 Census of Population , rather than from the 1970 census.

[3] Quarterly changes calculated using the last month of each month.

[4] Goods-producing industries include mining, construction, and manufacturin
producing industries include all other private sector industries.

2. Annual and quarterly percent changes in compensation, prices, and productivity

Selected measures	1984	1985	1984		1985				1986	
			III	IV	I	II	III	IV	I	II
Compensation data: [1], [2]										
Employment Cost Index–Compensation (wages, salaries, benefits)										
Civilian nonfarm	-	-	1.3	1.2	1.3	0.7	1.6	0.6	1.1	0.7
Private nonfarm	-	-	.8	1.3	1.2	.8	1.3	.6	1.1	.8
Employment Cost Index--Wages and Salaries										
Civilian nonfarm	-	-	1.3	1.2	1.2	.9	1.7	.6	1.0	.8
Private nonfarm	-	-	.8	1.2	1.2	1.1	1.3	.6	1.0	.9
Price data[1]										
Consumer Price Index (All urban consumers): All items	4.0	3.8	1.2	.3	1.0	1.1	.7	.9	-.4	.8
Producer Price Index										
Finished goods	1.7	1.8	-.5	.9	.0	.7	-1.4	2.5	-3.1	.3
Finished consumer goods	1.6	1.5	-.5	.8	-.3	.7	-1.4	2.5	-4.1	.2
Capital equipment	1.8	2.7	-.5	1.1	1.3	.4	-1.4	2.5	.2	.5
Intermediate materials, supplies, components	1.3	-.3	-.4	-.1	-.4	.2	-.5	.4	-2.9	-.8
Crude materials	-1.6	-5.6	-2.0	-1.2	-3.1	-2.1	-4.5	4.3	-7.6	-2.2
Productivity data[1]										
Output per hour of all persons:										
Business sector	2.3	1.0	-.3	-.1	.9	2.7	3.4	-3.2	3.3	-.3
Nonfarm business sector	1.8	.5	-.7	-.4	.3	1.8	2.2	-3.5	4.3	-.5
Nonfinancial corporations [3]	2.0	1.2	-1.6	1.1	.8	2.2	4.9	-2.8	-.5	-2.3

[1] Annual changes are December-to-December change. Quarterly changes are calculated using the last month of each quarter. Compensation and Price data are not seasonally adjusted and the price data are not compounded. Productivity data are seasonally adjusted.

[2] Excludes Federal and private household workers.

[3] Output per hour of all employees.

- Data not available.

3. Alternative measures of wage and compensation changes

Components	Quarterly average						Four quarters ended--					
	1985				1986		1985				1986	
	I	II	III	IV	I	II	I	II	III	IV	I	II
Average hourly compensation:[1]												
All persons, business sector	4.2	5.1	4.4	3.6	2.5	2.7	3.9	4.5	4.4	4.4	3.9	3.3
All employees, nonfarm business sector	3.9	4.6	3.2	3.7	3.1	2.2	3.9	4.2	4.0	3.9	3.6	3.1
Employment Cost Index--compensation:												
Civilian nonfarm [2]	1.3	.7	1.6	.6	1.1	.7	4.8	4.6	4.9	4.3	4.1	4.0
Private nonfarm	1.2	.8	1.3	.6	1.1	.8	4.4	4.2	4.7	3.9	3.8	3.8
Union	.7	.6	.8	.5	1.0	.2	3.5	3.1	3.2	2.6	2.9	2.5
Nonunion	1.6	1.0	1.4	.6	1.2	.9	4.9	4.9	5.4	4.6	4.2	4.2
State and local governments	1.2	.2	3.4	.7	1.0	.5	6.3	6.1	6.0	5.7	5.5	5.8
Employment Cost Index--wages and salaries:												
Civilian nonfarm[2]	1.2	.9	1.7	.6	1.0	.8	4.4	4.5	5.0	4.4	4.2	4.1
Private nonfarm	1.2	1.1	1.3	.6	1.0	.9	4.1	4.3	4.8	4.1	3.9	3.7
Union	.7	1.1	.9	.5	.7	.4	3.0	3.4	3.6	3.1	3.2	2.5
Nonunion	1.4	1.1	1.5	.6	1.1	.9	4.6	4.8	5.4	4.6	4.3	4.1
State and local governments	1.0	.2	3.5	.8	1.0	.4	5.6	5.5	5.6	5.6	5.5	5.7
Total effective wage adjustments[3]	.7	.8	1.2	.5	.6	.7	3.6	3.5	3.5	3.3	3.1	2.9
From current settlements	.1	.2	.2	.1	.0	.2	.7	.9	.9	.7	.6	.5
From prior settlements	.6	.5	.5	.2	.4	.6	2.2	1.9	1.8	1.8	1.7	1.8
From cost-of-living provision	.1	.1	.4	.1	.2	.0	.7	.7	.6	.7	.8	.7
Negotiated wage adjustments from settlements[3]												
First-year adjustments	3.3	2.5	2.0	2.1	1.0	1.3	2.4	2.4	2.4	2.3	2.0	1.7
Annual rate over life of contract	3.2	2.8	3.1	1.9	1.6	2.0	2.3	2.4	2.5	2.7	2.5	2.3
Negotiated wage and benefit adjustments from settlements:[4]												
First-year adjustment	3.6	3.5	2.0	2.0	.4	.7	3.4	3.4	3.1	2.6	2.3	1.5
Annual rate over life of contract	2.7	3.4	3.0	1.4	1.3	1.6	2.6	2.7	2.7	2.7	2.6	2.0

[1] Seasonally adjusted.

[2] Excludes Federal and household workers. Beginning June 1986, ECI measures are based on fixed employment counts from the 1980 Census of Population, rather than from the 1970 census.

[3] Limited to major collective bargaining units of 1,000 workers or more. The most recent data are preliminary.

[4] Limited to major collective bargaining units of 5,000 workers or more. The most recent data are preliminary.

4. Employment status of the total population, by sex, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1985					1986						
	1984	1985	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
TOTAL														
Noninstitutional population [1], [2]	178,080	179,912	180,131	180,304	180,470	180,642	180,810	181,361	181,512	181,678	181,843	181,998	182,183	182,354
Labor force[2]	115,241	117,167	117,069	117,522	117,814	117,832	117,927	118,477	118,779	118,900	118,929	119,351	119,796	119,744
Participation rate [3]	64.7	65.1	65.0	65.2	65.3	65.2	65.2	65.3	65.4	65.4	65.4	65.6	65.8	65.7
Total employed [2]	106,702	108,856	108,936	109,251	109,513	109,671	109,904	110,646	110,252	110,481	110,587	110,797	111,353	111,554
Employment-population ratio [4]	59.9	60.5	60.5	60.6	60.7	60.7	60.8	61.0	60.7	60.8	60.8	60.9	61.1	61.2
Resident Armed Forces [1]	1,697	1,706	1,726	1,732	1,700	1,702	1,698	1,691	1,691	1,693	1,695	1,687	1,680	1,672
Civilian employed	105,005	107,150	107,210	107,519	107,813	107,969	108,206	108,955	108,561	108,788	108,892	109,110	109,673	109,882
Agriculture	3,321	3,179	3,095	3,017	3,058	3,070	3,151	3,299	3,096	3,285	3,222	3,160	3,165	3,112
Nonagricultural industries	101,685	103,971	104,115	104,502	104,755	104,899	105,055	105,655	105,465	105,503	105,670	105,950	106,508	106,770
Unemployed	8,539	8,312	8,133	8,271	8,301	8,161	8,023	7,831	8,527	8,419	8,342	8,554	8,443	8,190
Unemployment rate [5]	7.4	7.1	6.9	7.0	7.0	6.9	6.8	6.6	7.2	7.1	7.0	7.2	7.0	6.8
Not in labor force	62,839	62,744	63,062	62,782	62,656	62,810	62,883	62,885	62,733	62,778	62,914	62,647	62,387	62,610
Men, 16 years and over														
Noninstitutional population [1], [2]	85,156	86,025	86,132	86,217	86,293	86,374	86,459	86,882	86,954	87,035	87,120	87,195	87,288	87,373
Labor force[2]	65,386	65,967	65,945	66,074	66,227	66,176	66,139	66,679	66,838	66,864	66,757	66,943	66,964	66,936
Participation rate [3]	76.8	76.7	76.6	76.6	76.7	76.6	76.5	76.7	76.9	76.8	76.6	76.8	76.7	76.6
Total employed [2]	60,642	61,447	61,510	61,629	61,656	61,731	61,793	62,458	62,243	62,288	62,254	62,190	62,322	62,365
Employment-population ratio [4]	71.2	71.4	71.4	71.5	71.4	71.5	71.5	71.9	71.6	71.6	71.5	71.3	71.4	71.4
Resident Armed Forces [1]	1,551	1,556	1,574	1,580	1,551	1,552	1,549	1,539	1,539	1,540	1,541	1,533	1,525	1,518
Civilian employed	59,091	59,891	59,936	60,049	60,105	60,179	60,244	60,919	60,704	60,748	60,713	60,657	60,797	60,847
Unemployed	4,744	4,521	4,435	4,445	4,571	4,445	4,346	4,221	4,595	4,577	4,503	4,754	4,642	4,571
Unemployment rate [5]	7.3	6.9	6.7	6.7	6.9	6.7	6.6	6.3	6.9	6.8	6.7	7.1	6.9	6.8
Women, 16 years and over														
Noninstitutional population [1], [2]	92,924	93,886	93,999	94,087	94,177	94,268	94,351	94,479	94,558	94,643	94,723	94,803	94,895	94,981
Labor force[2]	49,855	51,200	51,124	51,448	51,587	51,655	51,788	51,797	51,941	52,036	52,172	52,408	52,832	52,808
Participation rate [3]	53.7	54.5	54.4	54.7	54.8	54.8	54.9	54.8	54.9	55.0	55.1	55.3	55.7	55.6
Total employed[2]	46,061	47,409	47,426	47,622	47,857	47,939	48,111	48,187	48,009	48,194	48,333	48,608	49,031	49,189
Employment-population ratio [4]	49.6	50.5	50.5	50.6	50.8	50.9	51.0	51.0	50.8	50.9	51.0	51.3	51.7	51.8
Resident Armed Forces [1]	146	150	152	152	149	149	149	152	152	153	154	154	155	154
Civilian employed	45,915	47,259	47,274	47,470	47,708	47,790	47,962	48,035	47,857	48,041	48,179	48,454	48,876	49,035
Unemployed	3,794	3,791	3,698	3,826	3,730	3,716	3,677	3,610	3,932	3,842	3,839	3,800	3,801	3,619
Unemployment rate [5]	7.6	7.4	7.2	7.4	7.2	7.2	7.1	7.0	7.6	7.4	7.4	7.3	7.2	6.9

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[1] The population and Armed Forces figures are not adjusted for seasonal variation.

[2] Includes members of the Armed Forces stationed in the United States.

[3] Labor force as a percent of the noninstitutional population.

[4] Total employed as a percent of the noninstitutional population.

[5] Unemployment as a percent of the labor force (including the resident

Forces).

5. Employment status of the civilian population, by sex, age, race and Hispanic origin, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1985					1986							
	1984	1985	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
TOTAL															
Civilian noninstitutional population[1]	176,383	178,206	178,405	178,572	178,770	178,940	179,112	179,670	179,821	179,985	180,148	180,311	180,503	180,682	180,828
Civilian labor force	113,544	115,461	115,343	115,790	116,114	116,130	116,229	116,786	117,088	117,207	117,234	117,664	118,116	118,072	118,182
Participation rate	64.4	64.8	64.7	64.8	65.0	64.9	64.9	65.0	65.1	65.1	65.1	65.3	65.4	65.3	65.4
Employed	105,005	107,150	107,210	107,519	107,813	107,969	108,206	106,955	108,561	108,788	108,892	109,110	109,673	109,882	110,155
Employment-population ratio[2]	59.5	60.1	60.1	60.2	60.3	60.3	60.4	60.6	60.4	60.4	60.4	60.5	60.8	60.8	60.9
Unemployed	8,539	8,312	8,133	8,271	8,301	8,161	8,023	7,891	8,527	8,419	8,342	8,554	8,443	8,190	8,027
Unemployment rate	7.5	7.2	7.1	7.1	7.1	7.0	6.9	6.7	7.3	7.2	7.1	7.3	7.1	6.9	6.8
Not in labor force	62,839	62,744	63,062	62,782	62,656	62,810	62,883	62,885	62,733	62,778	62,914	62,647	62,387	62,610	62,646
Men, 20 years and over															
Civilian noninstitutional population[1]	76,219	77,195	77,306	77,389	77,498	77,588	77,651	78,101	78,171	78,236	78,309	78,387	78,484	78,586	78,634
Civilian labor force	58,701	60,277	60,268	60,407	60,526	60,553	60,548	61,212	61,183	61,268	61,053	61,208	61,387	61,323	61,235
Participation rate	78.3	78.1	78.0	78.1	78.1	78.1	78.0	78.4	78.3	78.3	78.0	78.1	78.2	78.0	77.9
Employed	55,769	56,562	56,636	56,751	56,849	56,897	56,982	57,706	57,384	57,459	57,391	57,312	57,560	57,499	57,607
Employment-population ratio[2]	73.2	73.3	73.3	73.3	73.4	73.4	73.4	73.9	73.4	73.4	73.3	73.1	73.3	73.2	73.3
Agriculture	2,418	2,278	2,231	2,171	2,188	2,210	2,278	2,349	2,256	2,411	2,347	2,278	2,320	2,266	2,173
Nonagricultural industries	53,351	54,284	54,405	54,580	54,661	54,687	54,704	55,356	55,127	55,048	55,043	55,034	55,241	55,233	55,435
Unemployed	3,932	3,715	3,633	3,656	3,677	3,656	3,566	3,507	3,799	3,809	3,663	3,897	3,827	3,824	3,628
Unemployment rate	6.6	6.2	6.0	6.1	6.1	6.0	5.9	5.7	6.2	6.2	6.0	6.4	6.2	6.2	5.9
Women, 20 years and over															
Civilian noninstitutional population[1]	85,429	86,506	86,652	86,727	86,810	86,901	86,989	87,112	87,185	87,263	87,355	87,444	87,547	87,629	87,689
Civilian labor force	45,900	47,283	47,340	47,558	47,663	47,713	47,870	47,895	47,921	47,952	48,107	48,409	48,805	48,916	48,989
Participation rate	53.7	54.7	54.6	54.8	54.9	54.9	55.0	55.0	55.0	55.0	55.1	55.4	55.7	55.8	55.9
Employed	42,793	44,154	44,197	44,363	44,609	44,656	44,882	44,980	44,710	44,797	45,009	45,284	45,701	45,918	45,999
Employment-population ratio[2]	50.1	51.0	51.0	51.2	51.4	51.4	51.6	51.6	51.3	51.3	51.5	51.8	52.2	52.4	52.5
Agriculture	595	596	581	557	609	591	597	696	593	598	576	609	565	606	627
Nonagricultural industries	42,198	43,558	43,616	43,806	44,000	44,065	44,285	44,284	44,117	44,199	44,433	44,675	45,136	45,309	45,372
Unemployed	3,107	3,129	3,143	3,195	3,054	3,057	2,988	2,915	3,211	3,155	3,097	3,125	3,104	2,998	2,990
Unemployment rate	6.8	6.6	6.6	6.7	6.4	6.4	6.2	6.1	6.7	6.6	6.4	6.5	6.4	6.1	6.1
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	14,735	14,506	14,448	14,456	14,463	14,472	14,474	14,458	14,465	14,485	14,484	14,480	14,472	14,467	14,505
Civilian labor force	7,943	7,901	7,734	7,825	7,925	7,864	7,811	7,678	7,984	7,987	8,074	8,047	7,923	7,833	7,958
Participation rate	53.9	54.5	53.5	54.1	54.8	54.3	54.0	53.1	55.2	55.1	55.7	55.6	54.7	54.1	54.9
Employed	6,444	6,434	6,377	6,405	6,355	6,416	6,342	6,269	6,467	6,532	6,492	6,515	6,411	6,465	6,549
Employment-population ratio[2]	43.7	44.4	44.1	44.3	43.9	44.3	43.8	43.4	44.7	45.1	44.8	45.0	44.3	44.7	45.2
Agriculture	309	305	283	289	261	269	275	254	246	276	298	274	280	238	249
Nonagricultural industries	6,135	6,129	6,094	6,116	6,094	6,147	6,066	6,015	6,221	6,256	6,194	6,241	6,131	6,227	6,300
Unemployed	1,499	1,468	1,357	1,420	1,570	1,448	1,469	1,409	1,517	1,455	1,582	1,532	1,512	1,368	1,409
Unemployment rate	18.9	18.6	17.5	18.1	19.8	18.4	18.8	18.4	19.0	18.2	19.6	19.0	19.1	17.5	17.7
White															
Civilian noninstitutional population[1]	152,347	153,679	153,819	153,936	154,062	154,203	154,327	154,784	154,889	155,005	155,122	155,236	155,376	155,502	155,604
Civilian labor force	98,492	99,926	99,817	100,179	100,533	100,478	100,533	100,961	101,232	101,248	101,249	101,515	101,975	101,922	102,189
Participation rate	64.6	65.0	64.9	65.1	65.2	65.2	65.1	65.2	65.4	65.3	65.3	65.4	65.6	65.5	65.7
Employed	92,120	93,736	93,684	94,056	94,369	94,507	94,585	95,165	94,803	94,958	95,081	95,180	95,731	95,760	96,271
Employment-population ratio[2]	60.5	61.0	60.9	61.1	61.2	61.3	61.3	61.5	61.2	61.3	61.3	61.3	61.6	61.6	61.9
Unemployed	6,372	6,191	6,133	6,124	6,164	5,971	5,948	5,796	6,429	6,290	6,168	6,335	6,244	6,162	5,918
Unemployment rate	6.5	6.2	6.1	6.1	6.1	5.9	5.9	5.7	6.4	6.2	6.1	6.2	6.1	6.0	5.8
Black															
Civilian noninstitutional population[1]	19,348	19,664	19,700	19,728	19,761	19,790	19,819	19,837	19,863	19,889	19,916	19,943	19,974	20,002	20,028
Civilian labor force	12,033	12,364	12,289	12,378	12,412	12,457	12,522	12,548	12,545	12,656	12,740	12,781	12,754	12,601	12,473
Participation rate	62.2	62.9	62.4	62.7	62.8	62.9	63.2	63.3	63.2	63.6	64.0	64.1	63.9	63.0	62.3
Employed	10,119	10,501	10,560	10,500	10,566	10,518	10,657	10,737	10,690	10,791	10,856	10,889	10,825	10,836	10,654
Employment-population ratio[2]	52.3	53.4	53.6	53.2	53.5	53.1	53.8	54.1	53.8	54.3	54.5	54.6	54.2	54.2	53.2
Unemployed	1,914	1,864	1,729	1,878	1,846	1,939	1,865	1,810	1,855	1,865	1,884	1,892	1,929	1,766	1,819
Unemployment rate	15.9	15.1	14.1	15.2	14.9	15.6	14.9	14.4	14.8	14.7	14.8	14.8	15.1	14.0	14.6

See footnotes at end of table.

5. Continued— Employment status of the civilian population, by sex, age, race and Hispanic origin, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1985					1986						
	1984	1985	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
Hispanic origin														
Civilian noninstitutional population[1]	11,478	11,915	11,969	12,004	12,040	12,075	12,111	12,148	12,184	12,219	12,255	12,290	12,326	12,362
Civilian labor force	7,451	7,698	7,781	7,844	7,854	7,782	7,772	7,787	7,943	7,920	7,975	8,002	8,110	8,123
Participation rate	64.9	64.6	65.0	65.3	65.2	64.4	64.2	64.1	65.2	64.8	65.1	65.1	65.8	65.7
Employed	6,651	6,888	6,973	7,026	6,982	6,953	6,962	6,998	6,969	7,105	7,144	7,123	7,251	7,274
Employment-population ratio[2]	57.9	57.8	58.3	58.5	58.0	57.6	57.5	57.6	57.2	58.2	58.3	58.0	58.8	58.8
Unemployed	800	811	808	818	872	829	810	789	974	815	832	878	858	849
Unemployment rate	10.7	10.5	10.4	10.4	11.1	10.7	10.4	10.1	12.3	10.3	10.4	11.0	10.6	10.5

[1] The population figures are not seasonally adjusted.

[2] Civilian employment as a percent of the civilian noninstitutional population.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" groups are not presented and Hispanics are include in both the white and black population groups.

6. Selected employment indicators, monthly data seasonally adjusted

(In thousands)

Selected categories	Annual average		1985					1986						
	1984	1985	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
CHARACTERISTIC														
Civilian employed, 16 years and over	105,005	107,150	107,210	107,519	107,813	107,989	108,206	108,955	108,561	108,788	108,892	109,110	109,673	109,882
Men	59,091	59,891	59,936	60,049	60,105	60,179	60,244	60,919	60,704	60,748	60,713	60,657	60,797	60,847
Women	45,915	47,259	47,274	47,470	47,708	47,790	47,962	48,035	47,857	48,041	48,179	48,454	48,876	49,035
Married men, spouse present	39,056	39,248	39,142	39,103	39,272	39,314	39,278	39,615	39,382	39,365	39,555	39,614	39,626	39,611
Married women, spouse present	25,636	26,336	26,392	26,531	26,702	26,721	26,804	26,958	26,593	26,656	26,802	26,920	27,427	27,523
Women who maintain families	5,465	5,597	5,627	5,556	5,514	5,605	5,693	5,702	5,733	5,771	5,812	5,718	5,668	5,829
MAJOR INDUSTRY AND CLASS OF WORKER														
Agriculture:														
Wage and salary workers	1,555	1,535	1,456	1,438	1,465	1,537	1,572	1,673	1,519	1,689	1,587	1,480	1,496	1,486
Self-employed workers	1,553	1,458	1,444	1,414	1,436	1,361	1,409	1,492	1,444	1,453	1,475	1,486	1,504	1,427
Unpaid family workers	213	185	173	179	172	158	164	163	156	172	180	186	154	171
Nonagricultural industries:														
Wage and salary workers	93,565	95,871	95,791	96,546	96,530	96,676	96,921	97,911	97,516	97,698	97,831	97,994	98,372	98,206
Government	15,770	16,031	16,075	16,145	16,213	16,157	16,194	16,418	16,104	16,095	16,187	16,325	16,387	16,647
Private industries	77,794	79,841	79,716	80,401	80,317	80,519	80,727	81,494	81,412	81,604	81,643	81,669	81,984	81,559
Private households	1,238	1,249	1,295	1,266	1,271	1,197	1,131	1,256	1,197	1,213	1,321	1,275	1,279	1,243
Other	76,556	78,592	78,421	79,135	79,046	79,322	79,596	80,238	80,216	80,390	80,322	80,394	80,705	80,317
Self-employed workers	7,785	7,811	7,874	7,846	7,991	8,013	7,903	7,655	7,669	7,644	7,571	7,757	7,807	8,061
Unpaid family workers	335	289	303	266	248	249	250	273	270	240	253	229	235	254
PERSONS AT WORK PART TIME[1]														
All industries:														
Part time for economic reasons	5,744	5,590	5,680	5,554	5,475	5,498	5,494	5,543	5,377	5,538	5,923	5,960	5,537	5,399
Slack work	2,430	2,430	2,480	2,433	2,251	2,306	2,303	2,364	2,369	2,330	2,603	2,659	2,434	2,484
Could only find part-time work	2,948	2,819	2,835	2,815	2,897	2,683	2,864	2,883	2,703	2,953	2,974	2,893	2,810	2,624
Voluntary part time	13,169	13,489	13,622	13,496	13,713	13,645	13,556	13,958	13,817	13,754	13,933	13,638	14,268	13,991
Nonagricultural industries:														
Part time for economic reasons	5,512	5,334	5,413	5,289	5,241	5,295	5,294	5,275	5,158	5,301	5,621	5,673	5,320	5,191
Slack work	2,291	2,273	2,319	2,292	2,115	2,196	2,195	2,208	2,224	2,159	2,430	2,523	2,308	2,323
Could only find part-time work	2,866	2,730	2,740	2,730	2,801	2,784	2,760	2,776	2,636	2,861	2,849	2,790	2,724	2,579
Voluntary part time	12,704	13,038	13,179	13,053	13,277	13,194	13,122	13,441	13,369	13,285	13,599	13,191	13,779	13,656

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

7. Selected unemployment indicators, monthly data seasonally adjusted

(Unemployment rates)

Selected categories	Annual average		1985					1986							
	1984	1985	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
CHARACTERISTIC															
Total, all civilian workers	7.5	7.2	7.1	7.1	7.1	7.0	6.9	6.7	7.3	7.2	7.1	7.3	7.1	6.9	6.8
Both sexes, 16 to 19 years	18.9	18.6	17.5	18.1	19.8	18.4	18.8	18.4	19.0	18.2	19.6	19.0	19.1	17.5	17.7
Men, 20 years and over	6.6	6.2	6.0	6.1	6.1	6.0	5.9	5.7	6.2	6.2	6.0	6.4	6.2	6.2	5.9
Women, 20 years and over	6.8	6.6	6.6	6.7	6.4	6.4	6.2	6.1	6.7	6.6	6.4	6.5	6.4	6.1	6.1
White, total	6.5	6.2	6.1	6.1	6.1	5.9	5.9	5.7	6.4	6.2	6.1	6.2	6.1	6.0	5.8
Both sexes, 16 to 19 years	16.0	15.7	15.2	15.3	17.0	15.5	15.9	14.9	16.2	14.5	16.4	16.0	16.2	15.0	15.2
Men, 16 to 19 years	16.8	16.5	17.2	16.2	18.5	15.8	16.2	14.7	16.5	15.3	17.2	17.3	17.8	15.3	16.7
Women, 16 to 19 years	15.2	14.8	13.0	14.4	15.3	15.1	15.5	15.1	15.8	13.7	15.8	14.7	14.4	14.7	13.5
Men, 20 years and over	5.7	5.4	5.3	5.2	5.2	5.2	5.1	5.0	5.4	5.5	5.2	5.5	5.4	5.5	5.0
Women, 20 years and over	5.8	5.7	5.7	5.7	5.5	5.4	5.4	5.3	5.9	5.8	5.5	5.5	5.4	5.3	5.2
Black, total	15.9	15.1	14.1	15.2	14.9	15.6	14.9	14.4	14.8	14.7	14.8	14.8	15.1	14.0	14.6
Both sexes, 16 to 19 years	42.7	40.2	35.3	38.8	39.7	40.8	41.6	41.9	39.1	43.7	42.6	40.8	40.2	38.6	39.5
Men, 16 to 19 years	42.7	41.0	34.9	41.1	41.0	45.2	41.0	41.3	38.7	44.1	41.4	40.8	38.5	41.6	37.4
Women, 16 to 19 years	42.6	39.2	35.9	36.1	38.2	36.0	42.3	42.4	39.5	43.4	43.7	40.8	41.9	35.1	41.8
Men, 20 years and over	14.3	13.2	11.9	13.3	13.7	13.7	13.1	12.7	13.3	12.6	12.6	12.7	13.3	12.7	13.2
Women, 20 years and over	13.5	13.1	13.1	13.5	12.1	13.6	12.6	12.0	12.5	12.2	12.5	12.8	12.8	11.9	12.5
Hispanic origin, total	10.7	10.5	10.4	10.4	11.1	10.7	10.4	10.1	12.3	10.3	10.4	11.0	10.6	10.5	11.0
Married men, spouse present	4.6	4.3	4.1	4.3	4.2	4.3	4.3	4.3	4.5	4.5	4.2	4.5	4.5	4.4	4.1
Married women, spouse present	5.7	5.6	5.4	5.6	5.3	5.5	5.3	5.1	5.5	5.6	5.3	5.4	5.2	5.3	5.1
Women who maintain families	10.3	10.4	10.8	11.3	10.4	10.0	9.4	9.9	9.9	10.1	9.4	10.2	10.1	9.2	10.3
Full-time workers	7.2	6.8	6.8	6.8	6.8	6.7	6.6	6.4	6.9	6.9	6.7	7.0	6.7	6.6	6.4
Part-time workers	9.3	9.3	9.0	9.3	9.6	8.8	9.0	8.4	9.4	9.1	9.6	9.2	9.1	9.0	9.3
Unemployed 15 weeks and over	2.4	2.0	2.0	2.0	2.0	1.9	1.9	1.8	2.0	1.9	1.8	1.9	2.0	1.9	1.9
Labor force time lost[1]	8.6	8.1	8.1	8.1	7.9	7.9	7.8	7.6	8.1	8.1	8.1	8.3	8.1	7.7	7.7
INDUSTRY															
Nonagricultural private wage and salary workers	7.4	7.2	7.1	7.2	7.1	7.0	6.9	6.7	7.2	7.2	7.2	7.3	7.1	7.2	6.9
Mining	10.0	9.5	8.6	8.9	7.7	7.3	10.3	10.9	9.2	10.4	12.8	13.7	17.6	17.0	16.7
Construction	14.3	13.1	13.1	13.6	13.5	13.4	12.6	12.9	13.2	13.0	12.0	13.3	12.1	13.2	12.2
Manufacturing	7.5	7.7	7.8	7.7	7.5	7.7	7.3	7.0	7.2	7.2	6.8	7.5	7.3	6.9	6.8
Durable goods	7.2	7.6	7.9	7.7	7.3	7.6	7.3	7.0	7.4	6.8	6.8	7.3	7.1	6.7	6.9
Nondurable goods	7.8	7.8	7.6	7.8	7.8	7.8	7.3	7.1	7.0	7.7	6.8	7.7	7.5	7.2	6.7
Transportation and public utilities	5.5	5.1	4.5	5.3	5.1	5.1	5.0	4.3	5.3	6.1	5.6	5.3	5.5	6.1	4.6
Wholesale and retail trade	8.0	7.6	7.7	7.8	7.7	7.5	7.6	7.2	7.8	7.6	8.1	8.1	7.7	7.8	7.4
Finance and service industries	5.9	5.6	5.5	5.5	5.4	5.4	5.3	5.2	5.9	5.7	5.9	5.5	5.4	5.7	5.7
Government workers	4.5	3.9	3.9	3.8	3.9	3.6	3.8	3.4	3.8	4.0	3.5	3.7	3.6	3.2	3.2
Agricultural wage and salary workers	13.5	13.2	14.0	13.3	12.9	12.5	10.6	10.9	14.3	11.9	13.4	15.8	13.2	11.6	13.8

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[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

8. Unemployment rates by sex and age, monthly data seasonally adjusted

(Civilian workers)

Sex and age	Annual average		1985					1986						
	1984	1985	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
Total, 16 years and over	7.5	7.2	7.1	7.1	7.1	7.0	6.9	6.7	7.3	7.2	7.1	7.3	7.1	6.9
16 to 24 years	13.9	13.6	13.0	13.3	13.9	13.5	13.3	13.0	13.6	13.2	13.9	14.2	13.5	13.0
16 to 19 years	18.9	18.6	17.5	18.1	19.8	18.4	18.8	18.4	19.0	18.2	19.6	19.0	19.1	17.5
16 to 17 years	21.2	21.0	19.1	20.3	22.7	21.4	21.1	20.9	21.8	19.4	20.9	21.1	20.6	19.4
18 to 19 years	17.4	17.0	16.8	16.7	17.8	16.9	17.5	16.4	17.2	17.1	18.9	17.5	17.9	15.7
20 to 24 years	11.5	11.1	10.8	10.9	10.9	11.0	10.6	10.4	10.8	10.6	10.9	11.7	10.7	10.8
25 years and over	5.8	5.6	5.5	5.6	5.4	5.4	5.3	5.1	5.7	5.7	5.4	5.5	5.6	5.4
25 to 54 years	6.1	5.8	5.8	5.8	5.7	5.6	5.5	5.4	5.9	5.9	5.8	5.9	5.9	5.8
55 years and over	4.5	4.1	4.1	4.1	3.9	3.8	3.9	3.9	4.4	4.3	3.9	3.6	3.7	3.8
Men, 16 years and over	7.4	7.0	6.9	6.9	7.1	6.9	6.7	6.5	7.0	7.0	6.9	7.3	7.1	7.0
16 to 24 years	14.4	14.1	13.8	13.8	14.6	13.9	13.5	12.8	13.6	13.6	14.5	15.0	14.0	13.5
16 to 19 years	19.6	19.5	19.6	19.3	21.5	19.4	19.3	18.2	19.3	18.9	20.2	20.4	20.1	18.2
16 to 17 years	21.9	21.9	21.9	20.7	24.0	20.9	21.6	20.9	20.2	20.0	21.2	21.6	19.4	20.0
18 to 19 years	18.3	17.9	18.1	18.3	19.9	18.7	18.0	18.2	18.6	17.8	19.7	19.6	20.4	16.1
20 to 24 years	11.9	11.4	10.9	11.0	11.1	11.2	10.8	10.3	10.7	11.0	11.8	12.2	11.0	11.2
25 years and over	5.7	5.3	5.3	5.3	5.3	5.2	5.1	5.0	5.5	5.5	5.2	5.4	5.5	5.5
25 to 54 years	5.9	5.6	5.6	5.5	5.5	5.4	5.4	5.3	5.7	5.7	5.5	5.8	5.8	5.8
55 years and over	4.6	4.1	3.8	4.0	4.1	4.0	3.9	3.9	4.4	4.3	3.9	3.8	4.1	3.9
Women, 16 years and over	7.6	7.4	7.3	7.5	7.3	7.2	7.1	7.0	7.6	7.4	7.4	7.3	7.2	6.9
16 to 24 years	13.3	13.0	12.2	12.9	13.1	13.1	13.2	13.2	13.6	12.7	13.2	13.3	13.0	12.5
16 to 19 years	18.0	17.6	15.3	16.9	17.9	17.4	18.3	18.5	18.6	17.5	19.0	17.6	18.0	16.6
16 to 17 years	20.4	20.0	15.8	19.8	21.2	22.0	20.6	20.8	20.2	18.7	20.5	20.5	21.9	18.7
18 to 19 years	16.6	16.0	15.3	14.9	15.5	15.1	16.9	16.5	17.7	16.3	18.1	15.3	15.1	15.3
20 to 24 years	10.9	10.7	10.7	10.9	10.7	10.8	10.6	10.5	11.0	10.1	10.0	11.1	10.4	10.4
25 years and over	6.0	5.9	5.8	6.0	5.6	5.6	5.4	5.3	5.9	5.9	5.8	5.7	5.7	5.4
25 to 54 years	6.3	6.2	6.1	6.2	5.9	5.9	5.7	5.6	6.2	6.3	6.2	6.1	6.1	5.7
55 years and over	4.2	4.1	4.5	4.2	3.7	3.6	3.9	3.8	4.4	4.4	3.8	3.4	3.1	3.6

9. Unemployed persons by reason for unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Reason for unemployment	Annual average		1985					1986						
	1984	1985	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
Job losers	4,421	4,139	4,144	4,142	4,040	4,081	3,933	3,776	4,162	4,246	4,034	4,311	4,335	3,937
On layoff	1,171	1,157	1,112	1,167	1,161	1,175	1,132	1,163	1,152	1,164	1,028	1,133	1,066	1,079
Other job losers	3,250	2,982	3,032	2,975	2,879	2,906	2,801	2,613	3,010	3,082	3,006	3,178	3,269	2,858
Job leavers	823	877	875	852	911	908	876	996	1,001	1,002	1,110	975	1,013	1,034
Reentrants	2,184	2,256	2,191	2,335	2,237	2,226	2,225	2,066	2,292	2,197	2,191	2,217	2,064	2,223
New entrants	1,110	1,039	941	918	1,045	1,055	1,033	1,025	1,097	1,000	1,059	1,062	1,059	985
PERCENT OF UNEMPLOYED														
Job losers	51.8	49.8	50.8	50.2	48.1	50.0	48.8	48.0	48.7	50.3	48.1	50.3	51.2	48.3
On layoff	13.7	13.9	13.6	14.2	14.1	14.4	14.0	14.8	13.5	13.8	12.2	13.2	12.6	13.2
Other job losers	38.1	35.9	37.2	36.1	35.0	35.6	34.7	33.2	35.2	36.5	35.8	37.1	38.6	35.0
Job leavers	9.6	10.6	10.7	10.3	11.1	9.9	10.9	12.7	11.7	11.9	13.2	11.4	12.0	12.7
Reentrants	25.6	27.1	26.9	28.3	27.2	27.2	27.6	26.3	26.8	26.0	26.1	25.9	24.4	27.2
New entrants	13.0	12.5	11.5	11.1	12.7	12.9	12.8	13.0	12.8	11.8	12.6	12.4	12.5	11.8
PERCENT OF CIVILIAN LABOR FORCE														
Job losers	3.9	3.6	3.6	3.6	3.5	3.5	3.4	3.2	3.6	3.6	3.4	3.7	3.7	3.3
Job leavers	.7	.8	.8	.7	.8	.7	.8	.9	.9	.9	.9	.8	.9	.9
Reentrants	1.9	2.0	1.9	2.0	1.9	1.9	1.9	1.8	2.0	1.9	1.9	1.9	1.7	1.9
New entrants	1.0	.9	.8	.8	.9	.9	.9	.9	.9	.9	.9	.9	.9	.8

10. Duration of unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Weeks of unemployment	Annual average		1985					1986							
	1984	1985	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
Less than 5 weeks	3,350	3,498	3,422	3,484	3,430	3,465	3,374	3,311	3,562	3,589	3,626	3,705	3,384	3,394	3,427
5 to 14 weeks	2,451	2,509	2,508	2,505	2,536	2,448	2,480	2,441	2,622	2,640	2,665	2,737	2,706	2,486	2,379
15 weeks and over	2,737	2,305	2,274	2,307	2,277	2,205	2,188	2,056	2,340	2,258	2,135	2,209	2,320	2,256	2,295
15 to 26 weeks	1,104	1,025	1,047	1,035	1,057	894	973	969	1,149	1,099	1,001	1,072	1,036	1,066	1,086
27 weeks and over	1,634	1,280	1,227	1,272	1,220	1,311	1,215	1,087	1,191	1,159	1,134	1,137	1,284	1,190	1,209
Mean duration in weeks	18.2	15.6	15.5	15.5	15.4	15.7	15.4	14.9	15.3	14.4	14.3	14.4	15.2	15.0	15.8
Median duration in weeks	7.9	6.8	7.2	6.9	7.0	6.9	6.9	6.8	6.9	6.8	6.5	6.6	7.3	7.1	7.2

11. Unemployment rates of civilian workers by State, data not seasonally adjusted

State	July 1985	July 1986
Alabama	9.0	10.5
Alaska	8.5	10.6
Arizona	7.6	7.4
Arkansas	8.4	8.9
California	7.7	7.5
Colorado	5.6	6.8
Connecticut	5.3	4.1
Delaware	5.2	5.8
District of Columbia	8.4	8.2
Florida	7.0	6.9
Georgia	7.0	6.5
Hawaii	5.9	4.9
Idaho	8.1	7.7
Illinois	8.9	7.8
Indiana	7.5	6.6
Iowa	7.7	6.8
Kansas	4.8	5.3
Kentucky	9.3	9.3
Louisiana	12.0	12.8
Maine	6.0	5.6
Maryland	4.4	4.2
Massachusetts	4.3	3.8
Michigan	10.8	9.2
Minnesota	5.6	4.9
Mississippi	11.0	13.0
Missouri	6.1	6.2
Montana	6.8	7.3
Nebraska	5.3	4.4
Nevada	7.7	5.6
New Hampshire	5.1	3.7
New Jersey	6.0	5.7
New Mexico	9.2	9.5
New York	6.1	6.3
North Carolina	5.6	5.1
North Dakota	5.3	6.1
Ohio	9.3	7.8
Oklahoma	7.2	8.8
Oregon	8.6	8.9
Pennsylvania	7.8	6.7
Rhode Island	5.7	4.0
South Carolina	7.3	6.7
South Dakota	5.1	4.1
Tennessee	8.4	8.5
Texas	7.7	9.3
Utah	5.5	5.6
Vermont	4.5	3.9
Virginia	6.0	4.7
Washington	7.7	8.1
West Virginia	12.5	11.9
Wisconsin	6.7	6.5
Wyoming	8.5	9.0

- Data not available.

NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the database.

12. Employment of workers on nonagricultural payrolls by State, data not seasonally adjusted

(In thousands)

State	July 1985	June 1986	July 1986p
Alabama	1,431.9	1,443.9	1,448.5
Alaska	249.3	234.0	244.8
Arizona	1,261.3	1,333.7	1,333.2
Arkansas	800.0	819.8	816.7
California	10,950.7	11,234.3	11,160.2
Colorado	1,415.4	1,457.2	1,441.5
Connecticut	1,564.0	1,622.6	1,6[illegible]5.5
Delaware	298.9	300.8	298.6
District of Columbia	646.3	649.9	669.2
Florida	4,369.7	4,547.0	4,504.0
Georgia	2,573.6	2,640.2	2,634.3
Hawaii	423.9	430.4	431.3
Idaho	336.9	338.2	335.3
Illinois	4,782.1	4,798.5	4,808.3
Indiana	2,176.2	2,255.7	2,254.0
Iowa	1,070.4	1,080.9	1,062.7
Kansas	970.9	994.8	961.9
Kentucky	1,239.8	1,280.5	1,283.1
Louisiana	1,589.6	1,524.1	1,506.1
Maine	469.5	481.8	477.9
Maryland	1,913.4	1,950.9	1,951.6
Massachusetts	2,916.5	2,999.6	2,964.6
Michigan	3,494.7	3,597.1	3,557.2
Minnesota	1,869.6	1,919.1	1,899.9
Mississippi	834.6	848.0	840.5
Missouri	2,100.0	2,157.9	2,154.6
Montana	280.3	284.0	274.0
Nebraska	649.2	660.8	653.9
Nevada	448.6	465.4	467.7
New Hampshire	470.9	494.7	491.7
New Jersey	3,467.0	3,566.2	3,569.3
New Mexico	516.5	524.4	520.2
New York	7,784.4	7,959.3	7,925.6
North Carolina	2,604.2	2,733.2	2,681.7
North Dakota	253.1	252.2	249.3
Ohio	4,383.5	4,549.1	4,515.1
Oklahoma	1,176.8	1,163.4	1,143.7
Oregon	1,023.8	1,067.1	1,043.8
Pennsylvania	4,748.2	4,847.7	4,813.0
Rhode Island	423.7	431.4	424.7
South Carolina	1,296.2	1,350.4	1,334.9
South Dakota	249.4	257.1	251.3
Tennessee	1,862.0	1,930.8	1,924.9
Texas	6,684.5	6,674.2	6,666.6
Utah	621.8	636.4	634.0
Vermont	220.8	227.5	223.4
Virginia	2,443.1	2,559.3	2,534.9
Washington	1,710.6	1,775.1	1,760.6
West Virginia	605.2	600.7	603.7
Wisconsin	1,982.3	2,040.9	2,023.7
Wyoming	213.1	205.5	203.0
Puerto Rico	674.0	704.9	700.9
Virgin Islands	37.3	36.4	37.3

p = preliminary

NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the database.

13. Employment of workers on nonagricultural payrolls by industry, monthly data seasonally adjusted

(In thousands)

Industry	Annual average		1985					1986						
	1984	1985	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July^p
TOTAL	94,496	97,614	97,890	98,128	98,428	98,666	98,910	99,296	99,429	99,484	99,763	99,918	99,843	100,122
PRIVATE SECTOR	78,472	81,199	81,428	81,592	81,853	82,073	82,281	82,659	82,748	82,785	83,072	83,198	83,161	83,502
GOODS PRODUCING	24,727	24,930	24,880	24,843	24,903	24,931	24,977	25,101	25,038	24,945	25,038	24,965	24,854	24,861
Mining	966	930	922	917	913	907	901	897	880	852	821	790	772	764
Oil and gas extraction	607	585	581	577	571	565	560	556	541	518	488	461	446	438
Construction	4,383	4,687	4,702	4,728	4,754	4,765	4,787	4,901	4,864	4,838	4,972	4,974	4,947	4,961
General building contractors	1,161	1,251	1,257	1,267	1,276	1,283	1,287	1,330	1,320	1,298	1,315	1,314	1,299	1,299
Manufacturing	19,378	19,314	19,256	19,198	19,236	19,259	19,269	19,303	19,294	19,255	19,245	19,201	19,135	19,116
Production workers	13,265	13,130	13,078	13,029	13,059	13,074	13,100	13,111	13,097	13,061	13,060	13,025	12,979	12,963
Durable goods	11,505	11,516	11,473	11,421	11,447	11,453	11,461	11,486	11,455	11,418	11,415	11,378	11,307	11,294
Production workers	7,739	7,660	7,619	7,572	7,594	7,594	7,595	7,595	7,579	7,545	7,547	7,519	7,462	7,447
Lumber and wood products	704	700	700	702	705	708	710	716	716	715	719	719	721	720
Furniture and fixtures	487	493	495	491	493	493	494	494	494	493	494	496	496	498
Stone, clay, and glass products	593	591	591	590	591	591	593	596	597	594	600	599	597	592
Primary metal industries	857	813	798	795	797	801	803	798	795	787	785	780	761	756
Blast furnaces and basic steel products	334	305	302	304	304	302	303	300	299	293	291	288	286	283
Fabricated metal products	1,463	1,468	1,463	1,459	1,460	1,459	1,456	1,455	1,452	1,450	1,451	1,447	1,440	1,429
Machinery, except electrical	2,198	2,182	2,164	2,147	2,146	2,139	2,133	2,137	2,127	2,118	2,111	2,100	2,089	2,081
Electrical and electronic equipment	2,208	2,207	2,195	2,179	2,181	2,179	2,182	2,182	2,181	2,177	2,177	2,175	2,143	2,169
Transportation equipment	1,901	1,971	1,977	1,970	1,987	1,993	1,998	1,996	1,998	1,989	1,986	1,972	1,974	1,975
Motor vehicles and equipment	862	876	876	871	873	870	872	867	864	858	854	839	839	830
Instruments and related products	714	723	724	723	722	723	725	724	725	726	723	721	717	711
Miscellaneous manufacturing industries	382	369	366	365	365	367	367	368	370	369	369	369	369	363
Nondurable goods	7,873	7,798	7,783	7,777	7,789	7,806	7,828	7,837	7,839	7,837	7,830	7,823	7,828	7,822
Production workers	5,546	5,470	5,459	5,457	5,465	5,480	5,505	5,516	5,518	5,516	5,513	5,506	5,517	5,516
Food and kindred products	1,612	1,608	1,608	1,607	1,610	1,612	1,623	1,623	1,631	1,632	1,633	1,640	1,648	1,646
Tobacco manufactures	64	65	64	65	64	65	64	64	63	63	63	62	62	62
Textile mill products	746	704	698	697	699	701	702	702	705	707	703	705	707	710
Apparel and other textile products	1,185	1,125	1,117	1,121	1,121	1,122	1,130	1,133	1,122	1,117	1,119	1,113	1,106	1,106
Paper and allied products	681	683	682	682	683	687	686	687	687	688	689	689	690	687
Printing and publishing	1,376	1,435	1,442	1,442	1,447	1,454	1,457	1,461	1,467	1,469	1,472	1,474	1,477	1,481
Chemicals and allied products	1,049	1,046	1,043	1,042	1,040	1,037	1,035	1,034	1,032	1,031	1,028	1,024	1,026	1,026
Petroleum and coal products	189	178	177	171	171	170	169	168	167	166	166	166	164	162
Rubber and misc. plastics products	780	790	787	785	790	794	798	802	803	804	800	796	797	791
Leather and leather products	189	168	165	165	164	164	164	163	162	160	157	154	151	151
SERVICE-PRODUCING	69,769	72,684	73,010	73,285	73,525	73,735	73,933	74,195	74,391	74,539	74,745	74,953	74,989	75,261
Transportation and public utilities	5,159	5,242	5,219	5,257	5,260	5,272	5,277	5,286	5,277	5,280	5,266	5,265	5,167	5,276
Transportation	2,917	3,006	2,983	3,023	3,026	3,040	3,046	3,056	3,048	3,053	3,040	3,037	3,035	3,057
Communication and public utilities	2,242	2,236	2,236	2,234	2,234	2,232	2,231	2,230	2,229	2,227	2,226	2,228	2,132	2,219
Wholesale trade	5,555	5,740	5,762	5,777	5,796	5,796	5,809	5,830	5,843	5,841	5,864	5,872	5,829	5,851
Durable goods	3,276	3,409	3,424	3,432	3,442	3,451	3,460	3,470	3,482	3,480	3,485	3,488	3,454	3,484
Nondurable goods	2,279	2,331	2,338	2,345	2,354	2,345	2,349	2,360	2,361	2,361	2,379	2,384	2,375	2,367
Retail trade	16,545	17,360	17,464	17,489	17,543	17,589	17,622	17,734	17,795	17,828	17,851	17,911	17,944	17,997
General merchandise stores	2,267	2,320	2,328	2,326	2,329	2,326	2,317	2,328	2,333	2,333	2,342	2,344	2,350	2,356
Food stores	2,637	2,779	2,805	2,813	2,828	2,845	2,870	2,880	2,891	2,901	2,910	2,917	2,932	2,938
Automotive dealers and service stations	1,799	1,892	1,904	1,910	1,916	1,918	1,922	1,929	1,938	1,939	1,940	1,944	1,945	1,950
Eating and drinking places	5,388	5,715	5,749	5,761	5,772	5,783	5,801	5,831	5,854	5,868	5,859	5,889	5,918	5,932
Finance, insurance, and real estate	5,689	5,953	5,988	6,014	6,038	6,070	6,095	6,123	6,157	6,184	6,228	6,261	6,295	6,335
Finance	2,854	2,979	2,998	3,011	3,024	3,039	3,053	3,066	3,082	3,095	3,120	3,137	3,159	3,178
Insurance	1,757	1,830	1,839	1,846	1,852	1,862	1,868	1,878	1,889	1,900	1,910	1,918	1,927	1,945
Real estate	1,078	1,144	1,151	1,157	1,162	1,169	1,174	1,179	1,186	1,189	1,198	1,206	1,209	1,212
Services	20,797	21,974	22,115	22,212	22,313	22,415	22,501	22,585	22,638	22,707	22,825	22,924	23,072	23,182
Business services	4,057	4,452	4,504	4,542	4,567	4,604	4,631	4,660	4,687	4,698	4,750	4,755	4,792	4,837
Health services	6,122	6,310	6,333	6,350	6,375	6,401	6,424	6,447	6,471	6,497	6,511	6,543	6,571	6,598
Government	16,024	16,415	16,462	16,536	16,575	16,593	16,629	16,637	16,681	16,699	16,711	16,720	16,682	16,620
Federal	2,807	2,875	2,886	2,899	2,895	2,904	2,913	2,918	2,918	2,923	2,914	2,899	2,875	2,868
State	3,734	3,848	3,855	3,878	3,895	3,901	3,904	3,916	3,924	3,927	3,938	3,936	3,927	3,932
Local	9,482	9,692	9,721	9,759	9,785	9,788	9,812	9,803	9,839	9,849	9,859	9,885	9,880	9,820

^{p} = preliminary

NOTE: See notes on the data for a description of the most recent benchmark revision.

14. Average weekly hours of production or nonsupervisory workers on private nonagricultural payrolls by industry, monthly data seasonally adjusted

Industry	Annual average		1985					1986							
	1984	1985	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July^p	Aug.^p
PRIVATE SECTOR	35.2	34.9	34.9	34.9	34.9	34.8	34.9	35.0	34.9	34.9	34.8	34.8	34.7	34.7	34.8
CONSTRUCTION	37.8	37.7	-	-	-	-	-	-	-	-	-	-	-	-	-
MANUFACTURING	40.7	40.5	40.6	40.7	40.7	40.7	40.9	40.8	40.7	40.7	40.7	40.7	40.6	40.6	40.8
Overtime hours	3.4	3.3	3.3	3.3	3.4	3.4	3.6	3.5	3.4	3.4	3.4	3.4	3.3	3.5	3.5
Durable goods	41.4	41.2	41.3	41.3	41.3	41.3	41.6	41.5	41.4	41.4	41.3	41.2	41.2	41.2	41.4
Overtime hours	3.6	3.5	3.4	3.5	3.5	3.6	3.7	3.6	3.5	3.6	3.6	3.4	3.5	3.5	3.6
Lumber and wood products	39.9	39.9	40.1	40.1	40.2	39.9	40.2	40.4	40.0	40.2	40.3	40.3	39.9	40.0	40.0
Furniture and fixtures	39.7	39.4	39.3	39.4	39.5	39.4	39.9	40.0	39.7	39.4	39.1	39.4	39.4	39.4	39.7
Stone, clay, and glass products	42.0	41.9	42.0	42.0	42.1	41.8	41.8	42.7	41.9	41.9	42.4	42.3	42.2	42.2	42.5
Primary metal industries	41.7	41.5	41.7	41.5	41.8	41.9	42.1	41.9	42.1	41.9	41.3	41.7	41.6	41.3	42.1
Blast furnaces and basic steel products	40.7	41.1	41.5	41.1	41.8	41.9	41.9	41.7	41.8	41.7	40.5	41.5	41.1	41.3	42.1
Fabricated metal products	41.4	41.3	41.4	41.5	41.5	41.5	41.6	41.5	41.5	41.4	41.2	41.1	41.1	41.0	41.2
Machinery except electrical	41.9	41.5	41.6	41.6	41.5	41.6	41.7	41.6	41.6	41.6	41.8	41.8	41.7	41.5	41.0
Electrical and electronic equipment	41.0	40.6	40.7	40.5	40.6	40.9	41.1	41.0	40.9	41.0	41.1	41.0	41.0	41.3	41.4
Transportation equipment	42.7	42.6	42.9	42.9	42.8	42.7	43.0	42.8	42.7	42.7	42.1	41.9	42.2	42.1	43.1
Motor vehicles and equipment	43.8	43.5	43.7	43.6	43.7	43.6	44.0	43.6	43.4	43.3	41.9	41.8	42.4	42.3	43.6
Instruments and related products	41.3	41.0	40.9	40.9	40.9	41.0	41.6	41.1	41.2	41.3	41.3	40.9	41.0	40.7	40.8
Miscellaneous manufacturing	39.4	39.4	-	-	-	-	-	-	-	-	-	-	-	-	-
Nondurable goods	39.7	39.6	39.6	39.8	39.8	39.8	40.0	39.9	39.7	39.8	39.9	39.9	39.8	39.8	40.0
Overtime hours	3.1	3.1	3.1	3.1	3.2	3.2	3.4	3.3	3.2	3.2	3.3	3.4	3.2	3.4	3.4
Food and kindred products	39.8	40.0	40.0	40.1	40.2	40.0	40.1	40.1	39.8	39.9	40.2	40.2	40.0	40.1	40.5
Tobacco manufactures	38.9	37.2	-	-	-	-	-	-	-	-	-	-	-	-	-
Textile mill products	39.9	39.7	40.0	40.5	40.7	40.8	41.0	40.8	40.6	40.7	41.3	41.1	40.8	40.9	41.4
Apparel and other textile products	36.4	36.4	36.4	36.6	36.6	36.8	36.8	36.7	36.3	36.5	36.9	36.5	36.5	36.7	36.4
Paper and allied products	43.1	43.1	43.1	43.1	43.2	43.3	43.5	43.6	43.5	43.5	43.0	43.2	43.1	43.3	43.7
Printing and publishing	37.9	37.8	37.9	37.9	37.9	37.9	38.1	38.0	38.0	38.0	38.0	38.0	37.8	37.8	37.8
Chemicals and allied products	41.9	41.9	41.9	41.7	41.8	41.9	42.0	41.9	41.8	41.9	41.9	42.0	41.9	41.9	42.0
Petroleum and coal products	43.7	43.0	43.3	43.3	44.2	43.2	43.6	43.5	43.7	43.8	43.6	43.4	44.0	43.3	43.5
Leather and leather products	36.8	37.2	-	-	-	-	-	-	-	-	-	-	-	-	-
TRANSPORTATION AND PUBLIC UTILITIES	39.4	39.5	39.5	39.5	39.5	39.4	39.5	39.4	39.5	39.6	39.2	39.2	39.1	39.2	39.3
WHOLESALE TRADE	38.5	38.4	38.4	38.4	38.4	38.4	38.4	38.5	38.4	38.5	38.5	38.4	38.3	38.3	38.4
RETAIL TRADE	29.8	29.4	29.4	29.4	29.3	29.3	29.2	29.3	29.3	29.3	29.2	29.2	29.1	29.2	29.2
SERVICES	32.6	32.5	32.5	32.4	32.5	32.4	32.5	32.6	32.6	32.5	32.5	32.5	32.4	32.4	32.5

- Data not available.
p = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark adjustment.

15. Average hourly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1985					1986							
	1984	1985	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July^p	Aug.^p
PRIVATE SECTOR	$8.32	$8.57	$8.52	$8.67	$8.64	$8.66	$8.71	$8.72	$8.74	$8.73	$8.72	$8.72	$8.71	$8.69	$8.69
Seasonally adjusted	-	-	8.59	8.62	8.63	8.65	8.70	8.68	8.71	8.73	8.72	8.73	8.74	8.72	8.76
MINING	11.63	11.98	11.99	12.05	12.00	12.07	12.27	12.24	12.32	12.35	12.43	12.44	12.50	12.46	12.47
CONSTRUCTION	12.13	12.31	12.28	12.46	12.42	12.28	12.47	12.34	12.35	12.22	12.29	12.33	12.31	12.31	12.42
MANUFACTURING	9.19	9.53	9.49	9.57	9.56	9.63	9.74	9.70	9.70	9.72	9.70	9.71	9.70	9.73	9.66
Durable goods	9.74	10.10	10.08	10.15	10.15	10.22	10.34	10.27	10.29	10.30	10.28	10.28	10.26	10.27	10.22
Lumber and wood products	8.03	8.22	8.27	8.33	8.30	8.29	8.35	8.30	8.35	8.33	8.32	8.37	8.43	8.35	8.40
Furniture and fixtures	6.84	7.17	7.20	7.27	7.29	7.32	7.38	7.36	7.31	7.35	7.36	7.39	7.46	7.44	7.47
Stone, clay, and glass products	9.57	9.84	9.87	9.91	9.87	9.91	9.95	9.98	9.94	9.93	10.00	10.04	10.04	10.06	10.07
Primary metal industries	11.47	11.68	11.63	11.69	11.61	11.77	11.84	11.81	11.98	11.99	12.00	12.02	11.94	12.07	11.81
Blast furnaces and basic steel products	12.98	13.34	13.36	13.43	13.32	13.43	13.44	13.48	13.81	13.80	13.82	13.86	13.88	14.10	13.85
Fabricated metal products	9.40	9.70	9.64	9.74	9.71	9.76	9.91	9.85	9.85	9.88	9.84	9.85	9.88	9.85	9.82
Machinery, except electrical	9.96	10.29	10.26	10.38	10.41	10.48	10.55	10.50	10.53	10.58	10.55	10.55	10.55	10.58	10.54
Electrical and electronic equipment	9.04	9.47	9.50	9.54	9.55	9.61	9.66	9.60	9.60	9.62	9.62	9.64	9.61	9.66	9.66
Transportation equipment	12.20	12.72	12.65	12.78	12.78	12.85	13.06	12.91	12.87	12.90	12.83	12.79	12.27	12.74	12.74
Motor vehicles and equipment	12.73	13.42	13.31	13.48	13.44	13.52	13.81	13.66	13.59	13.66	13.54	13.47	13.41	13.36	13.35
Instruments and related products	8.84	9.16	9.19	9.25	9.24	9.27	9.39	9.32	9.39	9.41	9.41	9.40	9.41	9.48	9.46
Miscellaneous manufacturing	7.05	7.30	7.28	7.33	7.32	7.37	7.48	7.48	7.50	7.51	7.50	7.54	7.54	7.58	7.52
Nondurable goods	8.38	8.71	8.70	8.73	8.72	8.79	8.87	8.86	8.86	8.88	8.88	8.90	8.91	8.99	8.94
Food and kindred products	8.39	8.57	8.50	8.53	8.51	8.61	8.71	8.72	8.71	8.74	8.75	8.78	8.74	8.75	8.66
Tobacco manufactures	11.22	11.94	12.34	11.34	11.31	11.97	11.78	11.89	12.38	12.76	12.84	13.38	13.66	13.49	13.38
Textile mill products	6.46	6.71	6.72	6.75	6.76	6.79	6.83	6.85	6.83	6.86	6.87	6.88	6.87	6.89	6.96
Apparel and other textile products	5.55	5.73	5.69	5.75	5.74	5.75	5.80	5.82	5.79	5.80	5.81	5.78	5.79	5.75	5.81
Paper and allied products	10.41	10.82	10.86	10.91	10.91	10.97	11.07	11.02	10.99	11.03	11.05	11.12	11.15	11.29	11.21
Printing and publishing	9.41	9.71	9.76	9.81	9.78	9.83	9.92	9.85	9.86	9.90	9.87	9.91	9.88	9.97	10.03
Chemicals and allied products	11.07	11.56	11.60	11.65	11.70	11.80	11.85	11.86	11.81	11.78	11.82	11.89	11.94	12.05	11.99
Petroleum and coal products	13.44	14.06	14.02	14.09	13.99	14.07	14.24	14.26	14.21	14.22	14.16	14.02	14.14	14.15	14.19
Rubber and miscellaneous plastics products	8.29	8.54	8.52	8.56	8.54	8.63	8.73	8.69	8.69	8.72	8.68	8.75	8.75	8.80	8.82
Leather and leather products	5.71	5.82	5.8	5.83	5.77	5.83	5.83	5.86	5.83	5.86	5.89	5.88	5.86	5.88	5.88
TRANSPORTATION AND PUBLIC UTILITIES	11.12	11.40	11.42	11.54	11.48	11.59	11.61	11.59	11.64	11.62	11.55	11.54	11.57	11.60	11.56
WHOLESALE TRADE	8.89	9.16	9.12	9.22	9.16	9.23	9.33	9.28	9.36	9.33	9.29	9.29	9.32	9.30	9.31
RETAIL TRADE	5.85	5.94	5.88	5.98	5.95	5.97	5.99	6.03	6.04	6.03	6.01	6.00	5.99	5.97	5.95
FINANCE, INSURANCE, AND REAL ESTATE	7.63	7.94	7.91	8.04	8.01	8.06	8.15	8.14	8.28	8.30	8.29	8.31	8.37	8.31	8.32
SERVICES	7.59	7.89	7.82	7.98	7.99	8.05	8.12	8.12	8.17	8.18	8.12	8.10	8.10	8.03	8.04

- Data not available.
p = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

16. Average weekly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1985					1986							
	1984	1985	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July^p	Aug.^{p}
PRIVATE SECTOR															
Current dollars	$292.86	$299.09	$299.80	$303.46	$301.54	$301.37	$306.59	$302.58	$300.66	$302.93	$301.71	$302.58	$303.98	$304.15	$305.02
Seasonally adjusted	-	-	299.79	300.84	301.19	301.02	303.63	303.80	303.98	304.66	303.46	303.80	303.28	302.58	304.85
Constant (1977) dollars	172.78	170.42	170.30	171.63	170.36	169.59	172.05	169.32	168.82	171.05	170.94	170.85	170.78	170.97	-
MINING	503.58	519.93	519.17	528.59	518.40	521.42	537.43	543.46	522.37	522.41	522.06	519.99	525.00	517.09	520.00
CONSTRUCTION	458.51	464.09	471.55	479.71	475.69	450.66	480.14	458.05	434.72	444.81	462.10	467.31	465.32	470.24	475.66
MANUFACTURING															
Current dollars	374.03	385.67	384.35	390.46	390.05	393.87	406.16	394.79	390.91	395.60	392.65	394.23	395.76	391.15	393.96
Constant (1977) dollars	220.67	219.93	218.26	221.10	220.37	221.66	227.92	220.92	219.49	223.38	222.58	222.60	222.34	219.87	-
Durable goods	403.24	416.12	412.46	420.21	419.20	424.13	430.45	425.18	421.89	426.42	423.54	423.54	424.76	417.99	420.04
Lumber and wood products	320.40	327.98	334.94	338.20	335.32	327.46	335.67	329.51	328.55	333.20	334.46	338.99	342.28	333.17	339.36
Furniture and fixtures	271.55	282.50	283.68	289.35	291.60	291.34	303.32	289.88	284.36	288.12	286.30	288.21	294.67	287.90	297.31
Stone, clay, and glass products	401.94	412.30	418.49	421.18	419.48	414.24	414.82	414.34	403.56	412.10	425.00	426.71	429.71	427.55	432.00
Primary metal industries	478.30	484.72	480.32	488.20	480.65	481.99	504.38	483.66	503.52	504.78	499.20	501.23	499.09	496.08	482.48
Blast furnaces and basic steel products	526.29	548.27	550.43	553.32	544.79	557.35	564.48	556.72	578.64	576.84	569.38	576.58	577.41	565.15	578.93
Fabricated metal products	389.16	400.81	397.17	405.18	403.94	406.02	422.17	407.79	403.65	409.03	403.44	404.84	408.04	397.94	402.82
Machinery, except electrical	417.32	427.04	422.71	431.81	430.97	438.06	452.60	437.85	437.00	442.24	437.83	437.80	439.94	431.90	427.92
Electrical and electronic equipment	370.64	384.48	383.60	387.32	387.73	396.69	406.50	394.56	389.76	395.38	392.50	393.31	394.01	393.01	397.03
Transportation equipment	520.94	541.87	530.04	544.43	545.71	551.27	577.26	555.13	545.69	552.12	542.71	537.18	540.17	528.71	537.63
Motor vehicles and equipment	557.57	583.77	585.68	586.03	585.98	588.12	625.59	595.58	583.01	582.84	574.10	567.09	572.61	567.11	586.04
Instruments and related products	365.09	375.56	373.11	380.18	376.07	382.65	400.01	383.06	384.90	389.57	385.81	382.58	385.81	382.04	383.13
Miscellaneous manufacturing	277.77	287.62	284.65	293.20	295.00	296.27	304.44	297.70	294.75	299.66	297.75	297.08	298.58	294.10	298.29
Nondurable goods	332.69	344.82	345.39	348.20	347.93	351.60	359.24	352.63	347.31	352.54	351.65	354.22	355.51	356.00	358.49
Food and kindred products	333.92	342.80	342.55	348.02	343.80	346.12	354.50	347.93	339.69	344.38	346.50	352.08	350.47	350.88	354.19
Tobacco manufactures	436.46	444.17	467.81	434.32	444.48	436.71	448.82	448.25	453.11	478.50	469.94	504.43	523.94	500.48	499.71
Textile mill products	257.75	266.39	270.14	275.40	276.48	279.75	283.45	278.80	274.57	278.52	278.92	282.08	283.04	277.67	289.54
Apparel and other textile products	202.02	206.57	208.25	210.45	211.23	212.75	215.18	213.01	207.28	211.70	211.48	210.97	213.66	209.30	212.07
Paper and allied products	448.67	466.34	465.89	473.49	472.40	477.20	490.40	479.37	472.57	477.80	474.05	479.27	480.57	486.60	487.64
Printing and publishing	358.64	367.04	370.66	374.74	371.64	375.51	384.00	371.35	370.74	377.19	374.07	374.60	370.50	373.88	380.14
Chemicals and allied products	463.83	484.36	482.56	486.97	486.72	485.60	503.63	495.75	482.48	494.76	485.26	499.38	502.67	502.49	499.98
Petroleum and coal products	587.33	604.56	607.07	621.37	619.76	610.64	622.29	616.03	612.45	621.41	615.96	605.66	622.16	615.53	617.27
Rubber and miscellaneous plastics products	345.69	350.99	346.76	351.82	350.99	356.42	366.66	358.77	356.29	360.14	356.75	360.50	361.38	356.40	365.15
Leather and leather products	210.13	216.50	216.71	219.21	216.95	219.21	220.96	217.41	209.86	217.72	213.81	215.80	221.68	217.56	217.56
TRANSPORTATION AND PUBLIC UTILITIES	436.13	450.30	454.52	458.14	453.46	457.81	460.82	452.01	456.29	457.83	450.45	450.06	455.86	457.04	457.78
WHOLESALE TRADE	342.27	351.74	351.12	354.97	351.74	355.38	360.14	355.42	355.66	357.34	355.81	356.74	358.82	358.05	358.44
RETAIL TRADE	174.33	174.64	176.89	175.81	173.74	173.73	178.50	173.06	172.74	174.27	173.69	174.60	176.71	178.50	177.91
FINANCE, INSURANCE, AND REAL ESTATE	278.50	289.02	287.13	293.46	290.76	291.77	299.11	296.30	304.70	304.81	301.76	301.65	306.34	302.48	303.66
SERVICES	247.43	256.43	256.50	258.66	259.66	260.02	263.90	263.09	264.71	265.03	263.06	262.44	264.06	263.38	264.52

- Data not available.

^{p} = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

17. The Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Not seasonally adjusted				Seasonally adjusted					
	Aug. 1985	June 1986	July 1986^p	Aug. 1986^p	Aug. 1985	Apr. 1986	May 1986	June 1986	July 1986^p	Aug. 1986^p
PRIVATE SECTOR (in current dollars)	164.7	168.8	168.5	168.4	165.5	168.4	168.7	169.2	168.8	169.2
Mining[1]	178.8	181.4	181.6	181.6	-	-	-	-	-	-
Construction	150.5	150.5	150.4	151.7	150.3	150.6	151.0	151.4	150.9	151.7
Manufacturing	168.6	172.3	172.7	172.0	169.4	172.0	172.5	172.4	172.8	172.8
Transportation and public utilities	166.1	169.5	169.2	169.1	166.6	169.3	170.1	170.7	170.3	169.6
Wholesale trade[1]	168.3	172.0	171.4	171.6	-	-	-	-	-	-
Retail trade	154.8	157.9	157.4	157.1	155.7	157.3	157.2	157.8	157.7	158.2
Finance, insurance, and real estate[1]	171.4	180.5	179.2	179.4	-	-	-	-	-	-
Services	167.2	173.3	172.2	172.4	168.9	173.1	173.4	174.3	173.2	174.2
PRIVATE SECTOR (in constant dollars)	93.5	94.8	94.7	-	94.1	95.4	95.4	95.2	95.1	-

[1] This series is not seasonally adjusted because the seasonal component is small relative to the trend-cycle, irregular components, or both, and consequently cannot be separated with sufficient precision.

- Data not available.

^{p} = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

18. Indexes of diffusion: industries in which employment increased, data seasonally adjusted

(In percent)

Time span and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Over 1-month span												
1984	67.8	72.7	67.8	67.6	62.4	65.4	62.2	55.9	50.5	63.0	53.5	57.0
1985	52.4	47.8	53.8	49.2	51.6	47.0	56.2	56.8	50.8	61.9	57.6	59.5
1986	56.7	53.5	45.1	54.1	49.2	46.2	52.7	58.4	-	-	-	-
Over 3-month span												
1984	76.5	75.1	75.9	71.4	71.6	66.1	63.2	58.1	56.8	53.5	58.1	53.0
1985	51.1	49.7	48.2	48.2	45.1	51.4	49.7	51.1	55.1	55.9	61.4	60.5
1986	58.1	54.3	51.1	49.7	48.4	43.8	49.5	-	-	-	-	-
Over 6-month span												
1984	78.1	76.5	77.0	75.1	69.2	65.1	63.2	59.2	58.6	53.2	49.7	54.9
1985	49.2	47.8	43.0	45.9	44.3	44.3	48.9	50.8	54.1	57.0	57.0	55.9
1986	53.8	53.8	47.6	44.9	47.8	-	-	-	-	-	-	-
Over 12-month span												
1984	81.1	78.1	72.2	72.2	68.9	67.8	65.7	62.7	58.7	54.6	51.4	48.6
1985	48.2	45.7	46.8	43.8	44.9	47.3	47.6	48.9	47.3	49.5	48.9	48.6
1986	50.3	51.6	-	-	-	-	-	-	-	-	-	-

- Data not available.

NOTE: Figures are the percent of industries with employment rising. (Half of the unchanged components are counted as rising.) Data are centered within the spans. Data for the most 2 recent months shown in each span are preliminary. See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

19. Annual data: Employment status of the noninstitutional population

(Numbers in thousands)

Employment status	1977	1978	1979	1980	1981	1982	1983	1984	1985
Noninstitutional population	160,689	163,541	166,460	169,349	171,775	173,939	175,891	178,080	179,912
Labor force									
Total (number)	100,665	103,882	106,559	108,544	110,315	111,872	113,226	115,241	117,167
Percent of population	62.6	63.5	64.0	64.1	64.2	64.3	64.4	64.7	65.1
Employed									
Total (number)	93,673	97,679	100,421	100,907	102,042	101,194	102,510	106,702	108,856
Percent of population	58.3	59.7	60.3	59.6	59.4	58.2	58.3	59.9	60.5
Resident Armed Forces	1,656	1,631	1,597	1,604	1,645	1,668	1,676	1,697	1,706
Civilian									
Total	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005	107,150
Agriculture	3,283	3,387	3,347	3,364	3,368	3,401	3,383	3,321	3,179
Nonagricultural industries	88,734	92,661	95,477	95,938	97,030	96,125	97,450	101,685	103,971
Unemployed									
Total (number)	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539	8,312
Percent of labor force	6.9	6.0	5.8	7.0	7.5	9.5	9.5	7.4	7.1
Not in labor force (number)	60,025	59,659	59,900	60,806	61,460	62,067	62,665	62,839	62,744

20. Annual data: Employment levels by industry

(Numbers in thousands)

Industry	1977	1978	1979	1980	1981	1982	1983	1984	1985
Total employment	82,471	86,697	89,823	90,406	91,156	89,566	90,200	94,496	97,614
Private sector	67,344	71,026	73,876	74,166	75,126	73,729	74,330	78,472	81,199
Goods-producing	24,346	25,585	26,461	25,658	25,497	23,813	23,334	24,727	24,930
Mining	813	851	958	1,027	1,139	1,128	952	966	930
Construction	3,851	4,229	4,463	4,346	4,188	3,905	3,948	4,383	4,687
Manufacturing	19,682	20,505	21,040	20,285	20,170	18,781	18,434	19,378	19,314
Service-producing	58,125	61,113	63,363	64,748	65,659	65,753	66,866	69,769	72,684
Transportation and public utilities	4,713	4,923	5,136	5,146	5,165	5,082	4,954	5,159	5,242
Wholesale trade	4,708	4,969	5,204	5,275	5,358	5,278	5,268	5,555	5,740
Retail trade	13,808	14,573	14,989	15,035	15,189	15,179	15,613	16,545	17,360
Finance, insurance, and real estate	4,467	4,724	4,975	5,160	5,298	5,341	5,468	5,689	5,953
Services	15,303	16,252	17,112	17,890	18,619	19,036	19,694	20,797	21,974
Government	15,127	15,672	15,947	16,241	16,031	15,837	15,869	16,024	16,415
Federal	2,727	2,753	2,773	2,866	2,772	2,739	2,774	2,807	2,875
State	3,377	3,474	3,541	3,610	3,640	3,640	3,662	3,734	3,848
Local	9,023	9,446	9,633	9,765	9,619	9,458	9,434	9,482	9,692

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

21. Annual data: Average hours and earnings of production or nonsupervisory workers on nonagricultural payrolls, by industry

Industry	1977	1978	1979	1980	1981	1982	1983	1984	1985
Private sector									
Average weekly hours	36.0	35.8	35.7	35.3	35.2	34.8	35.0	35.2	34.9
Average hourly earnings (in dollars)	5.25	5.69	6.16	6.66	7.25	7.68	8.02	8.32	8.57
Average weekly earnings (in dollars)	189.00	203.70	219.91	235.10	255.20	267.26	280.70	292.86	299.09
Mining									
Average weekly hours	43.4	43.4	43.0	43.3	43.7	42.7	42.5	43.3	43.4
Average hourly earnings (in dollars)	6.94	7.67	8.49	9.17	10.04	10.77	11.28	11.63	11.98
Average weekly earnings (in dollars)	301.20	332.88	365.07	397.06	438.75	459.88	479.40	503.58	519.93
Construction									
Average weekly hours	36.5	36.8	37.0	37.0	36.9	36.7	37.1	37.8	37.7
Average hourly earnings (in dollars)	8.10	8.66	9.27	9.94	10.82	11.63	11.94	12.13	12.31
Average weekly earnings (in dollars)	295.65	318.69	342.99	367.78	399.26	426.82	442.97	458.51	464.09
Manufacturing									
Average weekly hours	40.3	40.4	40.2	39.7	39.8	38.9	40.1	40.7	40.5
Average hourly earnings (in dollars)	5.68	6.17	6.70	7.27	7.99	8.49	8.83	9.19	9.53
Average weekly earnings (in dollars)	228.90	249.27	269.34	288.62	318.00	330.26	354.08	374.03	335.97
Transportation and public utilities									
Average weekly hours	39.9	40.0	39.9	39.6	39.4	39.0	39.0	39.4	39.5
Average hourly earnings (in dollars)	6.99	7.57	8.16	8.87	9.70	10.32	10.79	11.12	11.40
Average weekly earnings (in dollars)	278.90	302.80	325.58	351.25	382.18	402.48	420.81	438.13	450.30
Wholesale trade									
Average weekly hours	38.8	38.8	38.8	38.5	38.5	38.3	38.5	38.5	38.4
Average hourly earnings (in dollars)	5.39	5.88	6.39	6.96	7.56	8.09	8.55	8.89	9.16
Average weekly earnings (in dollars)	209.13	228.14	247.93	267.96	291.06	309.85	329.18	342.27	351.74
Retail trade									
Average weekly hours	31.6	31.0	30.6	30.2	30.1	29.9	29.8	29.8	29.4
Average hourly earnings (in dollars)	3.85	4.20	4.53	4.88	5.25	5.48	5.74	5.85	5.94
Average weekly earnings (in dollars)	121.66	130.20	138.62	147.38	158.03	163.85	171.05	174.33	174.64
Finance, insurance, and real estate									
Average weekly hours	36.4	36.4	36.2	36.2	36.3	36.2	36.2	36.5	36.4
Average hourly earnings (in dollars)	4.54	4.89	5.27	5.79	6.31	6.78	7.29	7.63	7.94
Average weekly earnings (in dollars)	165.26	178.00	190.77	209.60	229.05	245.44	263.90	278.50	289.02
Services									
Average weekly hours	33.0	32.8	32.7	32.6	32.6	32.6	32.7	32.6	32.5
Average hourly earnings (in dollars)	4.65	4.99	5.36	5.85	6.41	6.92	7.31	7.58	7.89
Average weekly earnings (in dollars)	153.45	163.67	175.27	190.71	208.97	225.59	239.04	247.43	256.43

22. Employment Cost Index, compensation,[1] by occupation and industry group

(June 1981 = 100)

Series	1984			1985				1986		Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3 months ended	12 months ended
										June 1986	
Civilian workers [2]	120.8	122.4	123.9	125.5	126.4	128.4	129.2	130.6	131.5	0.7	4.0
Workers, by occupational group:											
White-collar workers	122.1	124.0	125.5	127.3	128.3	130.7	131.6	133.1	134.2	.8	4.6
Blue-collar workers	118.6	119.6	120.9	122.2	123.1	124.4	124.9	126.2	126.8	.5	3.0
Service occupations	122.1	124.6	126.8	127.8	128.0	130.9	131.8	133.1	133.7	.5	4.5
Workers, by industry division:											
Manufacturing	119.1	120.4	122.0	123.9	124.6	125.5	126.0	127.7	128.7	.8	3.3
Nonmanufacturing	121.6	123.3	124.8	126.2	127.2	129.7	130.6	131.9	132.8	.7	4.4
Services	125.5	128.8	130.9	131.9	132.6	136.4	137.1	138.8	139.4	.4	5.1
Public administration [3]	123.7	126.9	128.6	130.1	130.3	134.2	134.8	136.8	138.0	.9	5.9
Private industry workers	120.1	121.1	122.7	124.2	125.2	126.8	127.5	128.9	129.9	.8	3.8
Workers, by occupational group:											
White-collar workers	121.4	122.4	123.9	125.8	127.1	128.8	129.8	131.3	132.5	.9	4.2
Blue-collar workers	118.4	119.3	120.6	121.9	122.8	124.0	124.4	125.7	126.3	.5	2.9
Service occupations	121.2	123.2	125.7	126.3	126.5	128.8	129.5	130.9	131.1	.2	3.6
Workers, by industry division:											
Manufacturing	119.1	120.4	122.0	123.9	124.6	125.5	126.0	127.7	128.7	.8	3.3
Nonmanufacturing	120.7	121.8	123.1	124.4	125.6	127.6	128.4	129.7	130.6	.7	4.0
State and local government workers	124.4	128.8	130.1	131.7	132.0	136.5	137.5	138.9	139.7	.6	5.8
Workers, by occupational group:											
White-collar workers	125.0	129.7	131.1	132.5	132.9	137.6	138.6	140.0	140.5	.4	5.7
Blue-collar workers	122.3	125.0	125.9	128.1	128.5	131.9	132.7	134.7	136.3	1.2	6.1
Workers, by industry division:											
Services	125.0	129.9	131.3	132.8	133.2	137.9	139.1	140.4	140.8	.3	5.7
Schools	124.7	130.6	132.0	133.4	133.7	139.1	140.3	141.5	141.7	.1	6.0
Elementary and secondary	125.7	132.1	133.5	134.4	134.6	140.9	142.0	143.0	143.2	.1	6.4
Hospitals and other services[4]	125.7	127.9	129.2	131.1	131.5	134.1	135.2	136.8	137.9	.8	4.9
Public administration[3]	123.7	126.9	128.6	130.1	130.3	134.2	134.8	136.8	138.0	.9	5.9

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[1] Cost (cents-per-hour worked) measured in the Employment Cost Index consists of wages, salaries, and employer cost of employee benefits.

[2] Consist of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[3] Consists of legislative, judicial, administrative, and regulatory activities.

[4] Includes, for example, library, social, and health services.

NOTE: Beginning June 1986, ECI jobs are classified according to definitions used in the 1980 census. Prior to June 1986, they were classified according to the 1970 census. Differences between the two classification systems are slight, as indicated in "Introducing new weights for the Employment Cost Index," *Monthly Labor Review*, June 1985.

23. Employment Cost Index, wages and salaries, by occupation and industry group

(June 1981 = 100)

Series	1984			1985				1986		Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3 months ended	12 months ended
										June 1986	
Civilian workers [1]	118.8	120.3	121.7	123.1	124.2	126.3	127.0	128.3	129.3	0.8	4.1
Workers, by occupational group:											
White-collar workers	120.4	122.2	123.5	125.2	126.4	128.8	129.8	131.2	132.4	.9	4.7
Blue-collar workers	116.1	117.0	118.2	119.3	120.5	122.0	122.3	123.4	124.1	.6	3.0
Service occupations	119.8	122.3	124.3	124.8	125.3	128.0	128.6	129.8	130.0	.2	3.8
Workers, by industry division											
Manufacturing	116.8	118.0	119.5	121.0	122.3	123.2	123.8	125.3	126.5	1.0	3.4
Nonmanufacturing	119.7	121.3	122.6	123.9	125.0	127.6	128.4	129.6	130.4	.6	4.3
Services	123.6	127.2	128.9	129.7	130.5	134.2	134.8	136.4	137.0	.4	5.0
Public administration [2]	121.3	124.4	125.7	127.0	127.2	131.4	132.0	133.8	134.6	.6	5.8
Private industry workers	118.2	119.2	120.6	122.0	123.3	124.9	125.6	126.8	127.9	.9	3.7
Workers, by occupational group:											
White-collar workers	119.9	120.9	122.3	124.0	125.5	127.3	128.3	129.6	131.1	1.2	4.5
Professional specialty and technical occupations	123.8	125.2	127.3	127.7	128.7	131.2	131.5	132.7	134.0	1.0	4.1
Executive, administrative, and managerial occupations	119.2	121.0	122.2	123.8	126.5	127.7	128.4	130.5	132.1	1.2	4.4
Sales occupations	111.9	110.5	111.6	116.3	117.4	119.3	122.5	122.4	124.3	1.6	5.9
Administrative support occupations, including clerical	120.7	122.0	122.9	124.7	125.6	127.1	127.9	129.6	130.8	.9	4.1
Blue-collar workers	115.9	116.7	118.0	119.1	120.3	121.7	122.0	123.1	123.7	.5	2.8
Precision production, craft, and repair occupations	117.3	118.0	119.4	120.8	122.0	123.7	123.8	125.3	125.7	.3	3.0
Machine operators, assemblers, and inspectors	115.8	116.6	117.9	118.9	120.1	121.1	121.6	122.6	123.6	.8	2.9
Transportation and material moving occupations	112.7	113.4	114.0	114.5	115.7	117.7	117.8	118.0	118.9	.8	2.8
Handlers, equipment cleaners, helpers, and laborers	114.1	114.7	115.9	116.7	118.5	118.6	119.8	120.0	120.3	.3	1.5
Service occupations	119.3	121.2	123.7	123.8	124.4	126.3	126.6	128.0	128.0	.0	2.9
Workers, by industry division:											
Manufacturing	116.8	118.0	119.5	121.0	122.3	123.2	123.8	125.3	126.5	1.0	3.4
Durables	116.6	117.7	119.1	120.6	122.0	122.7	123.4	124.8	125.8	.8	3.1
Nondurables	117.1	118.6	120.2	121.6	122.6	124.0	124.6	126.1	127.9	1.4	4.3
Nonmanufacturing	119.0	119.9	121.2	122.6	123.9	125.9	126.6	127.7	128.7	.8	3.9
Construction	114.0	114.3	114.4	115.5	116.6	117.3	117.9	118.3	119.8	1.3	2.7
Transportation and public utilities	119.3	119.8	120.7	121.7	122.8	124.8	125.2	126.3	126.6	.2	3.1
Wholesale and retail trade	116.0	116.5	118.1	118.8	121.1	122.7	123.7	124.5	125.8	1.0	3.9
Wholesale trade	120.0	120.7	122.9	123.7	126.8	127.7	128.3	129.7	131.2	1.2	3.5
Retail trade	114.4	114.9	116.2	116.9	118.9	120.8	121.9	122.5	123.7	1.0	4.0
Finance, insurance, and real estate	116.9	115.3	115.8	122.0	121.7	124.1	126.5	126.6	128.0	1.1	5.2
Services	124.7	127.1	129.5	129.9	131.0	133.9	134.1	136.2	136.9	.5	4.5
State and local government workers	122.0	126.1	127.1	128.4	128.7	133.2	134.2	135.5	136.0	.4	5.7
Workers, by occupational group											
White-collar workers	122.5	127.1	128.0	129.3	129.6	134.3	135.3	136.6	137.0	.3	5.7
Blue-collar workers	119.6	121.9	122.5	124.2	124.5	127.9	128.4	130.4	131.9	1.2	5.9
Workers, by industry division											
Services	122.5	127.2	128.1	129.4	129.7	134.5	135.6	136.8	137.1	.2	5.7
Schools	122.3	127.8	128.7	129.9	130.2	135.8	137.0	138.0	138.2	.1	6.1
Elementary and secondary	123.0	129.3	130.2	130.8	131.1	137.5	138.5	139.4	139.4	.0	6.3
Hospitals and other services [3]	123.1	125.1	125.9	127.7	128.0	130.2	130.9	132.4	133.3	.7	4.1
Public administration [2]	121.3	124.4	125.7	127.0	127.2	131.4	132.0	133.8	134.6	.6	5.8

[1] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[2] Consists of legislative, judicial, administrative, and regulatory activities.

[3] Includes, for example, library, social and health services.

NOTE: Beginning June 1986, ECI jobs are classified according to definitions used in the 1980 census. Prior to June 1986, they were classified according to the 1970 census. Differences between the two classification systems are slight, as indicated in "Introducing new weights for the Employment Cost Index," *Monthly Labor Review*, June 1986.

24. Employment Cost Index, private nonfarm workers, by bargaining status, region, and area size

(June 1981 = 100)

Series	1984			1985				1986		Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3 months ended	12 months ended
										June 1986	
COMPENSATION											
Workers, by bargaining status[1]											
Union	121.7	122.6	123.9	124.8	125.5	126.5	127.1	128.4	128.7	0.2	2.5
Manufacturing	120.5	121.6	123.2	124.2	124.2	125.0	125.5	127.0	126.9	-.1	2.2
Nonmanufacturing	122.8	123.6	124.5	125.3	126.6	127.8	128.6	129.7	130.4	.5	3.0
Nonunion	119.2	120.3	121.9	123.8	125.0	126.8	127.5	129.0	130.2	.9	4.2
Manufacturing	117.9	119.3	120.8	123.6	124.8	125.7	126.3	128.1	129.7	1.2	3.9
Nonmanufacturing	119.8	120.7	122.4	123.9	125.1	127.3	128.1	129.5	130.4	.7	4.2
Workers, by region[1]											
Northeast	120.7	122.4	123.8	125.1	126.4	128.8	129.9	131.6	133.3	1.3	5.5
South	120.7	120.7	122.2	124.2	125.2	126.5	127.2	128.7	129.6	.7	3.5
Midwest (formerly North Central)	117.9	119.7	120.8	122.0	122.7	124.2	124.8	125.9	126.2	.2	2.9
West	122.2	122.5	124.9	126.8	127.9	129.1	129.8	130.8	131.6	.6	2.9
Workers, by area size[1]											
Metropolitan areas	120.6	121.5	123.2	124.7	125.7	127.3	128.1	129.5	130.5	.8	3.8
Other areas	117.4	118.0	119.8	121.4	122.5	123.9	123.9	125.5	126.4	.7	3.2
WAGES AND SALARIES											
Workers, by bargaining status[1]											
Union	119.0	119.8	120.9	121.7	123.0	124.1	124.7	125.6	126.1	.4	2.5
Manufacturing	117.1	118.1	119.5	120.4	121.7	122.8	123.3	124.2	124.6	.3	2.4
Nonmanufacturing	120.7	121.3	122.1	122.8	124.1	125.3	125.9	126.9	127.4	.4	2.7
Nonunion	117.8	118.8	120.4	122.1	123.4	125.2	125.9	127.3	128.5	.9	4.1
Manufacturing	116.5	117.9	119.5	121.5	122.8	123.7	124.4	126.1	127.7	1.3	4.0
Nonmanufacturing	118.3	119.2	120.7	122.3	123.6	125.9	126.6	127.8	128.9	.9	4.3
Workers, by region[1]											
Northeast	118.9	120.5	121.9	123.0	124.6	126.8	128.1	129.2	131.3	1.6	5.4
South	119.0	119.0	120.2	122.3	123.4	124.8	125.4	126.8	127.8	.8	3.6
Midwest (formerly North Central)	116.0	117.8	118.7	119.6	121.1	122.5	122.9	124.2	124.4	.2	2.7
West	119.6	120.0	122.5	124.0	125.1	126.6	127.1	128.1	128.9	.6	3.0
Workers, by area size[1]											
Metropolitan areas	118.6	119.5	121.0	122.4	123.8	125.5	126.3	127.4	128.5	.9	3.8
Other areas	116.0	117.5	118.3	119.6	120.6	121.9	122.0	123.6	124.5	.7	3.2

[1] The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the *Monthly Labor Review* Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

NOTE: Beginning June 1986, ECI measures are based on fixed employment counts from the 1980 Census of Population, rather than from the 1970 census.

25. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		Quarterly average							
	1984	1985	1984		1985				1986	
			III	IV	I	II	III	IV	I	II
Specified adjustments:										
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:										
First year of contract	3.6	2.6	2.7	3.7	3.6	3.5	2.0	2.0	0.4	0.7
Annual rate over life of contract	2.8	2.7	3.1	2.9	2.7	3.4	3.0	1.4	1.3	1.6
Wage adjustments, settlements covering 1,000 workers or more:										
First year of contract	2.4	2.3	2.1	2.3	3.3	2.5	2.0	2.1	1.0	1.3
Annual rate over life of contract	2.4	2.7	2.6	1.5	3.2	2.8	3.1	1.9	1.6	2.0
Effective adjustments:										
Total effective wage adjustment [3]	3.7	3.3	1.2	.7	.7	.8	1.2	.5	.6	.7
From settlements reached in period	.8	.7	.2	.3	.1	.2	.2	.1	.0	.2
Deferred from settlements reached in earlier periods	2.0	1.8	.7	.2	.6	.5	.5	.2	.4	.6
From cost-of-living-adjustments clauses	.9	.7	.3	.2	.1	.1	.4	.1	.2	.0

[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases, and no changes in compensation or wages.

[3] Because of rounding total may not equal sum of parts.

p = preliminary.

26. Average specified compensation and wage adjustments, major collective bargaining settlements in private industry situations covering 1,000 workers or more during 4-quarter periods (in percent)

Measure	Average for four quarters ending--							
	1984		1985				1986	
	III	IV	I	II	III	IV	I	II
Specified total compensation adjustments, settlements covering 5,000 workers or more, all industries:								
First year of contract	4.2	3.6	3.4	3.4	3.1	2.6	2.3	1.5
Annual rate over life of contract	3.2	2.8	2.6	2.7	2.7	2.7	2.6	2.0
Specified wage adjustments, settlements covering 1,000 workers or more:								
All industries								
First year of contract	3.2	2.4	2.4	2.4	2.4	2.3	2.0	1.7
Contracts with COLA clauses	4.5	2.9	2.5	2.3	1.9	1.6	1.6	1.6
Contracts without COLA clauses	2.3	2.1	2.4	2.4	2.7	2.7	2.2	1.7
Annual rate over life of contract	2.8	2.4	2.3	2.4	2.5	2.7	2.5	2.3
Contracts with COLA clauses	2.8	1.8	1.3	1.5	1.8	2.5	2.5	2.5
Contracts without COLA clauses	2.8	2.7	2.8	2.8	3.0	2.8	2.5	2.2
Manufacturing								
First year of contract	2.6	2.3	2.1	2.0	1.5	.8	.9	.1
Contracts with COLA clauses	1.5	2.1	2.0	1.9	1.5	.8	.8	.7
Contracts without COLA clauses	3.7	2.9	2.5	2.2	1.5	.9	.9	-.4
Annual rate over life of contract	2.8	1.5	1.4	1.5	1.6	1.8	1.8	1.4
Contracts with COLA clauses	1.8	1.0	.9	1.0	1.4	2.1	2.1	2.0
Contracts without COLA clauses	3.8	3.3	3.2	3.0	2.4	1.6	1.5	.9
Nonmanufacturing								
First year of contract	3.3	2.5	2.6	2.7	3.2	3.3	2.8	2.7
Contracts with COLA clauses	5.4	5.5	5.1	4.3	4.0	3.6	3.5	3.2
Contracts without COLA clauses	2.1	2.0	2.4	2.5	3.0	3.3	2.7	2.6
Annual rate over life of contract	2.8	2.9	2.8	2.9	3.3	3.3	3.0	2.9
Contracts with COLA clauses	3.1	4.8	4.0	3.8	3.9	3.6	3.6	3.3
Contracts without COLA clauses	2.6	2.6	2.7	2.8	3.2	3.3	2.9	2.8
Construction								
First year of contract	.9	.5	.9	1.1	1.0	1.5	1.7	2.4
Contracts with COLA clauses	4.0	4.8	4.6	9.2	(1)	(1)	(1)	.7
Contracts without COLA clauses	.9	.4	.8	1.0	(1)	(1)	(1)	2.5
Annual rate over life of contract	1.4	1.0	1.4	1.7	1.7	2.1	2.2	2.6
Contracts with COLA clauses	1.4	1.4	1.7	4.6	(1)	(1)	(1)	1.1
Contracts without COLA clauses	1.4	1.0	1.4	1.7	(1)	(1)	(1)	2.6

[1] Data do not meet publication standards.

p = preliminary.

27. Average effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more during 4-quarter periods (in percent)

Effective wage adjustment	Average for four quarters ending–						
	1984	1985				1986	
	IV	I	II	III	IV	I	II^p
For all workers:[1]							
Total	3.7	3.6	3.5	3.5	3.3	3.1	2.9
From settlements reached in period	.8	.7	.9	.9	.7	.6	.5
Deferred from settlements reached in earlier period	2.0	2.2	1.9	1.8	1.8	1.7	1.8
From cost-of-living-adjustments clauses	.9	.7	.7	.8	.7	.8	.7
For workers receiving changes:							
Total	4.4	4.5	4.2	4.3	4.1	4.0	3.8
From settlements reached in period	3.0	2.9	2.9	2.8	3.4	2.9	2.5
Deferred from settlements reached in earlier period	4.0	4.2	3.9	3.7	3.7	3.5	3.4
From cost-of-living-adjustments clauses	2.7	2.3	2.3	2.8	2.2	2.5	2.1

[1] Because of rounding total may not equal sum of parts.

p = preliminary.

28. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, State and local government collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		First 6 months 1986^p
	1984	1985	
Specified adjustments:			
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:			
First year of contract	5.2	4.2	6.7
Annual rate over life of contract	5.4	5.1	6.4
Wage adjustments, settlements covering 1,000 workers or more:			
First year of contract	4.8	4.6	6.1
Annual rate over life of contract	5.1	5.4	6.0
Effective adjustments:			
Total effective wage adjustment [3]	5.0	5.7	1.8
From settlements reached in period	1.9	4.1	0.6
Deferred from settlements reached in earlier periods	3.1	1.6	1.2
From cost-of-living-adjustment clauses	([4])	([4])	(4)

[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases, and no changes in compensation or wages.

[3] Because of rounding total may not equal sum of parts.

[4] Less than 0.05 percent.

p = preliminary.

29. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1985					1986							
	1984	1985	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.^p	Feb.^p	Mar.^p	Apr.^p	May^p	June^p	July^p	Aug.^p
Number of stoppages:															
Beginning in period	62	54	6	11	6	3	2	4	3	2	3	5	10	10	8
In effect during period	68	61	18	20	20	13	9	7	7	8	8	10	15	20	19
Workers involved:															
Beginning in period (in thousands)	376.0	323.9	15.3	69.5	76.6	26.2	8.2	7.6	24.0	11.2	6.1	28.6	198.0	40.9	110.7
In effect during period (in thousands)	391.0	584.1	66.8	93.9	119.3	47.0	38.0	12.0	28.4	36.6	17.6	41.2	205.9	57.1	131.1
Days idle:															
Number (in thousands)	8,499.0	7,079.0	810.8	863.8	1,428.8	688.2	661.9	170.0	309.5	387.5	297.3	303.6	3,684.3	831.6	1,514.3
Percent of estimated working time[1]	.04	.03	.04	.04	.06	.04	.03	.01	.02	.02	.02	.02	.07	.04	.07

[1] Agricultural and government employees are included in the total employed and total working time: private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time worked is found in "'Total economy' measure of strike idleness," *Monthly Labor Review*, October 1968, pp. 54-56.

p = preliminary

30. Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity or service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967=100, unless otherwise indicated)

Series	Annual average		1985					1986						
	1984	1985	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS:														
All items	311.1	322.2	323.5	324.5	325.5	326.6	327.4	328.4	327.5	326.0	325.3	326.3	327.9	328.0
All items (1957-59=100)	361.9	374.7	376.2	377.4	378.5	379.9	380.8	381.9	380.8	379.1	378.3	379.5	381.4	381.4
Food and beverages	295.1	302.0	301.8	302.1	302.5	303.6	305.6	307.9	307.7	307.8	308.5	309.4	309.5	312.2
Food	302.9	309.8	309.7	309.9	309.8	311.0	313.2	315.6	315.3	315.4	316.1	317.0	317.1	320.1
Food at home	292.6	296.8	295.9	295.6	295.3	296.6	299.3	302.5	301.5	301.2	301.5	302.1	301.6	305.5
Cereals and bakery products	305.3	317.0	318.5	319.2	318.9	319.9	321.9	322.0	322.5	322.7	322.5	323.8	326.1	326.3
Meats, poultry, fish, and eggs	266.6	263.4	259.7	260.6	261.1	266.1	269.9	271.5	268.4	267.7	264.2	263.4	265.1	274.9
Dairy products	253.2	258.0	257.4	258.0	257.1	257.1	256.9	257.2	257.3	256.8	256.8	257.1	257.2	258.4
Fruits and vegetables	317.4	325.7	326.3	319.9	317.1	314.3	323.9	334.4	320.7	319.2	329.5	336.5	327.8	330.3
Other foods at home	352.2	361.1	361.7	362.6	363.0	362.2	361.3	365.7	375.1	375.7	376.1	374.6	374.1	373.7
Sugar and sweets	389.1	398.8	401.8	401.1	402.6	401.4	402.2	405.1	408.6	408.4	411.4	411.2	411.5	412.4
Fats and oils	288.0	294.4	297.1	294.8	291.2	292.1	290.3	292.1	291.4	290.2	288.5	287.2	287.0	287.3
Nonalcoholic beverages	443.0	451.7	449.6	452.8	454.1	451.7	448.8	459.7	465.3	468.0	467.4	461.9	460.0	478.3
Other prepared foods	284.9	294.2	295.8	296.3	296.8	296.8	297.3	298.0	299.5	299.3	300.2	301.4	301.7	301.8
Food away from home	333.4	346.6	348.4	349.9	350.3	351.3	352.1	353.1	354.2	355.5	357.0	358.8	360.2	360.8
Alcoholic beverages	222.1	229.5	228.9	229.3	236.4	236.2	236.2	237.5	238.3	238.8	239.5	239.4	240.1	240.4
Housing	336.5	349.9	352.9	353.8	354.4	355.0	355.8	356.8	356.5	357.0	358.0	358.5	361.2	361.5
Shelter	361.7	382.0	385.9	386.9	389.1	391.3	392.3	393.8	394.8	397.0	400.1	400.9	401.6	403.5
Renters' costs (12/82=100)	108.6	115.4	116.6	117.0	117.9	118.4	118.3	118.8	119.0	119.6	120.9	121.1	121.6	122.5
Rent, residential	249.3	264.6	266.6	267.7	269.9	271.7	272.4	273.4	273.7	275.0	277.9	278.4	279.4	281.2
Other renters' costs	373.4	398.4	409.9	410.7	412.5	408.7	398.1	401.1	404.1	405.5	410.8	411.3	415.2	420.1
Homeowners' costs (12/82=100)	107.3	113.1	114.3	114.6	115.1	115.8	116.3	116.7	117.0	117.9	118.7	118.9	119.0	119.4
Owners' equivalent rent (12/82=100)	107.3	113.2	114.3	114.6	115.1	115.9	116.3	116.7	117.0	117.9	118.7	118.9	119.0	119.4
Household insurance (12/82=100)	107.5	112.4	113.0	113.7	114.6	114.5	115.0	115.7	117.4	118.0	118.3	118.8	118.9	119.9
Maintenance and repairs	359.2	368.9	370.8	368.7	368.5	372.7	373.7	379.1	379.6	367.5	367.6	367.1	366.6	369.2
Maintenance and repair services	409.7	421.1	425.1	421.9	422.2	426.4	426.2	432.6	432.8	422.4	424.6	425.5	427.4	430.1
Maintenance and repair commodities	262.7	269.6	269.2	268.6	268.0	271.5	273.3	277.1	277.8	266.1	264.5	262.9	260.7	262.7
Fuel and other utilities	387.3	393.6	398.9	400.5	395.6	392.1	393.3	394.6	390.0	385.5	381.8	382.5	393.8	389.4
Fuels	485.5	488.1	494.4	496.8	488.4	481.5	483.6	484.7	476.3	467.6	459.6	460.6	477.0	469.2
Fuel oil, coal, and bottled gas	641.8	619.5	594.6	601.7	615.3	641.6	657.3	650.3	591.2	549.9	518.3	498.8	486.6	459.4
Gas (piped) and electricity	445.2	452.7	465.1	466.5	453.9	440.5	439.9	442.6	444.5	442.3	439.2	444.6	466.0	462.3
Other utilities and public services	230.2	240.7	244.2	244.6	244.7	245.9	245.8	247.3	247.9	249.0	251.3	251.5	255.2	255.6
Household furnishings and operations	242.5	247.2	247.0	247.1	248.4	248.9	248.8	248.8	249.0	249.8	249.6	249.9	250.2	250.5
Housefurnishings	199.1	200.1	199.1	199.0	200.3	200.8	200.1	199.8	199.7	201.0	200.4	200.8	200.8	201.2
Housekeeping supplies	303.2	313.6	313.5	313.9	315.7	316.4	317.7	318.3	318.6	317.9	318.5	318.3	319.6	319.5
Housekeeping services	327.5	338.9	340.7	341.5	342.2	342.7	343.2	343.9	344.5	345.1	345.4	345.8	346.1	346.6
Apparel and upkeep	200.2	206.0	205.3	209.6	211.1	211.2	209.0	205.0	204.1	206.3	207.3	206.4	204.5	203.2
Apparel commodities	187.0	191.6	190.6	195.3	196.7	196.8	194.2	189.5	188.5	190.8	191.7	190.7	188.4	187.0
Men's and boys' apparel	192.4	197.9	197.2	201.5	203.2	203.6	202.0	198.6	196.8	198.3	199.7	200.2	198.1	195.8
Women's and girls' apparel	163.6	169.5	167.7	176.1	177.9	176.5	172.6	164.4	163.4	167.6	168.0	164.9	161.3	159.8
Infants' and toddlers' apparel	287.0	299.7	300.6	302.0	302.1	307.0	304.1	313.9	311.6	313.1	316.6	318.5	319.7	307.5
Footwear	209.5	212.1	210.3	210.9	212.3	215.5	213.1	209.1	207.9	210.1	211.4	211.5	210.0	209.1
Other apparel commodities	216.4	215.5	217.5	215.2	214.9	214.9	214.6	215.5	216.1	214.6	215.3	215.4	215.8	218.1
Apparel services	305.0	320.9	322.9	324.1	325.7	326.3	326.9	329.8	330.7	331.5	332.9	333.6	334.3	334.6
Transportation	311.7	319.9	320.7	319.7	320.9	323.2	324.0	323.9	319.2	309.6	303.3	305.7	306.6	304.7
Private transportation	306.6	314.2	314.9	313.6	314.7	317.0	317.8	317.3	312.2	302.1	295.3	297.8	300.8	298.5
New vehicles	208.0	214.9	214.2	214.2	215.9	218.2	219.2	219.7	220.2	220.1	221.0	222.8	224.0	224.5
New cars	208.5	215.2	214.6	214.5	216.2	218.4	219.4	219.9	220.4	220.3	221.2	223.0	224.2	224.7
Used cars	375.7	379.7	374.0	374.3	375.3	376.4	375.6	374.1	370.7	367.2	364.8	363.6	362.5	360.3
Motor fuel	370.7	373.8	381.9	377.7	374.6	376.7	377.5	373.3	351.5	308.5	279.5	289.3	299.4	280.2
Gasoline	370.2	373.3	381.8	377.4	374.2	376.1	376.8	372.5	350.8	307.7	278.6	288.7	299.1	279.8
Maintenance and repair	341.5	351.4	351.9	353.5	355.7	355.8	357.5	357.9	358.9	359.3	360.6	361.3	362.1	363.4
Other private transportation	273.3	287.6	287.7	285.8	289.6	293.9	295.2	297.7	299.2	301.5	301.6	301.3	303.0	304.5
Other private transportation commodities	201.5	202.6	202.8	203.4	202.8	201.6	202.1	203.4	202.9	203.6	202.2	202.4	201.5	201.6
Other private transportation services	295.0	312.8	313.0	310.4	315.4	321.2	322.7	325.5	327.6	330.3	330.9	330.4	332.8	334.6
Public transportation	385.2	402.8	403.7	408.0	411.5	412.8	412.9	419.6	422.2	421.2	422.2	423.7	425.4	426.0
Medical care	379.5	403.1	406.6	408.3	410.5	413.0	414.7	418.2	422.3	425.8	429.0	420.7	432.0	434.8
Medical care commodities	239.7	256.7	259.3	260.2	261.3	262.7	262.9	264.5	267.4	269.4	271.3	272.3	273.3	275.4
Medical care services	410.3	435.1	438.6	440.5	443.0	445.8	448.0	451.9	456.2	460.1	462.3	464.2	466.8	469.8
Professional services	346.1	367.3	370.0	371.7	373.2	375.5	377.1	378.9	381.6	385.0	386.9	388.3	390.3	391.7
Other medical care services	488.0	517.0	521.6	523.9	527.4	530.8	533.6	540.3	546.4	550.8	553.5	555.9	558.2	564.2
Entertainment	255.1	265.0	265.7	266.8	268.4	269.0	268.3	270.8	272.0	271.9	272.3	272.9	273.9	274.4
Entertainment commodities	253.3	260.6	260.5	262.5	264.0	264.0	262.5	264.7	265.2	265.0	264.8	265.3	266.1	265.8
Entertainment services	258.3	271.8	273.6	273.3	275.2	276.6	277.1	279.9	282.1	282.2	283.5	284.2	285.5	287.0
Other goods and services	307.7	326.6	326.0	333.3	334.9	335.3	336.5	339.1	340.3	341.1	341.8	342.1	342.6	344.9
Tobacco products	310.0	328.5	331.5	332.8	334.4	334.7	337.4	342.7	344.7	345.6	346.5	346.5	347.1	354.3
Personal care	271.4	281.9	283.3	284.1	285.0	285.4	286.3	288.1	289.1	290.3	290.5	290.9	291.0	291.1
Toilet goods and personal care appliances	269.6	278.5	279.4	280.6	281.4	281.1	282.5	285.3	286.0	287.3	287.7	287.9	287.0	287.1
Personal care services	274.1	286.0	287.7	288.2	289.2	290.2	290.6	291.8	293.0	294.0	294.1	294.7	295.7	295.8
Personal and educational expenses	365.7	397.1	390.7	412.5	414.7	415.4	415.5	416.8	417.7	417.9	418.9	419.5	420.4	421.2
School books and supplies	322.8	350.8	346.1	362.1	364.5	364.7	364.7	371.0	373.8	374.3	374.4	374.5	375.7	375.9
Personal and educational services	375.6	407.7	401.1	423.9	426.2	426.9	427.0	427.6	428.1	428.3	429.5	430.2	431.0	431.9

See footnotes at end of table.

30. Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity or service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967=100, unless otherwise indicated)

Series	Annual average		1985					1986						
	1984	1985	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
All items	311.1	322.2	323.5	324.5	325.5	326.6	327.4	328.4	327.5	326.0	325.3	326.3	327.9	328.0
Commodities	290.7	286.7	286.5	287.1	287.9	289.2	289.9	290.1	287.4	283.7	281.2	282.1	282.8	281.9
Food and beverages	295.1	302.0	301.8	302.1	302.5	303.6	305.6	307.9	307.7	307.8	308.5	309.4	309.5	312.2
Commodities less food and beverages	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nondurables less food and beverages	275.7	282.1	283.1	284.6	285.3	286.8	286.8	284.9	278.6	268.9	262.0	263.3	264.7	259.8
Apparel commodities	187.0	191.6	190.6	195.3	196.7	196.8	194.2	189.5	188.5	190.8	191.7	190.7	188.4	187.0
Nondurables less food, beverages, and apparel	325.8	333.3	335.4	335.3	336.6	337.8	339.1	338.7	329.5	313.6	302.6	305.2	308.4	301.7
Durables	266.5	270.7	268.6	268.7	270.2	271.5	271.4	271.4	270.5	269.7	269.2	269.6	269.9	269.6
Services	363.0	381.5	384.9	386.5	387.7	388.7	389.5	391.7	393.3	394.6	396.8	397.9	401.0	402.3
Rent of shelter	107.7	113.9	115.1	115.6	116.1	116.7	117.0	117.4	117.7	118.5	119.4	119.7	119.9	120.5
Household services less rent of shelter	108.1	111.2	113.2	113.5	112.1	110.8	110.8	111.4	111.8	111.6	111.6	112.3	115.2	114.9
Transportation services	321.1	337.0	337.4	337.1	341.1	344.7	346.1	349.0	351.0	352.4	353.2	353.4	355.3	357.1
Medical care services	410.3	435.1	438.6	440.5	443.0	445.8	448.0	451.9	456.2	460.1	462.3	464.2	466.8	469.8
Other services	296.0	314.1	313.6	319.7	321.4	322.5	322.8	324.8	326.1	326.6	327.6	328.2	329.2	330.1
Special indexes:														
All items less food	311.3	323.3	325.0	326.2	327.4	328.5	328.9	329.5	328.5	326.6	325.7	326.7	328.6	329.0
All items less shelter	295.1	303.9	304.6	305.7	306.3	307.2	307.9	306.8	307.4	305.2	303.6	304.7	306.5	306.1
All items less homeowners' costs	106.3	109.7	110.1	110.4	110.7	111.1	111.3	111.6	111.2	110.5	110.1	110.4	111.1	111.0
All items less medical care	307.3	317.7	318.9	319.9	320.8	321.9	322.6	323.4	322.2	320.5	319.7	320.6	322.2	322.1
Commodities less food	267.6	272.5	272.3	273.1	274.4	275.7	275.7	274.7	270.9	265.2	261.2	262.1	263.0	259.2
Nondurables less food	270.8	277.2	278.1	279.6	280.7	282.0	282.0	280.4	274.5	265.6	259.2	260.5	261.8	257.3
Nondurables less food and apparel	311.9	319.2	321.1	321.0	322.0	324.0	325.1	324.9	316.8	302.7	292.9	295.2	298.1	292.2
Nondurables	286.6	293.2	293.7	294.6	295.1	296.4	297.4	297.7	294.3	289.5	286.3	287.4	288.2	287.1
Services less rent of shelter	108.5	113.5	114.5	115.0	115.1	115.2	115.4	116.2	116.8	117.1	117.4	117.8	119.2	119.5
Services less medical care	355.6	373.3	376.7	378.3	379.3	380.1	380.8	382.7	384.0	385.4	387.2	388.3	391.3	392.5
Energy	423.6	426.5	433.8	432.6	427.1	425.1	426.5	424.7	408.9	381.3	361.8	367.6	380.6	366.5
All items less energy	302.9	314.8	315.6	316.8	318.4	319.8	320.5	321.8	322.3	323.3	324.4	325.0	325.5	326.9
All items less food and energy	301.2	314.4	315.3	316.9	318.9	320.4	320.7	321.6	322.3	323.6	324.8	325.3	325.9	326.9
Commodities less food and energy	253.1	259.7	258.8	260.2	262.0	262.7	262.2	261.8	261.6	262.0	262.1	262.2	262.0	262.0
Energy commodities	409.8	409.9	414.0	411.2	410.1	415.2	417.9	413.2	386.5	343.0	313.3	319.3	327.1	306.6
Services less energy	356.4	375.9	378.6	380.2	382.5	384.8	385.8	387.9	389.4	391.5	393.8	394.5	395.9	397.7
Purchasing power of the consumer dollar:														
1967=$1.00	32.1	31.0	30.9	30.8	30.7	30.6	30.5	30.5	30.5	30.7	30.7	30.6	30.5	30.5
1957-59=$1.00	27.6	26.7	26.6	26.5	26.4	26.3	26.3	26.2	26.3	26.4	26.4	26.4	26.2	26.2
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS:														
All items	307.6	318.5	318.6	320.5	321.3	322.6	323.4	324.3	323.2	321.4	320.4	321.4	323.0	322.9
All items (1957-59=100)	357.7	370.4	371.8	372.7	373.7	375.1	376.1	377.1	375.8	373.7	372.6	373.7	375.6	375.5
Food and beverages	295.2	301.8	301.6	301.8	302.2	303.4	305.4	307.7	307.5	307.6	308.3	309.0	309.3	312.0
Food	302.7	308.3	308.1	308.3	309.3	310.6	312.8	315.1	314.9	315.0	315.6	316.4	316.6	319.5
Food at home	291.2	295.3	294.3	294.0	293.7	295.2	297.9	300.9	300.1	299.7	299.9	300.4	300.0	303.9
Cereals and bakery products	303.7	315.4	316.8	317.6	317.3	318.2	320.4	320.4	320.9	321.1	320.9	322.1	324.5	324.6
Meats, poultry, fish, and eggs	266.0	262.7	259.0	258.9	260.4	265.4	269.2	270.7	267.7	267.2	263.5	262.6	264.2	274.0
Dairy products	252.2	256.9	256.3	256.6	255.9	255.9	255.7	256.0	256.0	255.5	256.5	255.8	255.9	257.0
Fruits and vegetables	312.5	320.3	320.6	313.6	311.2	308.4	319.3	329.7	316.0	314.6	325.0	331.6	323.5	325.6
Other foods at home	352.7	361.5	362.2	362.9	363.4	362.5	361.6	366.1	375.2	375.6	376.0	374.3	373.9	373.4
Sugar and sweets	398.6	399.3	401.4	400.8	402.2	400.9	401.8	404.7	408.1	407.8	410.8	410.6	410.9	411.9
Fats and oils	287.5	293.9	296.5	294.1	290.6	291.8	289.6	291.6	290.8	289.7	287.8	286.6	286.4	288.6
Nonalcoholic beverages	444.4	453.2	451.2	454.1	455.6	453.1	450.4	461.0	485.5	487.4	487.0	481.2	479.5	477.6
Other prepared foods	286.4	295.7	297.3	297.7	298.3	298.3	298.7	299.4	300.9	300.7	301.6	302.7	303.0	303.1
Food away from home	336.7	348.7	351.5	353.0	353.4	354.4	355.2	356.2	357.3	358.6	360.2	362.0	363.5	364.2
Alcoholic beverages	225.3	232.6	232.2	232.6	238.1	238.8	239.1	240.1	240.9	241.4	242.3	242.2	242.9	243.4
Housing	329.2	343.3	346.2	347.2	347.5	348.3	349.1	350.1	349.7	350.1	351.1	351.6	354.3	354.5
Shelter	350.0	370.4	374.0	375.0	377.1	379.3	380.4	381.8	382.9	385.0	386.1	386.8	389.4	391.5
Renters' costs (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rent, residential	248.6	263.7	265.7	266.6	268.9	270.7	271.5	272.5	272.8	274.1	277.0	277.5	278.5	280.3
Other renters' costs	372.4	397.9	409.6	409.6	411.6	408.0	397.5	400.8	403.5	405.4	411.6	411.3	415.5	420.4
Homeowners' costs (12/84=100)	-	103.1	104.1	104.3	104.8	105.5	105.9	106.3	106.6	107.4	108.1	108.3	108.4	108.8
Owners' equivalent rent (12/84=100)	-	103.0	104.1	104.3	104.8	105.5	105.9	106.3	106.6	107.3	108.1	108.3	108.4	108.8
Household insurance (12/84=100)	-	103.2	103.7	104.3	105.2	105.2	105.7	106.3	107.8	108.2	108.5	109.0	109.1	110.1
Maintenance and repairs	356.3	364.1	365.6	364.4	364.6	367.7	368.5	373.2	374.0	364.7	364.6	362.8	363.2	366.7
Maintenance and repair services	403.5	415.0	419.6	416.8	417.4	420.9	420.1	426.2	426.5	416.6	419.2	420.0	422.6	425.2
Maintenance and repair commodities	257.2	261.1	260.6	260.5	260.5	262.7	264.2	267.2	268.1	261.1	259.4	259.0	255.7	259.0
Fuel and other utilities	398.6	394.7	400.1	401.9	396.3	393.2	394.3	395.6	390.9	386.3	382.6	383.0	384.9	390.3
Fuels	485.0	487.5	494.0	496.7	487.2	481.0	483.1	484.1	475.7	467.1	459.1	459.7	477.2	489.1
Fuel oil, coal, and bottled gas	644.3	622.0	596.9	604.3	618.1	644.3	659.9	652.7	593.6	552.8	521.5	489.9	489.9	482.9
Gas (piped) and electricity	444.1	451.6	464.2	465.9	452.0	439.5	438.8	441.4	443.2	441.2	438.0	443.0	465.7	461.4
Other utilities and public services	231.2	241.6	245.1	245.6	245.7	246.8	246.7	248.3	248.8	249.9	252.1	252.2	255.8	258.3
Household furnishings and operations	239.1	243.4	243.1	243.2	244.5	245.1	245.2	245.1	245.3	246.0	246.0	246.1	246.2	246.5
Housefurnishings	197.0	197.6	196.6	196.5	197.7	198.3	197.8	197.3	197.2	198.5	198.1	198.4	198.2	198.4
Housekeeping supplies	300.2	310.7	310.4	311.0	312.7	313.5	315.0	315.8	316.4	315.5	316.3	315.7	316.8	317.1
Housekeeping services	328.0	340.2	342.2	342.9	343.9	344.5	345.0	345.6	346.3	346.6	347.1	347.4	347.8	348.4
Apparel and upkeep	198.1	205.0	204.3	208.7	210.2	210.2	208.1	204.1	203.1	206.2	206.1	205.1	203.0	201.8

See footnotes at end of table.

30. Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity or service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967 = 100, unless otherwise indicated)

Series	Annual average		1985					1986						
	1984	1985	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
Apparel commodities	186.6	191.3	190.4	195.1	196.6	196.5	194.1	189.4	188.2	190.4	191.2	190.1	187.7	186.3
Men's and boys' apparel	192.9	198.2	197.3	201.8	203.5	203.7	202.2	198.8	196.8	198.0	199.3	200.0	198.0	195.4
Women's and girls' apparel	165.0	171.3	169.9	178.2	180.0	178.3	174.5	166.1	165.2	169.0	169.3	165.9	162.0	160.8
Infants' and toddlers' apparel	297.6	311.7	311.2	314.9	314.8	320.7	317.3	332.7	328.6	329.6	331.3	334.3	335.6	323.7
Footwear	210.0	212.5	210.5	211.0	212.6	215.9	213.6	209.9	208.4	210.7	212.1	212.0	210.6	209.6
Other apparel commodities	204.5	203.1	205.2	202.5	202.4	202.5	202.4	203.5	204.2	203.5	204.1	203.8	204.5	206.5
Apparel services	302.9	318.5	320.5	321.6	323.2	323.6	324.4	327.2	328.1	329.0	330.2	330.9	331.9	332.2
Transportation	313.9	321.6	322.3	321.1	322.2	324.6	325.3	325.1	320.1	310.3	303.5	305.9	308.7	304.6
Private transportation	310.1	317.4	318.0	316.6	317.6	320.1	320.8	320.2	314.8	304.5	297.4	299.9	302.8	298.3
New vehicles	207.3	214.2	213.5	213.5	215.3	217.5	218.6	219.0	219.4	219.4	220.2	222.0	223.2	223.7
New cars	207.9	214.5	213.9	213.8	215.5	217.8	218.8	219.2	219.7	219.5	220.4	222.3	223.4	223.9
Used cars	375.7	379.7	374.0	374.3	375.3	376.4	375.6	374.1	370.7	367.2	364.8	363.6	362.5	360.3
Motor fuel	372.2	375.4	383.8	379.5	376.3	378.7	379.6	375.3	353.0	309.6	280.1	290.3	300.6	280.9
Gasoline	371.8	375.0	383.7	379.2	375.8	378.1	378.9	374.6	352.3	308.8	279.1	289.6	300.3	280.5
Maintenance and repair	342.2	352.6	352.9	354.5	356.9	357.2	359.0	359.4	360.4	360.9	362.2	362.8	363.6	365.0
Other private transportation	274.2	287.7	287.6	285.2	289.2	293.7	294.7	296.9	298.4	300.6	300.4	299.8	301.2	302.4
Other private transportation commodities	203.9	204.7	204.9	205.6	205.0	203.7	204.3	205.6	205.4	206.0	204.6	204.9	203.9	203.8
Other private transportation services	295.4	312.3	312.1	308.9	314.1	320.2	321.3	323.7	325.7	328.3	328.5	327.7	329.6	331.2
Public transportation	376.8	391.7	393.5	396.8	399.3	400.1	400.2	408.6	412.6	412.0	413.0	413.8	415.1	418.0
Medical care	377.7	401.2	404.5	406.3	408.5	410.9	412.6	416.0	420.0	423.5	425.7	427.3	429.6	432.4
Medical care commodities	239.7	256.3	259.0	259.8	260.9	262.2	262.3	264.1	267.0	268.8	270.7	271.7	272.5	274.6
Medical care services	407.9	432.7	436.1	438.1	440.6	443.2	445.4	449.2	453.5	457.3	459.5	461.3	464.0	466.9
Professional services	346.5	367.7	370.4	372.1	373.7	375.8	377.6	379.3	382.2	385.6	387.4	388.8	390.8	392.3
Other medical care services	484.7	513.9	518.4	520.7	524.4	527.5	530.4	536.9	543.0	547.3	550.0	552.3	555.8	560.7
Entertainment	251.2	260.1	260.8	261.6	263.0	263.7	263.0	265.4	266.5	266.5	266.9	267.3	268.4	269.0
Entertainment commodities	247.7	254.2	254.3	256.0	257.1	257.2	255.7	257.8	258.3	258.3	258.4	258.7	259.8	259.6
Entertainment services	258.5	271.6	273.3	272.6	274.6	276.3	276.8	280.0	282.0	282.1	283.0	283.6	284.8	286.5
Other goods and services	304.9	322.7	322.9	328.7	330.1	330.5	331.9	334.9	336.1	337.0	337.6	338.0	338.4	341.2
Tobacco products	309.7	328.1	331.1	332.4	334.0	334.3	337.1	342.4	344.4	345.2	346.0	346.0	346.7	354.0
Personal care	269.4	279.6	280.9	281.8	282.7	283.1	284.0	285.9	286.8	288.0	288.2	288.6	288.6	288.8
Toilet goods and personal care appliances	270.3	279.0	280.0	281.1	282.0	281.9	283.3	285.9	286.7	288.1	288.4	288.6	287.6	287.8
Personal care services	268.8	280.5	282.2	282.8	283.7	284.8	285.2	286.4	287.4	288.4	288.4	289.0	290.0	290.2
Personal and educational expenses	368.2	399.3	393.2	414.5	416.5	417.3	417.4	418.9	419.9	420.1	421.2	422.0	422.9	423.8
School books and supplies	327.5	355.7	351.2	366.9	369.2	369.3	369.4	375.6	378.4	379.0	379.1	379.1	380.2	380.5
Personal and educational services	378.2	410.1	403.6	426.1	428.1	428.9	429.1	429.7	430.3	430.5	431.8	432.8	433.6	434.6
All items	307.6	318.5	319.6	320.5	321.3	322.6	323.4	324.3	323.2	321.4	320.4	321.4	323.0	322.9
Commodities	280.4	286.5	286.3	286.8	287.6	288.9	289.7	289.8	287.0	283.1	280.4	281.3	282.0	281.1
Food and beverages	295.2	301.8	301.6	301.8	302.2	303.4	305.4	307.7	307.5	307.6	308.3	309.0	309.3	312.0
Commodities less food and beverages	269.3	-	-	-	-	-	-	-	-	-	-	-	-	-
Nondurables less food and beverages	277.5	283.8	285.1	286.5	287.0	288.5	288.7	286.9	280.1	269.6	262.0	263.6	265.2	260.1
Apparel commodities	186.6	191.3	190.4	195.1	196.6	196.5	194.1	189.4	188.2	190.4	191.2	190.1	187.7	186.3
Nondurables less food, beverages, and apparel	327.0	334.2	336.6	336.4	336.5	338.8	340.1	339.6	330.1	313.2	301.6	304.5	308.0	301.0
Durables	261.1	265.2	263.1	263.1	264.5	265.7	265.7	265.6	264.6	263.7	263.3	263.5	263.6	263.2
Services	358.0	377.3	380.7	382.0	383.0	384.2	385.1	387.2	388.8	390.5	392.2	393.2	396.4	397.7
Rent of shelter (12/84 = 100)	-	103.2	104.3	104.5	105.1	105.8	106.1	106.4	106.7	107.4	108.3	108.5	108.7	109.2
Household services less rent of shelter (12/84 = 100)	-	102.6	104.6	104.8	103.3	102.1	102.0	102.6	103.0	102.8	102.7	103.4	106.4	106.0
Transportation services	317.2	332.2	332.4	331.4	335.5	339.3	340.5	343.3	345.4	347.0	347.5	347.3	348.9	350.6
Medical care services	407.9	432.7	436.1	438.1	440.6	443.2	445.4	449.2	453.5	457.3	459.5	461.3	464.0	466.9
Other services	292.9	310.1	310.1	315.0	316.7	317.8	318.3	320.4	321.6	322.1	322.9	323.6	324.6	325.6
Special indexes:														
All items less food	307.5	318.4	320.9	321.9	322.9	324.2	324.6	325.1	323.8	321.5	320.2	321.2	323.2	322.3
All items less shelter	295.1	303.4	304.0	304.8	305.4	306.4	307.2	307.9	306.4	303.8	302.1	303.0	304.8	304.3
All items less homeowners' costs (12/84 = 100)	-	101.8	102.1	102.4	102.6	103.0	103.2	103.5	103.0	102.3	101.8	102.1	102.7	102.6
All items less medical care	304.0	314.3	315.3	316.1	316.9	318.1	318.9	319.6	318.3	316.2	315.2	316.1	317.7	317.4
Commodities less food	267.1	272.8	272.7	273.4	274.5	275.9	275.9	275.0	270.9	264.9	260.7	261.6	262.6	259.6
Nondurables less food	272.6	279.0	280.2	281.5	282.4	283.8	283.9	282.3	276.1	266.4	259.4	260.9	262.4	257.7
Nondurables less food and apparel	313.2	320.3	322.4	322.3	323.1	325.0	326.3	325.9	317.5	302.6	292.2	294.9	296.0	291.8
Nondurables	287.4	293.9	294.5	295.2	295.7	297.1	298.2	298.4	295.0	289.8	286.3	287.5	288.4	287.2
Services less rent of shelter (12/84 = 100)	-	102.6	103.5	103.8	103.9	103.9	104.2	104.9	105.5	105.7	105.9	106.2	107.6	107.8
Services less medical care	350.5	369.0	372.5	373.6	374.5	375.5	376.2	378.2	379.5	381.0	382.7	383.6	386.8	387.9
Energy	423.3	426.3	433.9	432.5	426.6	425.4	426.8	424.7	408.1	379.0	358.4	364.6	378.1	363.1
All items less energy	298.3	309.9	310.4	311.5	313.0	314.5	315.3	316.5	316.9	317.8	318.8	319.2	319.7	321.1
All items less food and energy	295.8	308.7	309.4	310.7	312.7	314.2	314.6	315.4	316.1	317.2	318.3	318.6	319.1	320.1
Commodities less food and energy	250.5	256.8	255.8	257.2	258.8	259.5	259.2	258.8	258.5	258.7	258.8	258.8	258.5	258.5
Energy commodities	410.5	410.9	415.7	412.6	411.2	416.3	418.9	414.1	387.3	343.3	312.9	319.8	328.1	307.2
Services less energy	350.8	371.1	373.7	374.9	377.3	379.8	380.8	382.9	384.5	386.5	388.8	389.4	390.8	392.6
Purchasing power of the consumer dollar:														
1967 = $1.00	32.5	31.4	31.3	31.2	31.1	31.0	30.9	30.8	30.9	31.1	31.2	31.1	31.0	31.0
1957-59 = $1.00	28.0	27.0	26.9	26.8	26.8	26.7	26.6	26.5	26.6	26.8	26.8	26.8	26.6	26.6

- Data not available.

31. Consumer Price Index: U.S. city average and available local area data: all items

(1967 = 100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1985		1986					1985		1986				
			July	Aug.	Mar.	Apr.	May	June	July	July	Aug.	Mar.	Apr.	May	June	July
U.S. city average		-	322.8	323.5	326.0	325.3	326.3	327.9	328.0	319.1	319.6	321.4	320.4	321.4	323.0	322.9
Chicago, Ill.-Northwestern Ind.	M	-	324.4	325.9	323.9	323.7	324.2	330.4	331.1	311.1	312.1	309.7	309.1	309.6	315.6	316.0
Detroit, Mich.	M	-	318.0	318.0	320.0	318.8	321.7	321.0	318.4	308.3	308.3	309.3	308.1	311.0	310.2	307.5
Los Angeles-Long Beach, Anaheim, Calif.	M	-	321.3	323.9	328.2	326.8	329.4	331.3	330.9	315.8	318.0	321.6	320.2	322.7	324.5	323.8
New York, N.Y.-Northeastern N.J.	M	-	313.5	315.7	322.4	321.4	320.6	322.8	325.1	306.5	308.5	314.5	313.2	312.3	314.4	316.5
Philadelphia, Pa.-N.J.	M	-	315.5	315.8	319.1	317.8	318.9	321.7	323.0	318.6	318.5	321.4	319.7	320.8	323.5	324.6
Anchorage, Alaska (10/67 = 100)	1	10/67	283.1	-	291.2	-	288.9	-	284.1	276.0	-	284.4	-	281.8	-	276.9
Baltimore, Md.	1	-	324.0	-	331.1	-	329.1	-	330.2	323.4	-	329.5	-	326.8	-	327.9
Boston, Mass.	1	-	317.7	-	324.9	-	322.6	-	323.6	315.7	-	322.3	-	319.3	-	320.8
Cincinnati, Ohio-Ky.-Ind.	1	-	330.0	-	329.4	-	332.0	-	332.4	323.2	-	321.8	-	324.8	-	324.9
Denver-Boulder, Colo.	1	-	360.3	-	355.7	-	356.3	-	358.4	355.9	-	350.1	-	350.3	-	352.4
Miami, Fla. (11/77 = 100)	1	11/77	171.4	-	174.5	-	173.0	-	171.2	172.7	-	175.1	-	173.4	-	171.6
Milwaukee, Wis.	1	-	331.1	-	329.1	-	332.0	-	331.3	350.4	-	347.2	-	350.6	-	350.1
Northeast, Pa.	1	-	306.6	-	309.3	-	309.2	-	309.0	305.7	-	308.3	-	308.1	-	307.8
Portland, Oreg.-Wash.	1	-	312.9	-	315.0	-	314.6	-	314.7	303.2	-	304.3	-	303.2	-	303.4
St. Louis, Mo.-Ill.	1	-	319.9	-	319.2	-	318.6	-	325.6	316.6	-	315.0	-	314.2	-	320.6
San Diego, Calif.	1	-	372.8	-	379.2	-	382.8	-	383.1	336.9	-	341.9	-	345.2	-	345.0
Seattle-Everett, Wash.	1	-	322.0	-	325.0	-	323.5	-	323.7	309.1	-	311.4	-	309.4	-	310.1
Washington, D.C.-Md.-Va.	1	-	323.3	-	329.1	-	329.6	-	329.3	325.9	-	330.5	-	330.2	-	330.2
Atlanta, Ga.	2	-	-	331.4	-	334.9	-	338.5	-	-	329.3	-	331.7	-	336.5	-
Buffalo, N.Y.	2	-	-	306.5	-	308.0	-	306.9	-	-	292.9	-	292.7	-	294.0	-
Cleveland, Ohio	2	-	-	348.1	-	346.9	-	350.6	-	-	327.0	-	324.4	-	328.2	-
Dallas-Ft. Worth, Tex.	2	-	-	343.4	-	341.4	-	344.7	-	-	337.0	-	334.1	-	337.4	-
Honolulu, Hawaii	2	-	-	294.2	-	299.0	-	299.2	-	-	301.3	-	306.0	-	306.5	-
Houston, Tex.	2	-	-	338.2	-	330.0	-	333.3	-	-	335.3	-	327.7	-	330.9	-
Kansas City, Mo.-Kansas	2	-	-	321.1	-	320.7	-	322.9	-	-	311.2	-	308.9	-	311.4	-
Minneapolis-St. Paul, Minn.-Wis.	2	-	-	338.8	-	338.4	-	342.1	-	-	334.4	-	332.3	-	336.2	-
Pittsburgh, Pa.	2	-	-	325.9	-	328.1	-	328.6	-	-	308.0	-	307.8	-	308.3	-
San Francisco-Oakland, Calif.	2	-	-	335.8	-	339.3	-	344.0	-	-	330.8	-	333.2	-	338.1	-
Region[3]																
Northeast	2	12/77	-	171.0	-	173.7	-	174.2	-	-	169.0	-	171.1	-	171.8	-
North Central	2	12/77	-	174.3	-	173.9	-	176.1	-	-	171.0	-	170.0	-	172.2	-
South	2	12/77	-	174.5	-	175.1	-	176.3	-	-	174.3	-	174.1	-	175.2	-
West	2	12/77	-	175.9	-	176.8	-	178.7	-	-	173.9	-	174.5	-	176.3	-
Population size class[3]																
A-1	2	12/77	-	172.3	-	173.9	-	175.7	-	-	168.3	-	169.3	-	171.0	-
A-2	2	12/77	-	176.6	-	177.4	-	178.9	-	-	173.7	-	173.8	-	175.2	-
B	2	12/77	-	174.9	-	175.6	-	177.0	-	-	172.4	-	172.7	-	174.1	-
C	2	12/77	-	172.5	-	173.4	-	174.7	-	-	173.0	-	173.4	-	174.6	-
D	2	12/77	-	172.3	-	172.7	-	173.4	-	-	173.8	-	173.6	-	174.2	-
Region/population size class cross classification[3]																
Class A:																
Northeast	2	12/77	-	168.5	-	171.0	-	171.8	-	-	165.0	-	166.9	-	167.7	-
North Central	2	12/77	-	178.3	-	177.8	-	180.3	-	-	173.3	-	172.1	-	174.7	-
South	2	12/77	-	174.8	-	175.5	-	176.8	-	-	174.9	-	174.9	-	176.1	-
West	2	11/77	-	178.0	-	179.6	-	181.8	-	-	173.8	-	174.9	-	177.1	-
Class B:																
Northeast	2	12/77	-	173.3	-	174.7	-	175.2	-	-	170.4	-	171.7	-	172.2	-
North Central	2	12/77	-	171.5	-	172.1	-	174.1	-	-	168.0	-	167.7	-	169.7	-
South	2	12/77	-	176.0	-	177.0	-	178.5	-	-	172.7	-	173.2	-	174.6	-
West	2	12/77	-	176.9	-	176.7	-	178.3	-	-	177.5	-	177.1	-	178.7	-

See footnotes at end of table.

31. Continued— Consumer Price Index: U.S. city average and available local area data: all items

(1967 = 100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1985		1986					1985		1986				
			July	Aug.	Mar.	Apr.	May	June	July	July	Aug.	Mar.	Apr.	May	June	July
Class C:																
Northeast	2	12/77	-	178.9	-	183.0	-	183.4	-	-	183.8	-	187.4	-	187.8	-
North Central	2	12/77	-	169.1	-	168.5	-	170.7	-	-	166.0	-	165.1	-	167.2	-
South	2	12/77	-	173.5	-	173.6	-	174.5	-	-	175.1	-	174.3	-	175.2	-
West	2	12/77	-	168.9	-	170.5	-	171.6	-	-	167.7	-	168.9	-	169.9	-
Class D:																
Northeast	2	12/77	-	173.7	-	177.9	-	176.1	-	-	173.6	-	177.2	-	175.5	-
North Central	2	12/77	-	170.7	-	170.0	-	171.3	-	-	172.7	-	171.4	-	172.6	-
South	2	12/77	-	172.8	-	173.2	-	173.9	-	-	174.5	-	174.0	-	174.6	-
West	2	12/77	-	173.3	-	172.6	-	174.1	-	-	174.8	-	173.9	-	175.4	-

[1] Area is generally the Standard Metropolitan Statistical Area (SMSA), exclusive of farms. L.A.-Long Beach, Anaheim, Calif. is a combination of two SMSA's, and N.Y., N.Y.-Northeastern N.J. and Chicago, Ill.-Northwestern Ind. are the more extensive Standard Consolidated Areas. Area definitions are those established by the Office of Management and Budget in 1973, except for Denver-Boulder, Colo. which does not include Douglas County. Definitions do not include revisions made since 1973.

[2] Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated:

M - Every month.
1 - January, March, May, July, September, and November.
2 - February, April, June, August, October, and December.

[3] Regions are defined as the four Census regions.

The population size classes are aggregations of areas which have urban population as defined:

A-1 - More than 4,000,000.
A-2 - 1,250,000 to 4,000,000.
B - 385,000 to 1,250,000
C - 75,000 to 385,000.
D - Less than 75,000.

Population size class A is the aggregation of population size classes A-1 and A-2.

- Data not available.

NOTE: Local area CPI indexes are byproducts of the national CPI program. Because each local index is a small subset of the national index, it has a smaller sample size and is, therefore, subject to substantially more sampling and other measurement error than the national index. As a result, local area indexes show greater volatility than the national index, although their long-term trends are quite similar. Therefore, the Bureau of Labor Statistics strongly urges users to consider adopting the national average CPI for use in escalator clauses.

32. Annual data: Consumer Price Index all items and major groups

Series	1977	1978	1979	1980	1981	1982	1983	1984	1985
Consumer Price Index for All Urban Consumers:									
All items:									
Index	181.5	195.4	217.4	246.8	272.4	289.1	298.4	311.1	322.2
Percent change	6.5	7.7	11.3	13.5	10.4	6.1	3.2	4.3	3.6
Food and beverages:									
Index	188.0	206.3	228.5	248.0	267.3	278.2	284.4	295.1	302.0
Percent change	6.0	9.7	10.8	8.5	7.8	4.1	2.2	3.8	2.3
Housing									
Index	186.5	202.8	227.6	263.3	293.5	314.7	323.1	336.5	349.9
Percent change	6.8	8.7	12.2	15.7	11.5	7.2	2.7	4.1	4.0
Apparel and upkeep:									
Index	154.2	159.6	166.6	178.4	186.9	191.8	196.5	200.2	206.0
Percent change	4.5	3.5	4.4	7.1	4.8	2.6	2.5	1.9	2.9
Transportation:									
Index	177.2	185.5	212.0	249.7	280.0	291.5	298.4	311.7	319.9
Percent change	7.1	4.7	14.3	17.8	12.1	4.1	2.4	4.5	2.6
Medical care:									
Index	202.4	219.4	239.7	265.9	294.5	328.7	357.3	379.5	403.1
Percent change	9.6	8.4	9.3	10.9	10.8	11.6	8.7	6.2	6.2
Entertainment:									
Index	167.7	176.6	188.5	205.3	221.4	235.8	246.0	255.1	265.0
Percent change	4.9	5.3	6.7	8.9	7.8	6.5	4.3	3.7	3.9
Other goods and services:									
Index	172.2	183.3	196.7	214.5	235.7	259.9	288.3	307.7	326.6
Percent change	5.8	6.4	7.3	9.0	9.9	10.3	10.9	6.7	6.1
Consumer Price Index for Urban Wage Earners and Clerical Workers									
All items:									
Index	181.5	195.3	217.7	247.0	272.3	288.6	297.4	307.6	318.5
Percent change	6.5	7.6	11.5	13.5	10.2	6.0	3.0	3.4	3.5

33. Producer Price Indexes, by stage of processing

[(1967 = 100)]

Grouping	Annual average		1985				1986							
	1984	1985	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
Finished goods	291.1	293.7	290.0	294.7	296.4	297.2	295.0	291.9	289.0	287.2	289.0	288.9	286.0	286.3
Finished consumer goods	290.3	291.8	288.2	292.3	294.4	295.4	293.8	288.4	283.4	281.9	284.2	284.1	282.7	283.1
Finished consumer foods	273.3	271.2	265.7	268.2	271.8	275.0	275.0	272.0	271.6	271.9	274.9	275.1	280.7	283.6
Finished consumer goods excluding foods	294.1	297.3	294.7	299.4	300.7	300.7	298.3	291.8	284.6	282.2	284.1	283.6	278.8	278.0
Nondurable goods less food	337.3	339.3	340.3	340.3	342.6	343.2	339.6	328.0	315.4	300.8	312.9	312.6	303.4	302.0
Durable goods	236.8	241.5	234.5	244.9	245.0	244.3	243.5	243.9	243.7	245.7	245.8	245.8	246.3	246.2
Capital equipment	294.0	300.5	298.3	303.5	303.8	303.7	303.9	304.3	304.3	305.6	305.8	305.8	306.4	306.3
Intermediate materials, supplies, and components	320.0	318.7	317.7	317.6	318.1	318.9	317.4	313.5	309.5	307.1	306.8	307.1	305.0	304.5
Materials and components for manufacturing	301.8	299.5	298.4	298.0	297.7	297.9	297.1	296.5	296.4	295.5	295.3	295.3	295.8	296.0
Materials for food manufacturing	271.1	258.6	249.9	252.3	254.0	254.3	252.8	249.2	246.7	244.8	248.6	247.8	251.6	255.7
Materials for nondurable manufacturing	290.5	285.9	285.1	283.3	282.8	283.1	283.8	282.4	282.5	279.3	278.0	278.0	278.2	277.2
Materials for durable manufacturing	325.1	320.2	319.2	318.6	317.5	317.6	313.4	313.1	313.6	313.7	313.2	313.3	313.3	313.4
Components for manufacturing	287.5	291.5	292.1	292.3	292.3	292.4	293.1	293.6	293.7	294.1	294.1	294.2	294.6	294.9
Materials and components for construction	310.3	315.2	315.6	315.5	315.0	315.7	316.2	316.5	317.0	318.3	318.3	317.7	318.0	317.6
Processed fuels and lubricants	586.2	548.9	542.4	542.6	550.5	557.2	540.8	500.8	453.4	428.5	425.7	429.3	401.6	395.2
Containers	302.3	311.2	309.9	310.4	309.8	310.6	311.2	310.9	312.3	312.8	313.9	313.6	314.2	316.4
Supplies	283.4	284.2	284.5	285.1	285.6	285.7	286.6	286.4	286.8	287.2	287.2	287.3	287.4	287.1
Crude materials for further processing	330.8	306.1	291.8	297.8	304.7	304.3	301.0	289.0	281.1	273.7	276.9	274.9	278.0	275.5
Foodstuffs and feedstuffs	259.5	235.0	215.4	224.6	236.6	236.8	231.7	227.2	224.4	220.3	226.9	226.1	233.6	236.3
Nonfood materials[1]	380.5	355.3	352.2	352.8	352.0	351.6	352.4	321.8	290.5	276.6	276.8	279.4	272.4	259.4
Special groupings														
Finished goods, excluding foods	294.8	299.0	295.9	301.3	302.4	302.4	300.7	296.3	291.2	288.9	291.3	291.1	287.8	287.2
Finished energy goods	750.3	720.9	718.2	716.5	729.5	733.8	700.9	629.3	554.1	517.2	532.7	531.5	467.8	459.1
Finished goods less energy	265.1	269.2	265.5	270.5	271.6	272.2	272.7	272.2	272.1	273.1	274.2	274.2	276.4	277.2
Finished consumer goods less energy	257.8	261.3	257.7	262.1	263.4	264.3	264.8	264.0	263.9	264.9	266.2	266.2	269.0	270.0
Finished goods less food and energy	262.3	268.7	265.7	271.6	271.8	271.4	272.1	272.5	272.5	273.9	274.2	274.1	275.0	275.0
Finished consumer goods less food and energy	245.9	252.1	249.6	254.9	255.0	254.6	255.5	256.0	256.0	257.3	257.7	257.6	258.6	258.6
Consumer nondurable goods less food and energy	230.0	246.2	247.9	248.3	248.5	248.3	250.5	251.1	251.2	252.0	252.5	252.3	253.8	253.8
Intermediate materials less foods and feeds	325.0	325.0	324.4	324.1	324.5	325.3	323.6	319.7	315.5	313.0	312.5	312.8	310.5	309.9
Intermediate foods and feeds	253.1	232.8	225.4	228.6	231.4	232.7	232.6	228.9	227.8	227.0	229.4	229.0	230.3	232.4
Intermediate energy goods	545.0	528.3	522.3	522.2	529.3	536.2	520.0	482.0	437.0	413.3	410.5	413.9	387.1	380.8
Intermediate goods less energy	303.8	304.0	303.4	303.4	303.2	303.5	303.4	303.0	303.3	303.1	303.0	302.9	303.4	303.5
Intermediate materials less foods and energy	303.6	305.2	305.0	304.6	304.2	304.5	304.3	304.2	304.5	304.3	304.0	303.9	304.2	304.2
Crude energy materials	785.2	749.1	743.2	743.1	737.1	735.6	732.8	662.9	614.5	577.0	571.6	554.2	538.7	524.5
Crude materials less energy	256.5	233.2	217.9	224.7	233.2	233.0	229.8	226.5	224.7	221.9	226.5	226.5	232.0	231.1
Crude nonfood materials less energy	266.1	249.7	246.7	246.5	244.6	242.9	245.8	246.5	247.9	249.1	249.3	250.0	249.2	236.1

[1] Crude nonfood materials except fuel.

34. Producer Price Indexes, by durability of product

(1967 = 100)

Grouping	Annual average		1985				1986							
	1984	1985	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
Total durable goods	293.6	297.3	295.2	298.8	298.5	298.5	298.1	298.4	298.6	298.7	299.7	299.6	300.0	300.1
Total nondurable goods	323.3	317.2	313.0	314.3	317.6	318.8	316.8	308.4	300.7	298.0	297.9	297.4	294.9	294.0
Total manufactures	302.9	304.3	302.2	304.4	305.4	306.0	304.8	301.1	297.3	296.1	296.9	297.0	295.4	295.6
Durable	293.9	298.1	298.0	299.7	299.5	299.5	299.0	299.3	299.4	300.5	300.5	300.5	300.9	300.9
Nondurable	312.3	310.5	308.4	309.2	311.4	312.5	310.6	302.9	294.9	291.2	292.8	293.1	289.2	289.7
Total raw or slightly processed goods	346.6	327.9	317.6	320.6	328.2	327.6	326.0	316.3	310.3	303.0	305.6	302.6	304.3	299.7
Durable	286.7	252.2	249.7	248.1	245.2	244.3	248.2	251.2	252.4	253.1	252.0	250.9	248.9	252.4
Nondurable	351.4	332.4	321.6	324.9	331.2	332.7	330.6	320.2	313.6	305.8	308.7	305.5	307.4	302.3

35. Annual data: Producer Price Indexes, by stage of processing

(1967 = 100)

Index	1977	1978	1979	1980	1981	1982	1983	1984	1985
Finished goods:									
Total	181.7	195.9	217.7	247.0	269.8	280.7	285.2	291.1	293.7
Consumer goods	180.7	194.9	217.9	248.9	271.3	281.0	284.6	290.3	291.8
Capital equipment	184.6	199.2	216.5	239.8	264.3	279.4	287.2	294.0	300.5
Intermediate materials, supplies, and components:									
Total	201.5	215.6	243.2	280.3	306.0	310.4	312.3	320.0	318.7
Materials and components for manufacturing	195.4	208.7	234.4	265.7	286.1	289.8	293.4	301.8	299.5
Materials and components for construction	203.4	224.7	247.4	268.3	287.6	293.7	301.8	310.3	315.2
Processed fuels and lubricants	282.5	295.3	364.8	503.0	595.4	591.7	564.8	566.2	548.9
Containers	188.3	202.8	226.8	254.5	276.1	285.6	286.6	302.3	311.2
Supplies	188.7	198.5	218.2	244.5	263.8	272.1	277.1	283.4	284.2
Crude materials for further processing:									
Total	209.2	234.4	274.3	304.6	329.0	319.5	323.6	330.8	306.1
Foodstuffs and feedstuffs	192.1	216.2	247.9	259.2	257.4	247.8	252.2	259.5	235.0
Nonfood materials except fuel	212.2	233.1	284.5	346.1	413.7	376.8	372.2	380.5	355.3
Fuel	372.1	426.8	507.6	615.0	751.2	886.1	931.5	931.3	909.6

36. U.S. export price indexes by Standard International Trade Classification

(June 1977 = 100, unless otherwise indicated)

Category	1974 SITC	1983	1984				1985				1986	
		Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
ALL COMMODITIES (9/83 = 100)		99.5	100.2	101.5	99.3	98.1	97.5	97.5	96.5	96.7	97.0	96.7
Food (3/83 = 100)	0	108.8	108.2	109.6	103.5	96.5	95.8	94.0	90.2	93.6	90.5	89.5
Meat (3/83 = 100)	01	101.2	108.9	108.7	105.6	104.4	103.9	104.7	106.1	112.2	111.5	114.7
Fish (3/83 = 100)	03	100.4	99.8	98.7	98.0	98.7	101.0	103.6	102.6	101.8	102.2	108.2
Grain and grain preparations (3/80 = 100)	04	105.6	102.7	107.4	101.2	92.9	92.4	90.3	82.6	87.1	82.1	79.1
Vegetables and fruit (3/83 = 100)	05	116.1	116.2	126.8	125.5	114.6	119.4	120.1	126.8	118.8	115.2	125.7
Feedstuffs for animals (3/83 = 100)	08	117.4	106.9	98.8	83.5	82.4	72.8	66.6	75.7	83.4	88.5	85.5
Misc. food products (3/83 = 100)	09	101.7	104.9	110.6	109.5	108.4	110.6	109.2	108.1	107.7	106.0	104.7
Beverages and tobacco (6/83 = 100)	1	101.5	101.6	101.9	102.8	101.3	99.9	100.1	99.7	98.6	95.6	96.5
Beverages (9/83 = 100)	11	103.3	102.3	102.9	103.3	103.7	104.0	105.3	101.8	100.9	101.9	103.0
Tobacco and tobacco products (6/83 = 100)	12	101.4	101.6	101.8	102.7	101.1	99.5	99.6	99.5	98.4	95.1	95.8
Crude materials (6/83 = 100)	2	112.2	112.5	118.3	105.2	101.4	97.5	96.8	93.3	92.5	95.8	95.6
Raw hides and skins (6/80 = 100)	21	135.2	145.6	154.7	153.7	133.6	121.0	128.2	129.0	139.9	138.9	148.9
Oilseeds and oleaginous fruit (9/77 = 100)	22	96.8	93.9	104.3	79.9	74.8	71.0	71.2	64.2	63.9	66.9	65.6
Crude rubber (including synthetic and reclaimed) (9/83 = 100)	23	102.2	103.3	106.0	104.1	104.0	106.4	106.3	107.1	106.0	106.0	106.1
Wood	24	129.8	131.1	129.4	123.8	125.4	128.7	125.7	124.5	128.1	128.7	128.7
Pulp and waste paper (6/83 = 100)	25	106.0	112.5	122.1	120.8	114.2	100.5	96.1	93.8	92.7	98.8	109.7
Textile fibers	26	123.1	120.5	125.6	109.4	106.7	102.4	105.8	103.6	97.7	101.6	98.6
Crude fertilizers and minerals	27	144.8	146.6	147.7	163.0	163.2	165.6	167.9	169.4	165.5	168.0	166.1
Metalliferous ores and metal scrap	28	98.7	100.2	98.5	93.2	92.4	89.2	82.0	80.1	78.7	83.4	80.5
Mineral fuels	3	99.2	99.1	99.7	99.7	99.7	100.1	99.2	97.6	96.6	91.9	86.2
Animal and vegetables oils, fats, and waxes	4	122.0	129.8	164.5	145.7	147.9	142.0	144.5	114.5	101.4	90.8	84.4
Fixed vegetable oils and fats (6/83 = 100)	42	129.3	133.2	176.4	159.0	156.7	152.9	164.8	128.8	108.7	95.4	95.3
Chemicals (3/83 = 100)	5	98.6	101.4	99.7	98.3	97.7	97.0	98.8	97.1	98.6	96.5	95.4
Organic chemicals (12/83 = 100)	51	100.0	100.2	101.0	97.4	94.7	93.8	96.5	97.1	95.4	93.5	89.3
Fertilizers, manufactured (3/83 = 100)	56	96.8	108.3	96.9	97.4	94.8	92.5	87.9	89.8	90.0	86.6	84.0
Intermediate manufactured products (9/81 = 100)	-	100.0	101.0	101.3	102.0	100.4	99.4	99.2	99.2	99.1	100.3	101.2
Leather and furskins (9/79 = 100)	6	75.8	83.5	81.2	80.8	79.0	82.5	79.2	75.9	78.5	77.8	82.5
Rubber manufactures	61	145.0	146.7	147.5	148.9	148.5	150.2	149.0	148.3	148.7	151.0	150.0
Paper and paperboard products (6/78 = 100)	62	145.5	150.2	154.7	160.0	159.5	155.0	151.6	149.6	148.2	152.2	158.7
Iron and steel (3/82 = 100)	64	96.3	95.9	96.1	96.8	96.5	95.5	95.3	95.9	99.2	98.4	99.4
Nonferrous metals (9/81 = 100)	-	93.8	94.2	92.9	90.4	82.5	79.7	79.6	79.8	78.2	80.2	79.1
Metal manufactures, n.e.s. (3/82 = 100)	-	102.1	103.1	104.5	105.1	105.0	105.4	105.2	105.4	104.4	105.3	105.5
Machinery and transport equipment, excluding military and commercial aircraft (12/78 = 100)	67	137.0	138.5	139.4	140.1	141.5	142.3	142.8	143.1	143.3	144.0	144.1
Power generating machinery and equipment (12/78 = 100)	68	154.4	158.4	156.9	160.6	167.5	165.3	167.4	167.1	167.5	169.1	169.2
Machinery specialized for particular industries (9/78 = 100)	69	151.1	152.3	152.8	153.7	153.4	155.0	155.7	156.0	156.2	155.5	154.7
Metalworking machinery (6/78 = 100)	7	148.7	150.8	151.2	151.7	151.9	153.4	155.1	156.3	156.4	159.0	158.9
General industrial machines and parts n.e.s. 9/78 = 100)	71	145.9	146.6	149.0	149.3	150.2	152.4	152.0	152.4	152.2	152.3	153.3
Office machines and automatic data processing equipment	72	102.5	101.4	101.5	99.8	101.4	100.9	100.0	99.9	99.4	99.9	99.2
Telecommunications, sound recording and reproducing equipment	73	132.1	133.0	132.3	134.4	134.3	133.3	133.3	134.1	134.5	136.5	137.0
Electrical machinery and equipment	74	109.8	110.2	112.6	113.8	114.6	114.9	116.1	115.3	113.8	115.1	114.1
Road vehicles and parts (3/80 = 100)	75	128.8	130.2	131.2	131.0	131.8	133.1	133.9	133.8	135.0	135.5	136.4
Other transport equipment, excl. military and commercial aviation	76	179.3	183.1	187.7	189.6	191.7	195.5	196.6	199.3	200.7	203.3	205.6
Other manufactured articles	77	100.2	100.6	100.4	100.7	99.3	99.5	100.4	100.3	100.3	102.6	103.4
Apparel (9/83 = 100)	78	100.8	101.9	102.1	103.9	103.4	104.7	104.7	105.0	105.3	-	-
Professional, scientific, and controlling instruments and apparatus	79	171.5	171.8	172.0	175.8	171.7	175.5	178.3	178.7	178.8	182.2	183.8
Photographic apparatus and supplies, optical goods, watches and clocks (12/77 = 100)	8	132.0	132.0	131.3	132.7	130.3	128.0	129.1	127.5	128.5	131.6	132.8
Miscellaneous manufactured articles, n.e.s.	84	98.2	98.5	97.9	95.2	94.1	92.4	93.1	93.1	92.4	95.6	95.6
Gold, non-monetary (6/83 = 100)	971	96.2	95.8	93.5	81.7	79.5	69.1	75.4	77.4	77.5	81.6	82.2

- Data not available.

37. U.S. import price indexes by Standard International Trade Classification

(June 1977 = 100, unless otherwise indicated)

Category	1974 SITC	1984			1985				1986	
		June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
ALL COMMODITIES (9/82 = 100)		98.3	96.7	95.7	93.5	93.0	92.9	94.2	88.5	83.2
Food (9/77 = 100)	0	103.5	102.0	98.1	98.5	96.8	94.9	102.8	113.4	104.7
Meat	01	133.8	135.4	132.3	130.4	118.2	120.6	131.2	122.7	118.5
Dairy products and eggs (6/81 = 100)	02	99.8	98.9	98.4	98.3	97.9	99.1	100.5	106.7	107.1
Fish	03	134.2	134.2	133.9	132.9	129.4	129.7	132.7	138.3	144.8
Bakery goods, pasta products, grain and grain preparations (9/77 = 100)	04	134.8	132.9	132.8	131.8	132.3	136.3	141.9	148.9	149.3
Fruits and vegetables	05	135.8	135.4	117.2	127.1	129.4	120.2	131.3	119.4	119.4
Sugar, sugar preparations, and honey (3/82 = 100)	06	120.3	119.0	118.5	118.4	122.6	123.1	111.9	124.6	121.6
Coffee, tea, cocoa	07	62.4	60.3	58.4	57.0	56.0	54.4	64.6	85.9	69.2
Beverages and tobacco	1	156.3	157.1	156.5	156.2	157.1	158.0	162.1	163.2	165.5
Beverages	11	153.6	153.5	152.8	154.2	154.3	156.0	159.1	161.8	163.9
Crude materials	2	102.6	100.6	96.9	94.0	93.6	91.5	91.2	94.2	95.3
Crude rubber (inc. synthetic & reclaimed) (3/84 = 100)	23	93.7	90.7	83.8	77.6	76.4	68.9	73.2	78.8	75.5
Wood (9/81 = 100)	24	103.2	99.6	104.0	100.7	106.9	101.6	99.4	104.3	106.3
Pulp and waste paper (12/81 = 100)	25	96.1	96.3	93.2	84.0	80.4	76.8	75.8	74.9	79.9
Crude fertilizers and crude minerals (12/83 = 100)	27	96.2	98.0	98.6	100.3	101.7	102.7	102.1	101.5	100.0
Metalliferous ores and metal scrap (3/84 = 100)	28	102.8	100.1	95.6	90.4	87.6	96.5	90.1	94.5	95.6
Crude vegetable and animal materials, n.e.s.	29	100.8	101.1	106.4	104.3	104.9	102.5	102.5	103.6	104.4
Fuels and related products (6/82 = 100)	3	88.0	86.9	85.2	82.9	80.9	79.8	79.1	55.3	37.4
Petroleum and petroleum products (6/82 = 100)	33	88.1	87.0	85.2	83.8	81.6	80.3	80.1	54.7	36.1
Fats and oils (9/83 = 100)	4	141.8	124.4	114.9	89.9	76.7	57.6	50.6	41.4	39.3
Vegetable oils (9/83 = 100)	42	143.1	125.3	115.3	89.5	75.9	58.2	48.9	39.3	37.4
Chemicals (9/82 = 100)	5	100.6	98.8	97.1	95.7	94.9	94.5	94.2	94.6	93.3
Medicinal and pharmaceutical products (3/84 = 100)	54	98.5	96.4	94.6	91.6	95.1	95.3	96.7	102.9	104.9
Manufactured fertilizers (3/84 = 100)	56	101.7	98.5	92.9	94.2	82.0	80.8	78.5	79.2	79.7
Chemical materials and products, n.e.s. (9/84 = 100)	59	-	100.0	97.5	96.1	95.6	96.9	97.8	98.9	100.2
Intermediate manufactured products (12/77 = 100)	6	139.6	137.2	136.8	133.1	132.4	133.6	133.4	134.0	135.6
Leather and furskins	61	145.3	144.0	140.4	135.3	133.3	137.0	141.3	141.6	143.0
Rubber manufactures, n.e.s.	62	140.8	139.6	140.5	139.5	138.6	137.3	138.1	136.5	137.7
Cork and wood manufactures	63	131.0	126.4	126.1	121.3	121.2	123.4	124.0	130.8	134.3
Paper and paperboard products	64	150.4	156.1	157.5	157.6	157.2	157.8	156.5	157.1	157.1
Textiles	65	130.1	131.6	132.9	130.4	127.5	126.5	128.1	131.2	132.9
Nonmetallic mineral manufactures, n.e.s.	66	166.6	156.6	159.4	154.3	151.8	157.6	162.3	164.2	169.6
Iron and steel (9/78 = 100)	67	123.8	124.7	123.7	121.0	120.1	119.1	118.3	117.3	118.1
Nonferrous metals (12/81 = 100)	68	96.3	90.2	87.3	81.9	82.5	83.7	80.4	79.4	78.9
Metal manufactures, n.e.s.	69	120.5	119.3	119.3	117.4	117.8	118.5	121.6	124.4	127.8
Machinery and transport equipment (6/81 = 100)	7	104.1	102.6	102.9	101.6	102.8	103.5	107.2	111.5	115.3
Machinery specialized for particular industries (9/78 = 100)	72	100.0	98.8	98.0	96.2	97.0	101.4	104.9	112.1	115.4
Metalworking machinery (3/80 = 100)	73	93.6	92.1	89.9	86.3	90.5	94.2	98.1	105.0	107.7
General industrial machinery and parts, n.e.s. (6/81 = 100)	74	94.4	92.4	91.3	89.2	91.1	94.3	98.0	103.8	109.0
Office machines and automatic data processing equipment (3/80 = 100)	75	96.7	94.1	92.2	89.6	89.4	90.3	93.7	96.9	100.8
Telecommunications, sound recording and reproducing apparatus (3/80 = 100)	76	94.8	93.6	91.3	90.0	88.8	88.3	88.6	89.4	91.6
Electrical machinery and equipment (12/81 = 100)	77	91.2	87.0	86.4	82.1	83.9	81.4	83.1	84.5	87.4
Road vehicles and parts (6/81 = 100)	78	110.4	109.8	111.3	111.5	112.1	112.7	117.8	123.4	127.1
Misc. manufactured articles (3/80 = 100)	8	101.5	98.7	100.0	97.0	98.0	99.6	100.8	103.3	104.8
Plumbing, heating, and lighting fixtures (6/80 = 100)	81	112.0	110.7	111.6	113.9	114.1	117.8	115.0	120.1	123.5
Furniture and parts (6/80 = 100)	82	140.8	138.4	142.5	137.4	136.7	142.1	142.7	147.0	142.2
Clothing (9/77 = 100)	84	132.5	135.4	138.5	136.7	133.9	134.5	134.5	133.4	135.3
Footwear	85	140.8	138.4	142.5	137.4	136.7	142.1	142.7	147.0	142.2
Professional, scientific, and controlling instruments and apparatus (12/79 = 100)	87	97.8	95.6	92.9	89.2	92.3	96.6	102.4	106.4	112.5
Photographic apparatus and supplies, optical goods, watches, and clocks (3/80 = 100)	88	92.8	91.2	91.3	88.9	89.5	91.1	94.5	99.3	103.7
Misc. manufactured articles, n.e.s. (6/82 = 100)	89	104.0	98.3	96.3	91.2	95.2	96.4	97.9	102.1	103.4
Gold, non-monetary (6/82 = 100)	971	-	-	-	-	-	-	-	-	-

- Data not available.

38. U.S. export price indexes by end-use category

(September 1983 = 100 unless otherwise indicated)

Category	Percentage of 1980 trade value	1984			1985				1986	
		June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
Foods, feeds, and beverages	16.294	98.5	88.8	83.0	81.5	80.9	76.2	77.5	75.5	74.7
Raw materials	30.696	102.5	100.5	99.1	97.6	97.2	96.5	95.9	96.0	94.8
Raw materials, nondurable	21.327	104.4	102.8	101.4	99.6	99.5	98.7	97.9	97.5	96.0
Raw materials, durable	9.368	97.7	95.0	93.3	92.6	91.6	91.1	91.0	92.5	91.9
Capital goods (12/82=100)	30.186	103.9	104.6	105.6	106.2	106.6	106.6	106.6	107.4	107.5
Automotive vehicles, parts and engines (12/82=100)	7.483	105.3	105.3	105.7	106.7	108.0	108.1	109.2	109.5	110.4
Consumer goods	7.467	100.9	101.3	100.8	100.9	101.1	101.9	101.4	103.7	104.5
Durables	3.965	99.6	99.4	99.3	99.1	99.2	100.4	99.5	101.8	101.8
Nondurables	3.501	102.1	103.0	102.3	102.7	103.0	103.3	103.3	105.5	107.2

39. U.S. import price indexes by end-use category

(December 1982=100)

Category	Percentage of 1980 trade value	1984			1985				1986	
		June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
Foods, feeds, and beverages	7.477	107.2	105.6	101.8	102.1	100.4	99.0	106.0	115.8	108.2
Petroleum and petroleum products, excl. natural gas	31.108	88.5	87.5	85.7	84.4	82.1	80.9	80.5	55.4	36.7
Raw materials, excluding petroleum	19.205	104.3	102.5	101.1	96.3	95.8	95.4	93.9	94.5	94.0
Raw materials, nondurable	9.391	102.1	101.7	100.7	95.0	93.9	93.5	91.8	91.1	89.7
Raw materials, durable	9.814	106.7	103.3	101.6	97.7	97.8	97.4	96.2	98.1	98.7
Capital goods	13.164	99.8	98.0	97.8	94.8	96.3	97.6	100.0	102.8	106.6
Automotive vehicles, parts and engines	11.750	104.9	104.0	105.2	105.4	105.9	106.4	111.4	115.6	119.0
Consumer goods	14.250	101.9	100.6	101.1	99.5	99.4	101.0	102.4	104.5	106.6
Durable	5.507	101.4	98.8	98.5	97.0	97.0	98.9	100.7	103.4	106.6
Nondurable	8.743	102.5	103.0	104.6	103.0	102.5	103.9	104.7	106.0	106.6

40. U.S. export price indexes by Standard Industrial Classification[1]

Industry group	1984			1985				1986	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
Manufacturing:									
Food and kindred products (6/83=100)	112.7	105.6	103.3	99.5	99.5	96.7	98.1	97.0	95.0
Lumber and wood products, except furniture (6/83=100)	100.1	97.0	97.9	99.9	99.5	98.3	101.2	101.5	101.2
Furniture and fixtures (9/83=100)	103.1	103.5	104.9	105.2	106.5	107.1	108.4	109.2	109.7
Paper and allied products (3/81=100)	104.3	106.2	103.6	97.1	94.7	93.2	92.1	95.7	101.6
Chemicals and allied products (12/84=100)	102.3	101.3	100.7	100.3	99.6	99.7	99.2	98.9	98.3
Petroleum and coal products (12/83=100)	102.1	100.7	100.4	101.3	102.7	102.0	99.1	93.5	83.1
Primary metal products (3/82=100)	104.0	100.0	95.8	91.2	92.7	93.6	93.6	96.4	96.6
Machinery, except electrical (9/78=100)	137.9	138.0	139.9	140.4	140.5	140.6	140.5	140.6	140.3
Electrical machinery (12/80=100)	109.5	110.7	111.1	111.3	112.4	111.9	111.2	112.6	112.2
Transportation equipment (12/78=100)	157.2	157.8	158.9	160.5	161.9	162.8	164.3	165.2	166.9
Scientific instruments; optical goods; clocks (6/77=100)	153.2	156.0	153.0	154.9	156.6	156.2	156.7	159.7	161.2

[1] SIC - based classification.

41. U.S. import price indexes by Standard Industrial Classification [1]

Industry group	1984			1985				1986	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
Manufacturing:									
Food and kindred products (6/77=100)	128.6	124.1	122.6	118.8	115.0	114.2	115.1	117.7	115.6
Textile mill products (9/82=100)	103.8	104.3	104.7	102.8	101.0	100.4	101.8	104.7	106.4
Apparel and related products (6/77=100)	129.6	133.9	138.2	135.6	133.0	133.9	134.4	133.4	135.1
Lumber and wood products, except furniture (6/77=100)	121.1	117.3	120.0	116.3	120.6	117.5	115.8	122.1	124.8
Furniture and fixtures (6/80=100)	96.9	96.2	95.6	93.9	96.1	97.7	98.2	101.2	103.5
Paper and allied products (6/77=100)	141.9	146.0	145.5	141.5	139.8	138.7	137.4	137.6	139.4
Chemicals and allied products (9/82=100)	101.8	99.8	98.2	95.3	93.9	93.3	95.8	98.6	102.1
Rubber and miscellaneous plastic products (12/80=100)	98.5	97.8	98.0	96.9	96.7	96.6	97.5	100.9	100.6
Leather and leather products	143.7	141.6	144.2	139.1	138.9	142.3	144.0	145.8	144.6
Primary metal products (6/81=100)	91.9	88.3	86.6	82.2	83.0	83.4	81.9	82.0	82.4
Fabricated metal products (12/84=100)	-	-	100.0	99.0	99.1	101.0	102.6	104.9	108.5
Machinery, except electrical (3/80=100)	97.1	95.5	94.1	91.8	93.4	96.6	100.0	105.5	108.9
Electrical machinery (9/84=100)	-	100.0	98.6	95.1	95.8	94.5	95.8	97.0	100.2
Transportation equipment (6/81=100)	111.6	110.7	112.9	113.1	114.2	114.8	119.6	123.9	128.0
Scientific instruments; optical goods; clocks (12/79=100)	95.5	94.4	93.2	90.7	91.7	94.6	98.8	103.9	109.5
Miscellaneous manufactured commodities (9/82=100)	99.1	95.8	96.4	95.1	95.1	96.6	98.7	99.9	101.7

[1] SIC - based classification.

- Data not available.

42. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

(1977=100)

Item	Annual average	Quarterly indexes									
	1984	1983	1984				1985				1986	
		IV	I	II	III	IV	I	II	III	IV	I	II
Business:												
Output per hour of all persons	105.3	103.8	104.9	105.6	105.5	105.5	105.7	106.4	107.3	106.4	107.3	107.2
Compensation per hour	166.1	163.6	165.9	167.1	169.0	170.6	172.3	174.5	176.4	178.0	179.1	180.4
Real compensation per hour	98.1	98.0	98.1	97.9	98.1	98.2	98.4	98.7	99.1	99.0	99.2	100.3
Unit labor costs	159.7	157.7	158.2	158.3	160.2	161.7	163.1	164.0	164.4	167.3	167.0	168.2
Unit nonlabor payments	156.3	150.6	154.1	156.7	157.0	157.7	158.3	160.0	161.4	159.6	162.2	161.9
Implicit price deflator	158.5	155.2	156.7	157.7	159.0	160.3	161.4	162.6	163.4	164.6	165.3	166.0
Nonfarm business:												
Output per hour of all persons	104.3	103.3	103.9	104.6	104.4	104.3	104.4	104.9	105.4	104.5	105.6	105.5
Compensation per hour	167.9	163.4	165.6	166.9	169.7	170.4	172.1	174.0	175.4	177.0	178.3	179.3
Real compensation per hour	98.0	97.9	97.9	97.8	98.0	98.1	98.2	98.4	98.5	98.4	98.8	99.7
Unit labor costs	161.0	158.2	159.4	159.5	161.5	163.3	164.8	165.9	166.3	169.3	168.8	170.0
Unit nonlabor payments	156.1	152.3	153.2	156.4	157.2	157.9	158.9	160.8	163.0	160.3	163.9	163.5
Implicit price deflator	159.3	156.2	157.2	158.4	160.0	161.4	162.7	164.1	165.2	166.2	167.1	167.7
Nonfinancial corporations:												
Output per hour of all employees	105.6	104.5	105.3	105.9	105.5	105.8	106.0	106.5	107.8	107.0	106.9	106.3
Compensation per hour	165.9	161.7	163.6	164.8	166.6	168.3	169.9	171.6	173.1	174.5	175.4	176.0
Real compensation per hour	96.8	96.8	96.8	96.6	96.7	96.8	97.0	97.0	97.2	97.0	97.1	97.9
Total unit costs	161.5	159.0	159.4	160.1	162.6	163.8	164.9	165.8	165.0	167.2	168.3	169.4
Unit labor costs	157.0	154.8	155.4	155.7	157.9	159.1	160.3	161.1	160.5	163.0	164.0	165.6
Unit nonlabor costs	174.6	171.4	171.1	173.1	176.4	177.5	178.5	179.8	178.3	179.8	181.1	180.9
Unit profits	133.4	128.6	134.4	138.5	130.3	130.5	129.3	130.2	141.7	131.2	131.7	128.4
Unit nonlabor payments	160.1	156.4	158.3	161.0	160.3	161.0	161.3	162.5	165.5	162.8	163.8	162.5
Implicit price deflator	158.1	155.3	156.4	157.5	158.7	159.6	160.6	161.6	162.2	162.9	164.0	164.5
Manufacturing:												
Output per hour of all persons	116.6	113.3	114.7	115.7	117.8	118.2	119.3	121.7	123.0	122.9	123.4	124.0
Compensation per hour	168.2	163.6	165.4	166.8	169.1	171.5	173.8	175.6	178.1	179.3	180.2	181.4
Real compensation per hour	98.1	97.9	97.8	97.8	98.2	98.7	99.2	99.3	100.0	99.7	99.8	100.9
Unit labor costs	144.2	144.3	144.1	144.2	143.5	145.1	145.7	144.3	144.8	145.8	146.1	146.2

43. Annual indexes of multifactor productivity and related measures, selected years

(1977 = 100)

Item	1960	1970	1973	1974	1976	1978	1979	1980	1981	1982	1983	1984
Private business												
Productivity:												
Output per hour of all persons	64.8	86.1	94.8	92.5	97.6	100.5	99.3	98.7	100.6	100.8	103.7	107.1
Output per unit of capital services	98.4	98.5	103.0	96.5	96.1	101.8	100.3	95.6	94.1	89.5	92.3	97.4
Multifactor productivity	75.4	90.2	97.5	93.8	97.1	101.0	99.7	97.6	98.3	96.8	99.6	103.7
Output	53.3	78.3	91.8	89.9	93.7	105.5	107.9	106.4	109.2	106.3	111.1	121.0
Inputs:												
Hours of all persons	82.2	90.8	96.8	97.2	95.9	105.0	108.6	107.8	108.5	105.4	107.2	113.0
Capital services	54.1	79.4	89.1	93.1	97.5	103.6	107.5	111.4	116.0	118.8	120.4	124.3
Combined units of labor and capital input	70.7	86.7	94.1	95.8	96.5	104.5	108.2	109.0	111.0	109.9	111.6	116.8
Capital per hour of all persons	65.9	87.4	92.0	95.9	101.6	98.7	98.9	103.3	106.9	112.7	112.3	109.9
Private nonfarm business												
Productivity:												
Output per hour of all persons	68.0	86.8	95.3	92.9	97.8	100.6	99.0	98.2	98.6	99.9	103.5	106.3
Output per unit of capital services	98.4	98.6	103.2	96.5	96.1	101.9	100.1	95.2	93.2	88.7	91.9	96.6
Multifactor productivity	77.6	90.7	97.9	94.1	97.2	101.8	99.4	97.2	97.4	95.9	99.4	102.9
Output	52.3	77.8	91.7	89.7	93.6	105.7	108.0	106.4	108.7	105.9	111.3	121.0
Inputs:												
Hours of all persons	77.0	89.7	96.2	96.5	95.7	105.1	109.1	108.4	109.1	106.0	107.6	113.8
Capital services	53.2	78.9	88.8	93.0	97.4	103.7	107.9	111.7	116.6	119.4	121.1	125.2
Combined units of labor and capital input	67.4	85.9	93.6	95.3	96.3	104.6	108.7	109.5	111.6	110.4	112.0	117.5
Capital per hour of all persons	69.1	88.0	92.4	96.3	101.8	98.7	98.9	103.1	106.8	112.6	112.6	110.1
Manufacturing												
Productivity:												
Output per hour of all persons	60.0	79.2	93.0	90.8	97.6	100.9	101.6	101.7	104.9	107.1	111.6	115.6
Output per unit of capital services	87.9	91.8	108.2	99.6	96.1	101.5	99.5	90.7	89.9	82.9	87.6	96.0
Multifactor productivity	67.0	82.3	96.8	93.1	97.1	101.1	101.0	98.8	100.8	100.3	104.9	110.4
Output	50.7	77.0	95.8	91.9	93.6	105.3	108.2	103.5	106.1	99.3	104.4	115.3
Inputs:												
Hours of all persons	84.4	97.3	103.1	101.2	95.9	104.4	106.5	101.7	101.1	92.7	93.5	99.8
Capital services	57.6	83.9	88.6	92.2	97.4	103.8	108.8	114.1	118.0	119.8	119.2	120.2
Combined units of labor and capital inputs	75.6	93.5	99.0	98.7	96.3	104.2	107.1	104.8	105.2	99.0	99.5	104.5
Capital per hour of all persons	68.3	86.2	85.9	91.1	101.6	99.4	102.1	112.2	116.7	129.2	127.5	120.4

44. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years

(1977 = 100)

Item	1960	1970	1973	1974	1976	1978	1979	1980	1981	1982	1983	1984	1985
Business:													
Output per hour of all persons	67.6	88.4	95.9	93.9	98.3	100.8	99.6	99.3	100.7	100.3	103.0	105.3	106.4
Compensation per hour	33.6	57.8	70.9	77.6	92.8	108.5	119.1	131.5	143.7	154.9	161.5	168.1	175.3
Real compensation per hour	68.9	90.2	96.7	95.4	98.7	100.8	99.4	96.7	95.7	97.3	98.2	98.1	98.8
Unit labor costs	49.7	65.4	73.9	82.7	94.3	107.6	119.5	132.5	142.7	154.5	156.8	159.7	164.8
Unit nonlabor payments	46.4	58.4	72.5	76.4	93.3	106.7	112.5	118.7	134.6	136.6	146.3	156.3	159.7
Implicit price deflator	48.5	63.2	73.4	80.5	94.0	107.3	117.0	127.6	139.8	146.1	153.0	158.5	163.0
Nonfarm business:													
Output per hour of all persons	71.0	88.3	96.4	94.3	98.5	100.8	99.3	98.8	99.6	99.2	102.4	104.3	104.8
Compensation per hour	35.3	58.2	71.2	78.0	92.8	108.6	118.9	131.3	143.6	154.8	161.5	167.9	174.6
Real compensation per hour	72.3	90.8	97.1	95.9	98.8	100.9	99.2	96.6	95.7	97.2	98.2	98.0	98.4
Unit labor costs	49.7	65.2	73.9	82.7	94.3	107.7	119.7	132.9	144.0	156.0	157.7	161.0	166.7
Unit nonlabor payments	46.3	60.0	69.3	74.0	93.0	105.6	110.5	118.5	133.5	136.5	148.1	156.1	160.6
Implicit price deflator	48.5	63.4	72.3	79.7	93.8	107.0	116.5	127.8	140.3	149.2	154.3	159.3	164.6
Nonfinancial corporations:													
Output per hour of all employees	73.4	91.1	97.5	94.6	98.4	100.6	99.8	99.1	99.6	100.4	103.5	105.6	106.8
Compensation per hour	36.9	59.2	71.6	78.2	92.9	108.4	118.7	131.1	143.3	154.3	159.9	165.9	172.3
Real compensation per hour	75.5	92.4	97.6	96.1	98.9	100.7	99.1	96.4	95.5	96.9	97.3	96.8	97.0
Unit labor costs	50.2	65.0	73.4	82.6	94.3	107.8	119.0	132.3	143.8	153.8	154.5	157.0	161.2
Unit nonlabor payments	51.5	60.1	68.9	73.1	93.8	104.4	108.4	118.6	137.8	142.1	152.1	160.1	163.0
Implicit price deflator	50.7	63.3	71.9	79.4	94.2	106.6	115.4	127.6	141.7	148.8	153.7	159.1	161.8
Manufacturing:													
Output per hour of all persons	62.2	80.8	93.4	90.6	97.1	101.5	101.4	101.4	103.6	105.9	112.0	116.8	121.7
Compensation per hour	36.5	57.4	68.8	76.2	92.1	108.2	118.6	132.4	145.2	157.5	162.4	168.2	176.7
Real compensation per hour	74.8	89.5	93.8	93.6	98.1	100.5	99.1	97.4	96.7	98.9	98.8	98.1	99.5
Unit labor costs	58.7	71.0	73.7	84.1	94.9	106.6	117.0	130.6	140.1	148.7	145.0	144.2	145.1
Unit nonlabor payments	60.0	64.1	70.7	67.7	93.5	101.9	98.9	97.8	111.8	114.0	128.5	136.8	134.4
Implicit price deflator	59.1	69.0	72.8	79.3	94.5	105.2	111.7	121.0	131.8	138.6	140.2	142.1	142.0

45. Unemployment rates in nine countries, quarterly data seasonally adjusted

Country	Annual average		1984	1985				1986	
	1984	1985	IV	I	II	III	IV	I	II
Total labor force basis									
United States	7.4	7.1	7.1	7.2	7.2	7.1	6.9	7.0	7.1
Canada	11.2	10.4	11.1	11.0	10.5	10.2	10.1	9.7	9.5
Australia	8.9	8.2	8.6	8.5	8.4	8.1	7.8	7.9	-
Japan	2.7	2.6	2.7	2.6	2.5	2.6	2.9	2.6	2.8
France	9.7	10.1	10.0	10.2	10.1	10.2	9.9	10.0	10.3
Germany	7.8	7.7	7.7	7.7	7.8	7.7	7.7	7.6	7.5
Great Britain	12.6	13.0	12.8	12.9	13.0	13.2	12.8	13.0	13.1
Italy [1], [2]	5.8	5.9	5.7	5.9	5.7	5.9	6.2	6.2	6.3
Sweden	3.1	2.8	2.9	3.0	2.9	2.7	2.7	2.8	2.6
Civilian labor force basis									
United States	7.5	7.2	7.2	7.3	7.3	7.2	7.0	7.1	7.2
Canada	11.3	10.5	11.1	11.1	10.6	10.2	10.1	9.7	9.6
Australia	9.0	8.3	8.6	8.6	8.5	8.2	7.9	8.0	-
Japan	2.8	2.6	2.7	2.6	2.6	2.7	2.9	2.7	2.8
France	9.9	10.4	10.3	10.5	10.4	10.4	10.1	10.3	10.5
Germany	7.8	7.9	7.8	7.8	7.9	7.9	7.8	7.8	7.6
Great Britain	12.9	13.1	13.0	13.1	13.2	13.4	13.0	13.1	13.3
Italy	5.9	6.0	5.8	5.9	5.8	6.0	6.3	6.3	6.5
Sweden	3.1	2.8	3.0	3.0	2.9	2.8	2.7	2.8	2.6

[1] Quarterly rates are for the first month of the quarter.

[2] Major changes in the Italian labor force survey, introduced in 1977, resulted in a large increase in persons enumerated as unemployed. However, many persons reported that they had not actively sought work in the past 30 days, and they have been provisionally excluded for comparability with U.S. concepts. Inclusion of such persons would more than double the Italian unemployment rate shown.

- Data not available.

NOTE: Quarterly figures for France, Germany, and Great Britain are calculated by applying annual adjustment factors to current published data and therefore should be viewed as less precise indicators of unemployment under U.S. concepts than the annual figures.

46. Annual data: Employment status of the civilian working-age population, ten countries

(Numbers in thousands)

Employment status and country	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Labor force										
United States	96,158	99,009	102,251	104,962	106,940	108,670	110,204	111,550	113,544	115,461
Canada	10,203	10,500	10,895	11,231	11,573	11,904	11,958	12,183	12,399	12,639
Australia	6,244	6,358	6,443	6,519	6,693	6,810	6,910	6,997	7,133	7,272
Japan	53,100	53,820	54,610	55,210	55,740	56,320	56,980	58,110	58,480	58,820
France	22,000	22,300	22,470	22,670	22,790	22,930	23,150	23,130	23,290	23,330
Germany	25,900	25,870	26,000	26,250	26,520	26,650	26,710	26,740	26,880	27,090
Great Britain	25,290	25,430	25,620	25,710	25,870	25,870	25,880	26,010	26,530	26,960
Italy	20,300	20,530	20,630	20,910	21,210	21,410	21,450	21,610	21,680	21,800
Netherlands	4,890	4,950	5,010	5,100	5,290	5,500	5,560	5,720	5,740	5,690
Sweden	4,149	4,168	4,203	4,262	4,312	4,326	4,350	4,369	4,385	4,418
Participation rate										
United States	61.6	62.3	63.2	63.7	63.8	63.9	64.0	64.0	64.4	64.8
Canada	61.1	61.6	62.7	63.4	64.1	64.8	64.1	64.4	64.8	65.2
Australia	62.7	62.7	62.0	61.7	62.2	62.0	61.8	61.5	61.5	61.8
Japan	62.4	62.5	62.8	62.7	62.6	62.6	62.7	63.1	62.7	62.3
France	57.3	57.6	57.5	57.5	57.2	57.1	57.1	56.6	56.6	56.4
Germany	53.8	53.4	53.3	53.3	53.2	52.9	52.7	52.5	52.6	53.2
Great Britain	63.2	63.2	63.3	63.2	63.2	62.2	61.9	61.9	62.7	63.6
Italy	47.8	48.0	47.7	47.8	48.0	48.0	47.4	47.2	47.3	47.2
Netherlands	49.1	49.0	48.8	49.0	50.0	51.3	51.2	52.1	52.0	51.2
Sweden	66.0	65.9	66.1	66.6	67.0	66.8	66.8	66.7	66.8	67.2
Employed										
United States	88,752	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005	107,150
Canada	9,477	9,651	9,987	10,395	10,708	11,006	10,644	10,734	11,000	11,311
Australia	5,946	6,000	6,038	6,111	6,284	6,416	6,415	6,300	6,490	6,670
Japan	52,020	52,720	53,370	54,040	54,600	55,060	55,620	56,550	56,870	57,260
France	21,010	21,180	21,260	21,300	21,320	21,200	21,230	21,170	20,980	20,910
Germany	25,010	24,970	25,130	25,470	25,750	25,560	25,130	24,750	24,790	24,960
Great Britain	23,810	23,840	24,040	24,360	24,100	23,190	22,820	22,680	23,100	23,420
Italy	19,600	19,790	19,870	20,100	20,380	20,480	20,430	20,470	20,390	20,490
Netherlands	4,630	4,700	4,750	4,830	4,960	4,990	4,930	4,890	4,880	4,890
Sweden	4,083	4,093	4,109	4,174	4,226	4,218	4,213	4,218	4,249	4,293
Employment-population ratio										
United States	56.8	57.9	59.3	59.9	59.2	59.0	57.8	57.9	59.5	60.1
Canada	56.7	56.6	57.5	58.7	59.3	59.9	57.0	56.7	57.4	58.4
Australia	59.7	59.2	58.1	57.9	58.4	58.4	57.3	55.4	56.0	56.6
Japan	61.1	61.2	61.3	61.4	61.3	61.2	61.2	61.4	61.0	60.6
France	54.8	54.7	54.4	54.0	53.5	52.8	52.3	51.8	51.0	50.5
Germany	52.0	51.6	51.5	51.7	51.7	50.3	49.6	48.6	48.5	49.0
Great Britain	59.5	59.3	59.4	59.8	58.9	55.8	54.6	54.0	54.6	55.2
Italy	46.1	46.3	45.9	45.9	46.1	45.9	45.2	44.7	44.5	44.4
Netherlands	46.5	46.5	46.3	46.4	46.9	46.5	45.4	44.5	44.2	44.0
Sweden	64.9	64.8	64.6	65.3	65.6	65.1	64.7	64.4	64.7	65.3
Unemployed										
United States	7,406	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539	8,312
Canada	726	849	908	836	865	898	1,314	1,448	1,399	1,328
Australia	298	358	405	408	409	394	495	697	642	602
Japan	1,080	1,100	1,240	1,170	1,140	1,260	1,360	1,560	1,610	1,560
France	990	1,120	1,210	1,370	1,470	1,730	1,920	1,960	2,310	2,420
Germany	890	900	870	780	770	1,090	1,580	1,990	2,090	2,130
Great Britain	1,480	1,590	1,580	1,350	1,770	2,680	3,060	3,330	3,430	3,540
Italy	700	740	760	810	830	920	1,020	1,140	1,280	1,310
Netherlands	260	250	260	270	330	510	630	830	860	800
Sweden	66	75	94	88	86	108	137	151	136	125
Unemployment rate										
United States	7.7	7.1	6.1	5.8	7.1	7.6	9.7	9.6	7.5	7.2
Canada	7.1	8.1	8.3	7.4	7.5	7.5	11.0	11.9	11.3	10.5
Australia	4.8	5.6	6.3	6.3	6.1	5.8	7.2	10.0	9.0	8.3
Japan	2.0	2.0	2.3	2.1	2.0	2.2	2.4	2.7	2.8	2.6
France	4.5	5.0	5.4	6.0	6.4	7.5	8.3	8.5	9.9	10.4
Germany	3.4	3.5	3.4	3.0	2.9	4.1	5.9	7.4	7.8	7.9
Great Britain	5.9	6.3	6.2	5.3	6.8	10.4	11.8	12.8	12.9	13.1
Italy	3.4	3.6	3.7	3.9	3.9	4.3	4.8	5.3	5.9	6.0
Netherlands	5.3	5.0	5.2	5.3	6.2	9.3	11.3	14.5	15.0	14.1
Sweden	1.6	1.8	2.2	2.1	2.0	2.5	3.1	3.5	3.1	2.8

47. Annual indexes of manufacturing productivity and related measures, twelve countries

(1977 = 100)

Item and country	1960	1970	1973	1974	1975	1977	1979	1980	1981	1982	1983	1984	1985
Output per hour													
United States	62.2	80.8	93.4	90.6	97.1	100.0	101.4	101.4	103.6	105.9	112.9	118.5	121.8
Canada	50.3	78.8	91.3	93.4	96.2	100.0	104.2	101.9	104.0	101.0	107.6	111.5	115.1
Japan	23.2	64.8	83.1	86.5	94.3	100.0	114.8	122.7	127.2	135.0	142.3	152.2	159.9
Belgium	32.8	60.0	78.7	83.2	95.3	100.0	111.8	119.3	127.2	132.8	141.0	145.5	-
Denmark	37.2	65.5	83.2	86.0	98.2	100.0	106.5	112.3	114.2	114.6	117.3	118.3	118.4
France	36.4	69.6	82.2	85.2	95.0	100.0	110.3	112.0	116.4	123.5	129.3	135.0	140.2
Germany	40.3	71.2	84.0	87.4	96.5	100.0	108.2	108.6	111.0	112.6	119.0	124.7	131.9
Italy	36.5	72.7	90.9	95.3	98.9	100.0	110.5	116.9	121.0	123.4	126.6	135.0	139.1
Netherlands	32.4	64.3	81.5	88.1	95.8	100.0	112.3	113.9	116.9	119.4	126.1	139.3	-
Norway	54.6	81.7	94.6	97.7	99.7	100.0	107.1	109.3	109.7	112.6	119.2	122.3	125.0
Sweden	42.3	80.7	94.8	98.8	101.7	100.0	110.9	112.7	113.2	116.5	125.5	132.6	135.2
United Kingdom	53.8	77.6	92.9	95.2	99.1	100.0	102.2	101.2	107.9	112.7	121.2	126.2	129.7
Output													
United States	52.5	78.6	96.3	91.7	93.1	100.0	108.1	103.2	104.8	98.4	105.6	117.9	121.0
Canada	41.5	75.1	94.6	96.0	96.1	100.0	110.9	107.7	108.8	96.4	101.7	110.1	115.2
Japan	19.2	69.9	91.9	91.7	94.8	100.0	113.9	124.1	129.8	137.3	148.2	165.2	175.8
Belgium	41.7	78.1	95.8	99.6	99.5	100.0	104.2	107.2	105.9	109.1	110.7	112.8	-
Denmark	49.2	82.0	95.9	97.4	99.6	100.0	105.4	110.1	106.6	108.3	112.2	118.6	122.3
France	35.4	73.3	88.6	91.8	96.1	100.0	106.1	106.6	105.9	106.0	107.4	108.4	109.0
Germany	50.0	86.6	96.1	95.4	96.0	100.0	106.6	106.6	104.9	102.4	103.5	107.4	113.0
Italy	37.4	78.0	90.5	96.3	97.9	100.0	108.6	115.4	114.3	111.6	109.2	113.2	115.3
Netherlands	44.8	84.4	95.8	100.0	99.0	100.0	106.1	106.6	106.7	105.0	105.3	110.8	-
Norway	55.1	87.0	99.5	104.0	101.4	100.0	100.3	101.3	100.1	99.8	98.8	101.3	103.7
Sweden	52.6	92.5	100.3	105.7	106.1	100.0	103.6	104.0	100.6	100.1	105.2	112.4	114.6
United Kingdom	71.0	94.7	104.7	103.5	98.2	100.0	100.5	91.7	86.2	86.4	88.9	92.4	95.0
Total hours													
United States	84.4	97.3	103.1	101.2	95.9	100.0	106.5	101.7	101.1	92.9	93.5	99.5	99.3
Canada	82.6	97.7	103.6	105.0	102.0	100.0	106.4	105.7	104.6	95.4	94.6	98.7	100.1
Japan	82.7	107.9	110.7	106.1	100.6	100.0	99.3	101.2	102.0	101.7	104.2	108.5	110.0
Belgium	127.0	130.1	121.8	119.7	104.4	100.0	93.2	89.9	83.3	82.1	78.5	77.5	-
Denmark	132.4	125.1	115.2	113.2	101.4	100.0	99.0	98.1	93.4	94.5	95.7	100.2	103.3
France	97.2	105.3	107.8	107.8	101.2	100.0	96.2	95.2	91.0	85.9	83.0	80.3	77.8
Germany	123.8	121.7	114.4	109.2	101.6	100.0	98.5	98.1	94.6	91.0	87.0	86.2	85.7
Italy	102.3	107.4	99.6	101.0	99.0	100.0	98.2	98.7	94.5	90.4	86.2	83.9	82.9
Netherlands	138.4	131.2	117.6	113.5	103.3	100.0	94.4	93.6	91.2	88.0	83.5	79.5	-
Norway	101.0	106.4	105.1	106.5	101.7	100.0	93.6	92.6	91.3	88.6	82.9	82.8	83.0
Sweden	124.4	114.6	105.7	107.0	104.3	100.0	93.4	92.3	88.9	85.9	83.9	84.8	84.8
United Kingdom	131.9	122.1	112.7	108.7	99.0	100.0	98.3	90.7	79.9	76.7	73.3	73.2	73.3
Compensation per hour													
United States	36.5	57.3	68.8	76.2	92.1	100.0	118.6	132.4	145.2	157.5	163.2	169.1	176.6
Canada	27.1	46.5	59.2	68.5	89.9	100.0	118.3	130.6	151.5	167.1	179.3	182.1	191.4
Japan	8.9	33.9	55.1	72.3	90.7	100.0	113.4	120.7	129.8	136.6	140.7	144.8	148.3
Belgium	13.8	34.9	53.5	65.2	89.5	100.0	117.6	130.4	144.6	152.0	163.7	176.6	-
Denmark	12.6	36.3	56.1	67.9	90.4	100.0	123.1	135.9	149.6	162.9	174.3	183.9	195.5
France	15.1	36.6	52.3	62.0	88.9	100.0	129.3	147.5	170.3	200.8	226.2	246.5	262.7
Germany	18.8	48.0	67.5	76.9	91.3	100.0	116.1	125.6	134.5	141.0	148.4	155.3	164.7
Italy	8.3	26.1	43.7	54.5	84.2	100.0	134.7	160.2	197.1	237.3	276.4	303.0	334.0
Netherlands	12.5	39.0	60.5	71.9	91.9	100.0	117.0	123.6	129.1	137.5	144.7	152.8	-
Norway	15.8	37.9	54.5	63.6	88.8	100.0	116.0	128.0	142.8	156.0	173.5	188.3	205.2
Sweden	14.7	36.5	54.2	63.8	91.5	100.0	120.1	133.6	148.1	158.9	173.3	190.7	205.8
United Kingdom	14.8	30.8	44.8	56.9	88.4	100.0	137.7	165.8	188.9	206.4	222.4	237.2	257.0
Unit labor costs: National currency basis:													
United States	58.7	70.9	73.7	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.8	145.0
Canada	53.9	60.6	64.8	73.3	93.5	100.0	113.5	128.1	145.7	165.4	166.7	163.2	166.3
Japan	38.4	52.3	66.4	83.6	96.2	100.0	98.8	98.4	102.0	101.2	98.9	95.1	92.7
Belgium	42.0	58.1	68.0	78.3	93.9	100.0	105.2	109.3	113.6	114.4	116.1	121.4	-
Denmark	33.8	55.4	67.4	79.0	92.1	100.0	115.7	121.0	131.1	142.2	148.6	155.5	165.1
France	41.6	52.6	63.6	72.8	93.6	100.0	117.3	131.7	146.3	162.6	175.0	182.5	187.4
Germany	46.6	67.4	80.3	88.0	94.6	100.0	107.3	115.7	121.2	125.2	124.7	124.6	124.9
Italy	22.8	36.0	48.1	57.2	85.1	100.0	121.9	137.0	162.9	192.4	218.3	224.5	240.1
Netherlands	38.5	60.7	74.3	81.6	96.0	100.0	104.1	108.5	110.4	115.2	114.7	109.7	-
Norway	29.0	46.4	57.6	65.2	89.1	100.0	108.2	117.0	130.2	138.6	145.5	154.0	164.2
Sweden	34.8	47.7	57.2	64.6	90.0	100.0	108.3	118.6	130.9	136.3	138.1	143.8	152.2
United Kingdom	27.6	39.7	48.2	59.7	89.2	100.0	134.7	163.8	175.1	183.1	183.5	187.9	198.1
Unit labor costs: U.S. dollar basis:													
United States	58.7	70.9	73.7	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.8	145.0
Canada	59.0	61.7	68.8	79.7	100.7	100.0	103.0	116.4	129.1	142.3	143.7	133.9	129.4
Japan	28.5	39.1	65.6	76.8	86.9	100.0	121.3	116.8	123.8	108.8	111.5	107.2	104.2
Belgium	30.2	42.0	62.8	72.1	87.2	100.0	128.5	134.1	109.9	89.5	81.3	75.3	-
Denmark	29.5	44.4	67.2	77.9	91.5	100.0	132.0	129.0	110.3	102.3	97.5	90.1	93.5
France	41.7	46.8	70.4	74.5	96.3	100.0	135.5	153.4	132.2	121.5	112.9	102.7	102.6
Germany	25.9	42.9	70.4	79.1	87.3	100.0	135.9	147.9	124.9	119.7	113.4	101.6	98.6
Italy	32.5	50.6	73.1	77.6	90.5	100.0	129.5	141.4	126.3	125.4	126.8	112.8	111.1
Netherlands	25.1	41.2	65.6	74.6	89.1	100.0	127.4	134.2	108.9	105.8	98.6	83.9	-
Norway	21.7	34.5	53.4	62.8	86.9	100.0	113.8	126.2	120.6	114.2	106.1	100.4	101.7
Sweden	30.1	41.1	58.7	65.1	92.3	100.0	112.9	125.3	115.4	96.9	80.4	77.7	79.1
United Kingdom	44.4	54.4	67.7	80.1	92.3	100.0	163.9	218.3	203.1	183.5	159.4	143.9	147.3

- Data not available.

48. Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]								
	1976	1977	1978	1979	1980	1981	1982	1983	1984
PRIVATE SECTOR[3]									
Total cases	9.2	9.3	9.4	9.5	8.7	8.3	7.7	7.6	8.0
Lost workday cases	3.5	3.8	4.1	4.3	4.0	3.8	3.5	3.4	3.7
Lost workdays	60.5	61.6	63.5	67.7	65.2	61.7	58.7	58.5	63.4
Agriculture, forestry, and fishing[3]									
Total cases	11.0	11.5	11.6	11.7	11.9	12.3	11.8	11.9	12.0
Lost workday cases	4.7	5.1	5.4	5.7	5.8	5.9	5.9	6.1	6.1
Lost workdays	83.3	81.1	80.7	83.7	82.7	82.8	86.0	90.8	90.7
Mining									
Total cases	11.0	10.9	11.5	11.4	11.2	11.6	10.5	8.4	9.7
Lost workday cases	5.8	6.0	6.4	6.8	6.5	6.2	5.4	4.5	5.3
Lost workdays	114.4	128.8	143.2	150.5	163.6	146.4	137.3	125.1	160.2
Construction									
Total cases	15.3	15.5	16.0	16.2	15.7	15.1	14.6	14.8	15.5
Lost workday cases	5.5	5.9	6.4	6.8	6.5	6.3	6.0	6.3	6.9
Lost workdays	105.0	111.5	109.4	120.4	117.0	113.1	115.7	118.2	128.1
General building contractors:									
Total cases	14.5	15.0	15.9	16.3	15.5	15.1	14.1	14.4	15.4
Lost workday cases	5.2	5.7	6.3	6.8	6.5	6.1	5.9	6.2	6.9
Lost workdays	100.0	100.2	105.3	111.2	113.0	107.1	112.0	113.0	121.3
Heavy construction contractors:									
Total cases	16.3	16.0	16.6	16.6	16.3	14.9	15.1	15.4	14.9
Lost workday cases	5.5	5.7	6.2	6.7	6.3	6.0	5.8	6.2	6.4
Lost workdays	109.2	116.7	110.9	123.1	117.6	106.0	113.1	122.4	131.7
Special trade contractors:									
Total cases	15.3	15.6	15.8	16.0	15.5	15.2	14.7	14.8	15.8
Lost workday cases	5.6	6.1	6.6	6.9	6.7	6.6	6.2	6.4	7.1
Lost workdays	105.8	115.5	111.0	124.3	118.9	119.3	118.6	119.0	130.1
Manufacturing									
Total cases	13.2	13.1	13.2	13.3	12.2	11.5	10.2	10.0	10.6
Lost workday cases	4.8	5.1	5.6	5.9	5.4	5.1	4.4	4.3	4.7
Lost workdays	79.5	82.3	84.9	90.2	86.7	82.0	75.0	73.5	77.9
Durable goods									
Lumber and wood products:									
Total cases	22.1	22.3	22.6	20.7	18.6	17.6	16.9	18.3	19.6
Lost workday cases	9.7	10.4	11.1	10.8	9.5	9.0	8.3	9.2	9.9
Lost workdays	167.3	178.0	178.8	175.9	171.8	158.4	153.3	163.5	172.0
Furniture and fixtures:									
Total cases	16.9	17.2	17.5	17.6	16.0	15.1	13.9	14.1	15.3
Lost workday cases	6.0	6.0	6.9	7.1	6.6	6.2	5.5	5.7	6.4
Lost workdays	94.5	92.0	95.9	99.6	97.6	91.9	85.6	83.0	101.5
Stone, clay, and glass products:									
Total cases	16.1	16.9	16.8	16.8	15.0	14.1	13.0	13.1	13.6
Lost workday cases	6.4	6.9	7.8	8.0	7.1	6.9	6.1	6.0	6.6
Lost workdays	114.1	120.4	126.3	133.7	128.1	122.2	112.2	112.0	120.8
Primary metal industries:									
Total cases	16.6	16.2	17.0	17.3	15.2	14.4	12.4	12.4	13.3
Lost workday cases	6.3	6.8	7.5	8.1	7.1	6.7	5.4	5.4	6.1
Lost workdays	114.8	119.4	123.6	134.7	128.3	121.3	101.6	103.4	115.3
Fabricated metal products:									
Total cases	18.9	19.1	19.3	19.9	18.5	17.5	15.3	15.1	16.1
Lost workday cases	6.8	7.2	8.0	8.7	8.0	7.5	6.4	6.1	6.7
Lost workdays	109.8	109.0	112.4	124.2	118.4	109.9	102.5	96.5	104.9
Machinery, except electrical:									
Total cases	14.2	14.0	14.4	14.7	13.7	12.9	10.7	9.8	10.7
Lost workday cases	4.6	4.7	5.4	5.9	5.5	5.1	4.2	3.6	4.1
Lost workdays	70.6	69.9	75.1	83.6	81.3	74.9	66.0	58.1	65.8
Electric and electronic equipment:									
Total cases	8.5	8.6	8.7	8.6	8.0	7.4	6.5	6.3	6.8
Lost workday cases	2.8	3.0	3.3	3.4	3.3	3.1	2.7	2.3	2.8
Lost workdays	44.9	46.7	50.3	51.9	51.8	48.4	42.2	41.4	45.0
Transportation equipment:									
Total cases	12.4	11.8	11.5	11.6	10.6	9.8	9.2	8.4	9.3
Lost workday cases	4.7	5.0	5.1	5.5	4.9	4.6	4.0	3.6	4.2
Lost workdays	73.8	79.3	78.0	85.9	82.4	78.1	72.2	64.5	68.8
Instruments and related products:									
Total cases	7.2	7.0	6.9	7.2	6.8	6.5	5.6	5.2	5.4
Lost workday cases	2.4	2.4	2.6	2.8	2.7	2.7	2.3	2.1	2.2
Lost workdays	36.7	37.4	37.0	40.0	41.8	39.2	37.0	35.6	37.5
Miscellaneous manufacturing industries:									
Total cases	11.7	11.5	11.8	11.7	10.9	10.7	9.9	9.9	10.5
Lost workday cases	4.0	4.0	4.5	4.7	4.4	4.4	4.1	4.0	4.3
Lost workdays	59.4	58.7	66.4	67.7	67.9	68.3	69.9	66.3	70.2

See footnotes at end of table.

48. Continued— Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]								
	1976	1977	1978	1979	1980	1981	1982	1983	1984
Nondurable goods									
Food and kindred products:									
Total cases	19.3	19.5	19.4	19.9	18.7	17.8	16.7	16.5	16.7
Lost workday cases	8.0	8.5	8.9	9.5	9.0	8.6	8.0	7.9	8.1
Lost workdays	123.8	130.1	132.2	141.8	136.8	130.7	129.3	131.2	131.6
Tobacco manufacturing:									
Total cases	10.0	9.1	8.7	9.3	8.1	8.2	7.2	6.5	7.7
Lost workday cases	4.1	3.8	4.0	4.2	3.8	3.9	3.2	3.0	3.2
Lost workdays	62.5	66.7	58.6	64.8	45.8	56.8	44.6	42.8	51.7
Textile mill products:									
Total cases	10.5	10.2	10.2	9.7	9.1	8.8	7.6	7.4	8.0
Lost workday cases	2.7	2.9	3.4	3.4	3.3	3.2	2.8	2.8	3.0
Lost workdays	55.5	57.4	61.5	61.3	62.8	59.2	53.8	51.4	54.0
Apparel and other textile products:									
Total cases	6.7	6.7	6.5	6.5	6.4	6.3	6.0	6.4	6.7
Lost workday cases	1.9	2.0	2.2	2.2	2.2	2.2	2.1	2.4	2.5
Lost workdays	31.0	31.7	32.4	34.1	34.9	35.0	36.4	40.6	40.9
Paper and allied products:									
Total cases	13.7	13.6	13.5	13.5	12.7	11.6	10.6	10.0	10.4
Lost workday cases	4.7	5.0	5.7	6.0	5.8	5.4	4.9	4.5	4.7
Lost workdays	94.8	101.6	103.3	108.4	112.3	103.6	99.1	90.3	93.6
Printing and publishing:									
Total cases	6.8	6.8	7.0	7.1	6.9	6.7	6.6	6.6	6.5
Lost workday cases	2.6	2.7	2.9	3.1	3.1	3.0	2.8	2.9	2.9
Lost workdays	40.3	41.7	43.8	45.1	46.5	47.4	45.7	44.6	46.0
Chemicals and allied products:									
Total cases	8.2	8.0	7.8	7.7	6.8	6.6	5.7	5.5	5.3
Lost workday cases	3.1	3.1	3.3	3.5	3.1	3.0	2.5	2.5	2.4
Lost workdays	50.6	51.4	50.9	54.9	50.3	48.1	39.4	42.3	40.8
Petroleum and coal products:									
Total cases	7.9	8.1	7.9	7.7	7.2	6.7	5.3	5.5	5.1
Lost workday cases	3.2	3.3	3.4	3.6	3.5	2.9	2.5	2.4	2.4
Lost workdays	62.5	59.2	58.3	62.0	59.1	51.2	46.4	46.8	53.5
Rubber and miscellaneous plastics products:									
Total cases	16.8	16.8	17.1	17.1	15.5	14.6	12.7	13.0	13.6
Lost workday cases	7.1	7.6	8.1	8.2	7.4	7.2	6.0	6.2	6.4
Lost workdays	113.3	118.1	125.5	127.1	118.6	117.4	100.9	101.4	104.3
Leather and leather products:									
Total cases	11.6	11.5	11.7	11.5	11.7	11.5	9.9	10.0	10.5
Lost workday cases	4.1	4.4	4.7	4.9	5.0	5.1	4.5	4.4	4.7
Lost workdays	69.0	66.9	72.5	76.2	82.7	82.6	86.5	87.3	94.4
Transportation and public utilities									
Total cases	9.8	9.7	10.1	10.0	9.4	9.0	8.5	8.2	8.8
Lost workday cases	5.0	5.3	5.7	5.9	5.5	5.3	4.9	4.7	5.2
Lost workdays	94.0	95.9	102.3	107.0	104.5	100.6	96.7	94.9	105.1
Wholesale and retail trade									
Total cases	7.5	7.7	7.9	8.0	7.4	7.3	7.2	7.2	7.4
Lost workday cases	2.8	2.9	3.2	3.4	3.2	3.1	3.1	3.1	3.3
Lost workdays	43.2	44.0	44.9	49.0	48.7	45.3	45.5	47.8	50.5
Wholesale trade:									
Total cases	8.1	8.5	8.9	8.8	8.2	7.7	7.1	7.0	7.2
Lost workday cases	3.3	3.6	3.9	4.1	3.9	3.6	3.4	3.2	3.5
Lost workdays	51.8	52.5	57.5	59.1	58.2	54.7	52.1	50.6	55.5
Retail trade:									
Total cases	7.2	7.4	7.5	7.7	7.1	7.1	7.2	7.3	7.5
Lost workday cases	2.6	2.7	2.8	3.1	2.9	2.9	2.9	3.0	3.2
Lost workdays	39.7	40.5	39.7	44.7	44.5	41.1	42.6	46.7	48.4
Finance, insurance, and real estate									
Total cases	2.0	2.0	2.1	2.1	2.0	1.9	2.0	2.0	1.9
Lost workday cases	.7	.8	.8	.9	.8	.8	.9	.9	.9
Lost workdays	11.6	10.4	12.5	13.3	12.2	11.6	13.2	12.8	13.6
Services									
Total cases	5.3	5.5	5.5	5.5	5.2	5.0	4.9	5.1	5.2
Lost workday cases	2.0	2.2	2.4	2.5	2.3	2.3	2.3	2.4	2.5
Lost workdays	38.4	35.4	36.2	38.1	35.8	35.9	35.8	37.0	41.1

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[1] Total cases include fatalities.

[2] The incidence rates represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as:
(N/EH) X 200,000, where:
N = number of injuries and illnesses or lost workdays.
EH = total hours worked by all employees during calendar year.
200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year.)

[3] Excludes farms with fewer than 11 employees since 1976.

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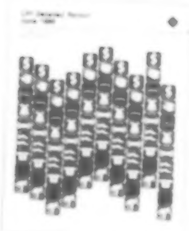

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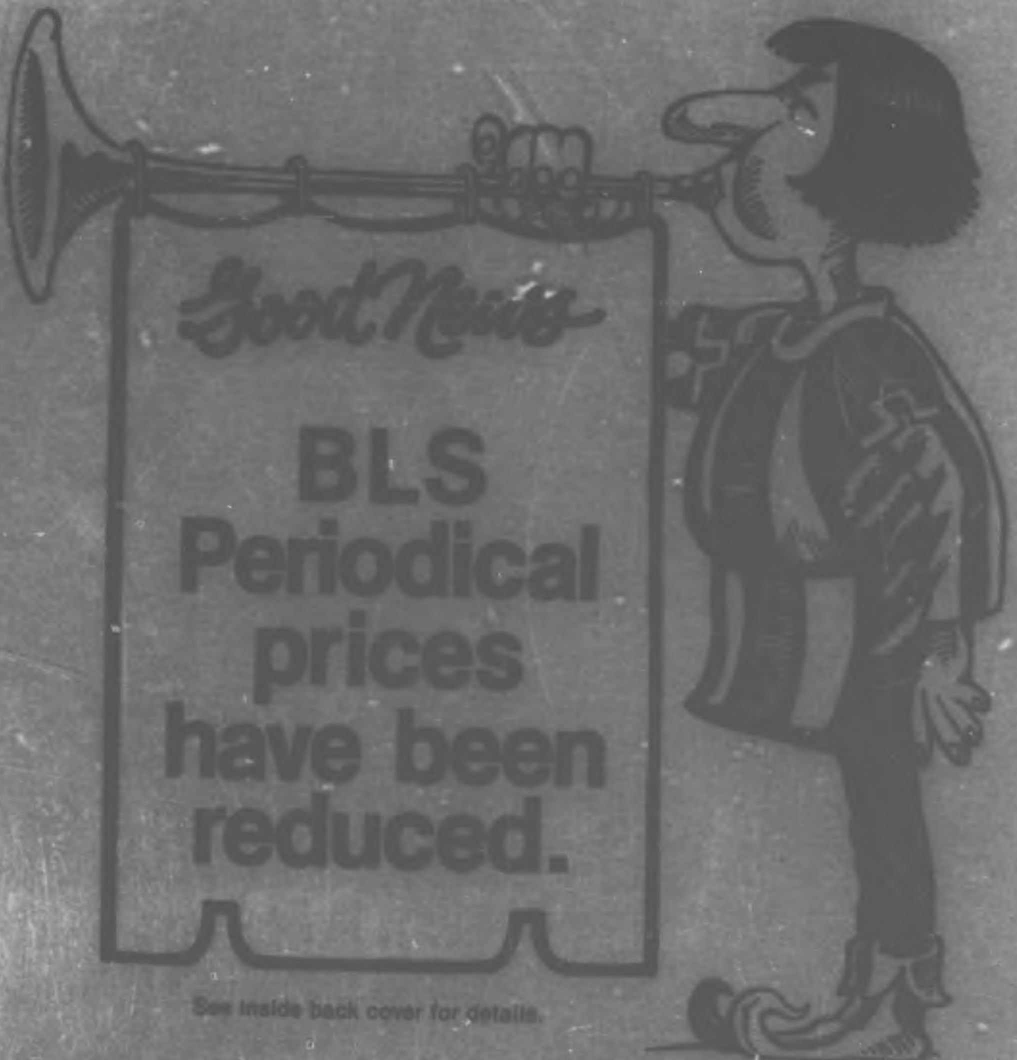
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U.S. Department of Labor
Bureau of Labor Statistics
November 1986

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A Special Section on Time Spent at Work

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MONTHLY LABOR REVIEW

NOVEMBER 1986
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Henry Lowenstern, Editor-in-Chief
Robert W. Fisher, Executive Editor

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Labor Month In Review

SIC Revision. The Federal Office of Management and Budget announced that the Standard Industrial Classification system, which underlies all establishment-based economic statistics, is being revised, effective January 1, 1987. Here are excerpts from the OMB announcement, which appeared in the *Federal Register* for October 1, 1986, pages 35170 to 35188.

Background. The SIC system is revised periodically to reflect the economy's changing industrial composition and organization. Changes in the economy since the last major revision in 1972 require an updating of the standard. The revised SIC provides a more current classification structure with which to collect, disseminate, and analyze data on the industrial makeup of the U. S. economy. [Although the revision is effective January 1, 1987, full implementation of the new SIC will occur over several years, with some programs introducing the changes as early as 1988. Data series for years prior to implementation may not always be revised to reflect the 1987 SIC revision.]

Changes. The 1987 SIC revision has resulted in a net increase of 19 industries for Services (Division I), 8 for Wholesale Trade, and 7 for Manufacturing, with a net decrease of 34 for the other SIC Divisions. Deleted industries were merged into other industries and new industries were created by subdividing or restructuring existing industries. Various industries are also changed by transfers of individual activities, primarily to increase data classification accuracy, consistency, and usefulness, or by renumbering to change the existing three-digit structure.

Most of the industries that are deleted no longer meet the economic significance criteria for continued recognition as a separate industry. However, a few are dropped because the number of companies represented by the establishments classified in the industry is now so small as to cause disclosure problems in publishing data or because the distinctions required cause difficulties in classification.

The revision process included a comprehensive review of Transportation (Major Groups 40-47), Communications (Major Group 48), and Finance (Major Groups 60-62, and 67) to identify revisions needed due to changes in technology and government regulation. Major revisions occurred in Water Transportation, now divided by freight and passengers, and in the structure and detail of Banking and Other Credit Agencies (Major Groups 60-61), in particular to recognize changes in depository regulations. In addition, the decisions include the recognition of new industries for Cable and Other Pay Television (from 4833 and 4899) and Radiotelephone Communications Services (from 4811).

The growth of computer-related activities has resulted in a number of new industries. Several new industries are recognized for computers and computer peripheral equipment in Manufacturing (from 3573). There are industries for the sale of Computers and Computer Peripheral Equipment and Software in Wholesale Trade (from 5081) and Retail Trade (from 5732). Computer establishments are classified in Wholesale Trade if they sell primarily for business or government use and in Retail Trade if they sell primarily for household use. Additional detail is also added for computer services within current Group 737, including a separate industry for Prepackaged Computer Software.

Considerable emphasis was placed on improved detail for Services (Division I). There is a new Major Group 87 for selected professional and technical services, comprising elements of the current Business Services (Major Group 73) and Miscellaneous Services (Major Group 89). A number of changes are incorporated for Major Group 80, Health Services, to improve detail and data accuracy for this area of rapid growth. Other changes include the recognition of industries for Physical Fitness Facilities (from 7299, 7997, and 7999), Tax Return Preparation Services (from 7299) and Video Tape Rental (from 7394). Various other industries are also subdivided (for example, 7321, 7393, and 7539).

Subdivisions were created for some of the largest and fastest growing current industries in Manufacturing, including Miscellaneous Plastics Products (3079), Radio and Television Communications Equipment (3662), and Electronic Components, not elsewhere classified (3679).

SIC Manual. Clothbound copies of the "Standard Industrial Classification Manual 1987" may be ordered from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161, $24 before December 31, 1986, $30 thereafter. The manual is also available on computer tape, $175, and on diskettes upon request. For telephone orders, call (703) 487-4650.□

Work schedules of Americans: an overview of new findings

A group of eight articles examines data from a special 1985 household survey covering topics such as the number of workers who moonlight, who work at home, who have flexible hours, or who would prefer to work more or fewer hours per week

Paul O. Flaim

In recent years, we have become familiar with such "megatrends" in the labor force as the rapidly increasing participation of women, the tendency toward earlier retirement among men, the maturing of the baby-boom cohorts, and the shift of workers out of the stagnant goods-producing sector of the economy and into the expanding services sector. Yet, we still have little data about the day-to-day and week-to-week working lives of American men and women. Among the most conspicuous gaps in our knowledge have been such unanswered (or only occasionally answered) questions as: How many Americans work at two jobs? How many work at night, or schedules other than the stereotypical daylight shifts? How many Americans work on weekends? How many have jobs entailing home-based work? And what proportions—if offered such a choice—would prefer to work either more or fewer hours per week at their current rates of pay?

Until recently, there was either no information at all concerning these questions or, at best, information which had been collected sporadically and which had become rather dated. Now, thanks to a special survey conducted in 1985, we have both up-to-date information with which to address some of the traditional questions on work schedules, as well as entirely new information on work-schedule topics that had not previously been studied at the national level. The new information was collected in May 1985 through a special supplement to the Current Population Survey (CPS), the monthly survey which provides the basic measurements of the labor force and unemployment for the Nation. The new findings are discussed in detail, on a topic-by-topic basis, in the eight articles which follow. Here are some selected highlights.

- Multiple jobholders—persons working at more than one job—numbered about 5.7 million in May 1985. They accounted for 5.4 percent of all employed persons, up from 4.9 percent in 1980.
- Saturday work was the usual routine for one-fourth of all workers, while 1 in 8 reported they usually worked on Sunday.
- Work outside the typical daylight hours—usually in the evening—was the usual routine for about one-sixth of the full-time workers and one-half of the part-time workers.
- Home-based work of at least 8 hours a week was reported by over 8 million workers. However, most were full-time employees who did only a small part of their work at home.
- Flexitime or other schedules enabling workers to vary the start and end of their workday was available to about 12 percent of the wage and salary workers with full-time jobs.

Paul O. Flaim is chief of the Division of Data Development and Users' Services, Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

- A preference for a longer workweek (and thus "more money") was expressed by about one-fourth of the workers. In contrast, fewer than 1 in 10 said they would opt for a cut in hours accompanied by a reduction in earnings.

These and other findings from the May 1985 survey—analyzed in great detail in the articles which follow—add considerably to our knowledge of the work routines and preferences of American workers. But before we focus our attention on these detailed findings, it may be worthwhile to briefly review those historical trends in the labor force which provide a useful background and help to set the stage for the study of these topics.

Background data

While addressing few of the specific questions highlighted above, the data regularly available from the CPS already tell us a lot about the basic trends in the labor force behavior and work patterns of Americans. Through these data, we can, for example, track the historical changes in the rate of labor force participation and in the length of the workweek for the principal population groups. We also have been able to estimate—at least in a rough way—how many persons flow into and out of the labor force over a given period and thus get a notion of the dynamics of the labor force. And when we add to the regularly available data those which have been obtained from time to time through special supplements to the CPS, we can gain yet further insights into the basic labor force behavior of Americans and their work/leisure choices. Let us look briefly at some of these background data.

The expanding labor market role of American women—which can actually be tracked on a month-by-month or year-by-year basis with the data from the CPS—can be illustrated here with some key numbers for 1965 and 1985. Over this 20-year period, the labor force participation rate for women (the proportion 16 years and over who are in the labor force) climbed from 39 to 55 percent. Over the same two decades, the comparable rate for men edged down gradually from 81 to 76 percent, reflecting primarily a tendency among them to retire at an earlier age.

It is also important to note that women did not achieve their spectacular increases in labor market penetration over this 20-year period by taking mostly part-time jobs. To the contrary, the proportion of women working full-time held fairly steady—at nearly 75 percent—during this entire period.

A different perspective on the divergent trends in the work patterns of American men and women comes to us from the "work experience" data collected each March. These data show what proportion of men and women did at least some work during the previous year and, among those with some employment, what proportion managed to work the entire year on a full-time basis.[1]

Focusing again on the changes between 1965 and 1985, we find that the proportion of women with at least some employment in these 2 years was respectively, 49 and 59 percent. And among the increasing number of women with some employment, the proportion actually working year round on a full-time basis posted an equally robust increase. It expanded from 39 percent in 1965 to 48 percent in 1985. This means that practically half of the women with any labor market involvement are now working full time over the entire year.

Further knowledge of the basic work patterns of Americans, particularly with regard to the dynamics of their labor force behavior, can be gained through the data obtained regularly from those not in the labor force. Because these data tell us how many of these persons left their jobs during the previous 12 months, they can be used to determine, by inference, how many entered the job market over the same period. In this regard, the data collected during 1985 show that, on average, 9.1 million of the persons outside the labor force had left the employment ranks over the previous 12 months.[2] Because there had been a net employment increase of 2.1 million, we can estimate that at least 11 million persons had to enter the job market over this period to replace the outgoing workers and to account for the additional growth.

The monthly data on "gross flows," although subject to considerable bias and seldom used, point to even larger movements into and out of the labor force. They suggest, in fact, that several million persons may enter and leave the labor force each month.[3]

While this may leave us with the impression that labor mobility is widespread in the United States, that is not necessarily the case. In fact, there is evidence that the American labor force has a large core of workers who remain in their jobs, with most of the mobility occurring among other workers, especially youths. For example, the most recent CPS data on job tenure, collected in January 1983, show that among workers 25 and older (men and women combined), 1 in 3 had been with the same employer for 10 years or more and 1 in 8 had been with the same employer for 20 years or more.[4] Here is the percent distribution of these workers by years of continuous employment with current employer:

	Total	*1 year or less*	*2 to 9 years*	*10 to 19 years*	*20 years or more*
Total	100.00	20.3	45.9	21.4	12.3
Men	100.00	18.0	42.2	23.2	16.7
Women	100.00	23.4	50.8	19.1	6.7

While the above data show women to be somewhat more concentrated in the lower tenure categories than are men, they also show that, even among women, more than one-fourth had been working continuously for the same employer for 10 years or more. It was from an analysis of these tenure data that some have concluded that, contrary to the conventional wisdom, lifetime jobs are not that uncommon for American workers.[5]

And how many years, altogether, can American workers expect to spend in the labor force over their lifetime? The answers to this question come to us in the form of "worklife" estimates, currently based on the observed labor force behavior over the course of a year of men and women at all specific ages. It has been estimated from these observations (also derived from the CPS) that a man age 25 may expect to work an additional 34 years, and that a working woman of the same age may expect to be in the labor force an additional 25 years.[6]

After this brief review of the basic patterns in the working life of Americans, as reflected in various series of data from the CPS, let us now turn back to the various analyses of the May 1985 data on the day-to-day and week-to-week routines of these workers.

Analyzing the May 1985 data

The broad picture which emerges from the various analyses of the May 1985 data is of workers with a generally strong attachment to their jobs. The great majority worked 40 hours a week, but many said they regularly worked well over that standard. As already noted, nearly 6 million held two jobs, an even larger number said they usually did some work at home, and weekend work, particularly on Saturday, was a fairly common occurrence. While most workers seemed satisfied with the length of their workweeks, the vast majority of those who would have opted for a change said that they would have preferred a longer workweek so they could earn more money. As a further indication of the relatively strong attachment to their jobs, fewer than 5 percent of the full-time workers reported an absence from work in the week preceding this special survey.

Of the articles that follow, Shirley J. Smith highlights the predominance of the 5-day 40-hour workweek. Although finding little change in recent years in the proportion of workers on 40-hour schedules, Smith notes that there have been some changes in work patterns, with a still small but growing group of workers on "compressed" full-time weeks of less than 5 days. Surprisingly, she also finds some growth in the proportion of workers on part-time schedules who seem to "stretch" their work out over 6 or 7 days.

Susan Shank examines the data on workweek preferences and finds only moderate support for the hypothesis underlying the "backward bending labor supply curve," according to which an increase in rates of pay past a certain point induces workers to reduce their hours of work. Although the proportion of workers choosing fewer hours of work does grow as earnings rise, the category remains very small. Even among workers earning $750 or more per week, only about 10 percent of the men and 20 percent of the women were willing to trade hours of work—and the income linked to them—for additional leisure.

Earl Mellor focuses on the workday and finds that about 1 of 8 full-time workers were on flexitime or other schedules that allowed them to vary the start and end of their daily work. The great majority were on typical daylight schedules, with about one-fifth reporting 8:00 a.m. to 5:00 p.m. as their schedules. About 6 percent worked predominantly in the evening, 3 percent on the "night shift," and 4 percent on rotating shifts.

The data on multiple jobholders are examined by John Stinson. He finds a particularly sharp increase in the number of women with two jobs, which is another sign of the growing strength of their ties to the job market. Nearly 5 percent of working women are now multiple jobholders.

The new data on home-based work are analyzed by Francis Horvath, who observes that most of the persons reporting such work are full-time workers who, apparently, do only a small part of their work at home. Only one-tenth of these workers were engaged in manufacturing activities, an area of traditional concern in the field of labor legislation. Most prevalent were those employed in offices, sales, and miscellaneous services.

Bruce Klein uses the May 1985 data to construct measures of absences. He finds that the proportion of workers with an absence in the reference week for the survey was only 4.7 percent, a rate considerably lower than rates which had been computed for several years until 1980. He hypothesizes that this decline in absences, confirmed by other data, may reflect several factors such as: the job reduction in some industries, which is likely to have fallen most heavily on workers with high rates of absenteeism; the likely impact of such cuts on other workers, who might have reduced their rates of absenteeism so as not to jeopardize their jobs; and the positive measures adopted by some employers to reward the workers with few absences.

What if you are your own employer?

In analyzing the May 1985 data on work schedules and related topics, we decided to make a small departure from the typology generally used in the display and analysis of data from the Current Population Survey. Specifically, we decided to focus mainly on wage and salary workers and, in doing so, to exclude from this universe those who are the nominal employees of corporations which they own. While "wage and salary workers" in a technical sense—and treated as such in the usual display of employment data from the CPS—these persons (numbering 2.8 million in May 1985) exhibit many of the traits and work patterns of the typical self-employed workers. For this reason, in most of the analyses which follow, these "incorporated self employed" are broken out of the total wage and salary universe and either shown separately or merged with the other self-employed. The smaller group of "unpaid family workers" (those 500,000 who, although unpaid, worked at least 15 hours a week in a family owned enterprise) are also either shown separately or merged with the self-employed workers (those not incorporated), with the combined group, totaling 9.8 million, generally shown as "all other workers." This allows the analyst to focus more clearly on the wage and salary workers who are truly working for someone else.

Wayne Howe examines the data on the characteristics of the workers employed by temporary help agencies. This has been a rapidly growing sector of employment in recent years. Howe finds that, relative to other workers, those who are employed by temporary help agencies are more likely to be younger and to work part time. Their group contains relatively large proportions of women and blacks, who are heavily concentrated in clerical work and in what might be called "industrial help" occupations.

Darrell Carr looks at the new data on workers receiving overtime pay. These cover not only the persons working more than 40 hours a week; they extend also to those receiving overtime premiums for some hours, even though the weekly total does not exceed 40. He notes that out of 10.5 million workers with some overtime pay for work performed during the reference week for the May 1985 survey, about 1.6 million had actually worked 40 hours or less.

Taken together, these articles improve our understanding of the work practices of American men and women. Of course, further analysis of the data on which the findings are based is still possible. Moreover, other issues could be addressed using these data. For example, where there are multiple workers in a family one might want to determine how the schedules of one member correspond to those of other members. The effect of the presence of children on the work schedules and workweek preferences of the parents might also be explored further. And a construction of a bridge between the data on work schedules and preferences of workers and those on family income might also be undertaken. These are complex and time-consuming undertakings, but with potentially large payoffs in the form of further insights into the day-to-day work lives of American men and women. ☐

FOOTNOTES

[1] The work experience data are published annually. For the most recent data, see Shirley J. Smith, "Work experience profile, 1984: the effects of recovery continue," *Monthly Labor Review*, February 1986, pp. 37–42.

[2] The data on when the persons outside the labor force have last worked are not currently published and may be subject to significant bias, particularly because of a phenomenon known as "telescoping." This relates to a possible tendency among survey respondents to report certain events as having occurred in the recent past, when, in fact, they had occurred earlier. To the extent that some of the persons who have been outside the labor force more than 1 year report that they left their last job in the most recent year, there would be an overestimation of the number exiting the labor force and, by inference, of those entering it over the year in question.

[3] While very revealing, the gross flow data are subject to serious statistical problems and may also overestimate the flows into and out of the labor force. See Paul O. Flaim and Carma R. Hogue, "Measuring labor force flows: a special conference examines the problems," *Monthly Labor Review*, July 1985, pp. 7–17.

[4] See Ellen Sehgal, "Occupational mobility and job tenure in 1983," *Monthly Labor Review*, October 1984, pp. 18–24.

[5] Robert E. Hall, "The Importance of Life Jobs in the U.S. Economy," *American Economic Review*, September 1982.

[6] Shirley J. Smith, "Revised worklife tables reflect 1979–80 experience," *Monthly Labor Review*, August 1985, pp. 23–30.

The growing diversity of work schedules

While the 40-hour, 5-day workweek remains the schedule of choice for most employers and workers, a recent study shows evidence of the emergence of new forms of extended and compressed work schemes

SHIRLEY J. SMITH

During any given week, the composition of the active segment of the work force undergoes many changes. Each industry and occupation has its own cycle of activity and draws on a somewhat different labor pool. Most production occurs Monday through Friday (or Saturday), frequently with the aid of evening and night shifts on those days. However, some economic activities, such as continuous manufacturing processes, agriculture, transportation and communications, health and certain other services, and retail sales, extend beyond the Monday to Friday schedule. In fact, these activities predominate on Saturday and Sunday. Each demographic group establishes itself within this variable labor market according to the types of jobs its members can obtain and the work schedules they are able to accommodate in their personal lives.

This article, based on the May 1985 Current Population Survey (CPS) supplement, examines several of the work schemes adopted by U.S. workers on their principal jobs. The schedules discussed include the "standard workweek" (that is, 40 hours in 5 days); compressed and extended schedules; part-time, full-time, and long hours schemes; and variations in the number of days worked per week, and in the choice of specific days worked. Where possible, patterns observed in May 1985 are compared with those observed previously to judge the nature and pace of change. The CPS surveys of May 1973 and May 1979 are used in this comparison to minimize distortions due to business cycle fluctuations.

The 'standard workweek'

It has been estimated that at the turn of the century the average worker spent about 53 hours per week on the job.[1] The passage of the Fair Labor Standards Act of 1938 (FLSA) established a standard workweek of 40 hours' duration for nonsupervisory employees of firms engaged in interstate commerce.[2] Over the ensuing years, concern about workers' health led to many Federal and State statutes and union contracts which stipulated a second standard: the 8-hour day. Under these provisions, many persons were guaranteed overtime pay for hours worked in excess of this daily standard. The logical outgrowth of these regulations was a third implicit standard, the 5-day workweek.

Persons who were teenagers when the Fair Labor Standards Act was passed had reached retirement age by 1985. In their lifetimes, the coverage of the act has been extended to nearly 60 percent of all wage and salary workers,[3] and has become not only a matter of law, but a social norm. More than half of all nonfarm wage and salary workers and roughly two-thirds of those working full time report that they work exactly 40 hours per week, proportions which have changed little since the CPS began monitoring usual hours worked on principal jobs in 1973. (See table 1.)

Shirley J. Smith is a demographic statistician in the Division of Data Development and Users' Services, Office of Employment and Unemployment Analysis, Bureau of Labor Statistics.

Because the 40-hour week is so popular, both with employers and employees, most work schedule data are so strongly unimodal that it is difficult to recognize the changes which occur. Measures of central tendency such as means and medians are totally dominated by the standard schedule, and thus reveal little variation over time. Yet closer examination of the data will show that the work schedules of American workers have been changing, and are becoming increasingly diverse.

Catalysts in this redistribution include the stagnation of employment in manufacturing industries and the rapid growth of certain services and retail trade. Despite a 27-percent expansion in all wage and salary employment since May 1973, employment in manufacturing in May 1985—20.4 million—was no larger than it had been 12 years before. Not only was the number of manufacturing jobs more or less frozen, but the work schedules of those holding jobs had even contracted.

Some of this change is apparent in employers' reports of scheduled hours. The Bureau of Labor Statistics' Area Wage Surveys indicate that the average workweek for full-time day-shift plant workers decreased by 0.8 hours between 1973 and 1985. Over the same period, the schedule of full-time office workers in the private sector rose by 0.2 hours, with the result that the workweek of these two large groups converged markedly.[4] Whereas the average plant worker's 1973 workweek was scheduled to last 1.5 hours longer than that of his or her counterpart in the office, by 1985 the differential had narrowed to 0.5 hours.[5]

Despite the evident restructuring of plant schedules, CPS estimates of mean and median usual weekly hours for workers in all industries (38.4 and 40.4 respectively in 1985) have hardly changed since 1973. Similarly, the median length of a full-time workweek has remained nearly fixed at 40.6 hours. For full-time workers, the mean rose slightly from 42.4 to 42.6 between 1973 and 1985, suggesting a slight increase in the number of hours routinely worked. In fact, this increase was due to a decline in the number of full-time workers reporting 35- through 39-hour schedules, rather than a rise in the numbers working 41 hours or more.

Table 1. Prevalence of 40-hour, 5-day, and 40-hour/5-day workweeks among nonagricultural wage and salary workers, 1973, 1979, and 1985

Work schedule and year	Proportion of—					
	All nonagricultural workers			Full-time nonagricultural workers		
	Total	Men	Women	Total	Men	Women
40-hour week						
1973	55.3	(1)	(1)	66.1	(1)	(1)
1979	56.0	59.1	51.8	67.6	65.1	72.0
1985	53.7	56.8	50.1	66.2	63.6	70.1
5-day week						
1973	74.1	(1)	(1)	81.4	(1)	(1)
1979	75.4	75.4	75.4	83.5	79.4	90.4
1985	73.5	73.6	73.3	82.6	78.8	88.4
40-hour/5-day week						
1973	52.9	(1)	(1)	63.3	(1)	(1)
1979	53.3	56.1	49.6	64.4	61.7	69.0
1985	50.4	53.0	47.4	62.2	59.3	66.4

[1] Estimate not available.

NOTE: Estimates reflect data for wage and salary workers and the incorporated self-employed age 16 and over. Figures for May 1973 exclude private household workers.

The median is cited to underscore the tremendous stability of these estimates. Whatever changes have occurred in the tails of the distribution, well over half of employed Americans work the standard schedule, and the remainder continue to be evenly spaced above and below that figure. It requires a fairly visible restructuring of the hours distribution to relocate the median. For this reason, the increase in median hours per week reported by part-time workers (from 20.2 in 1973 to 23.0 in 1985) is noteworthy.

Evidence of the increased diversity of work schedules can be seen in the following distributions for nonfarm wage and salary workers (including the incorporated self-employed):

	1973	*1985*	*Change, 1973–85*
Median usual hours	40.5	40.4	−.1
Mean usual hours	38.6	38.4	−.2
Total nonfarm wage and salary workers (in thousands)[6]	69,971	94,879	24,908
Percent	100.0	100.0	–
1–24 hours	11.7	12.3	.6
25–29 hours	1.8	2.3	.5
30–34 hours	2.9	4.1	1.2
35–39 hours	7.5	7.4	−.1
40 hours	55.2	53.8	−1.4
41–48 hours	10.2	8.3	−1.9
49 or more hours	10.7	11.7	1.0

During intervening recessionary periods (1974–75 and 1980), May supplements showed the hours distribution to be shifted temporarily downward. A drop in overtime opportunities led to a temporary resurgence of the 40-hour scheme. However, a comparison of schedules during these periods of relative prosperity reveals that both part-time and the very extended hours schedules have gained proportionately to the more conventional schemes.[7]

It is no surprise that two separate trends were in evidence among those working long hours. The class working 41 to 48 hours, which is dominated by precision production, craft, and repair workers and operators, fabricators, and laborers—the "blue-collar" occupations most affected by the decline in manufacturing—registered relative contraction over the study period. Meanwhile, the group working 49 hours or more, in which "white-collar" occupations such as managers and persons in professional, technical, sales, and administrative support positions outnumber the "blue-collar" group, registered a slight gain.

Usual days per week

The 5-day workweek is even more prevalent than is the 40-hour week. In 1985, nearly three-quarters of the work force, and more than four-fifths of those employed full time reported schedules of 5 working days. (See table 1.) Both mean (4.9) and median (5.5) usual days per week have remained nearly constant since 1973.

Even so, the distribution of total workers by usual days of work corroborates the impression that schedules have become more diverse:

	1973	*1985*	*Change, 1973–85*
Total nonfarm wage and salary workers (in thousands)[6] . .	69,971	94,879	24,908
Percent	100.0	100.0	—
1–3 days	6.5	7.8	1.3
4 or fewer days	9.8	13.0	3.2
4.5 or fewer days	10.3	13.9	3.6
5 days	74.1	73.6	–.5
5.5 or more days	15.5	12.5	3.0
6 or more days	11.5	9.7	–1.8
7 days	1.7	2.2	.5

Observations made during recessions show the 5-day week to be particularly prevalent in unstable times. Yet, over the 12 years shown, both compressed and very extended workweeks made gains at the expense of the 5- to 6-day week.

Table 2. Standardized percent change in the incidence of various weekly work schedules, May 1973 to May 1985

Usual hours worked per week	Usual days worked per week: Total	1-3 days	4-4.5 days	5 days	More than 5 days
Total, 16 years and over[1]	0	28	80	1	–27
Part-time					
Total	19	19	47	6	20
1 to 29 hours	10	16	42	–9	6
30 to 34 hours	59	9	58	54	58
Standard hours					
Total	–3	(2)	133	–6	12
35 to 39 hours	–1	(2)	76	–10	27
40 hours	–4	(2)	169	–6	8
Extended hours					
Total	–5	209	219	33	–39
41 to 48 hours	–24	(2)	185	20	–72
49 or more hours	13	(2)	282	48	–14

[1] The number of nonagricultural wage and salary workers reporting work schedules rose by 35.6 percent between May 1973 and May 1985. This figure has been subtracted from the observed growth rate for each cell so that negligible values signify growth in pace with the total, negative values a lag, and positive values relative expansion.

[2] Cell frequency is too small to warrant this computation.

NOTE: Estimates are for wage and salary workers and the incorporated self-employed age 16 and over. Figures for May 1973 exclude private household workers.

Emergence of alternate schedules

The heavy clustering of reported schedules in standard patterns obscures our view of the unconventional schedules which have been gaining popularity in the workplace. One way to identify them is to determine which patterns have registered the highest rates of growth in recent years. Between May 1973 and May 1985, the number of nonfarm wage and salary workers for whom work schedules were tabulated rose by 36 percent. We have estimated the corresponding growth rates within various work schedule groupings, and from each subtracted this average rate of growth. The resulting figures (table 2) illustrate which schemes have gained in popularity (positive values) and which have lost (negative entries).

Several interesting patterns emerge from this computation. The growth of employment in the more conventional schemes has indeed been more sluggish than that in other schedules. For instance, the number of persons on a 40-hour/5-day week has lagged overall growth by 6 percentage points. Two other 5-day schemes (1- through 29-hour and 35- through 39-hour workweeks) have lagged even further behind.

Both the extended days and extended hours schemes registered net declines during this period, almost entirely due to the drop in the 41- through 48-hour/extended-week scheme. Between May 1973 and May 1985, the absolute number of workers registering this schedule dropped by more than a third.

Although this was a profound setback to the extended workweek (5½ days or more), lengthy workweeks appear to have gained some momentum among persons working 40 hours or less. The growing dispersion of work hours for these individuals probably reflects the expansion of weekend employment in retail sales and services, both of which draw from pools of supplemental part-time help.

Among alternate schedules, the most familiar form is generally the "compressed workweek," normally defined as 40 hours' work completed in 4 to 4½ days. Employment in such schemes grew about 4.5 times as fast as did total employment during the 12 years preceding May 1985. But other forms of compression were also in evidence. For instance, those working long workweeks (41 hours or more) appeared increasingly likely to compress them into a span of 5 days—or even less—thereby reserving a block of time for other activities. There was even some evidence of a growth in "compressed part time," whereby persons working 30 to 34 hours did so in 3 days or less.

The small representation of most of these groups in the work force means that even rapid growth of these cells can have little impact on aggregate measures. It would probably take many years of accelerated growth for these schemes to become popular alternatives to those with which we are most familiar. Certain less dramatic changes (such as the rise in the 5-day/41-or-more-hour week—another "compressed long hours" scheme) are more easily spotted because they affect larger segments of today's work force.

When the interval is broken into phases before and after May 1979, similar computations show that three schedule groups have lagged throughout the full interval. In addition to the declining 41- through 48-hour extended week (5½ or more days) scheme, the two 5-day schemes mentioned earlier (light part time of 1 to 29 hours and light full time of 35 to 39 hours) have experienced contraction.

The incidence of the 40-hour/5-day workweek actually kept pace with overall employment growth until 1979. The fact that it has not done so since that time is somewhat surprising, given the occurrence of two serious recessions in the early 1980's. The temporary effects of each must have been to force many overtime workers into this standard full-time pattern.

Since 1979, only one form of lengthy workweek has registered comparative gains: employment lasting 49 hours or more per week. Most of the gains noted have involved workers compressing these long hours into 5 or fewer days.

The conventional "compressed workweek" (full-time work completed in under 5 days) has been growing at an accelerated rate. While overall employment growth between 1979 and 1985 was 16 percent, this scheme grew more than four times as rapidly. The incidence of "dispersed" schedules, whereby relatively few hours of work occupy 5½ or more days per week, seems to have evolved since 1979.

Differences by sex

Labor analysts often discuss the convergence between male and female work patterns. Table 3, based on changes between May 1979 and May 1985, shows how this convergence is taking place. Standardized rates for men and women are juxtaposed to highlight similarities and contrasts.

The decline of the extended (more than 5-day) week is largely a male phenomenon. With the exception of the 41- through 48-hour variant, which has contracted for both sexes, there has been a growing concentration of women in extended workweek schemes.

The net drop in 41- through 48-hour schedules also has occurred largely among men. Although women, too, have been affected by the contraction of the 41- through 48-hour/5-day scheme, they seem to have more than offset its effects by compressing 41- through 48-hour schedules into 5 working days. Indeed, women appear to be pressing into long hour schemes, while men—who traditionally dominated those schemes—increasingly find themselves working compact and compressed schedules. It is difficult to determine how much of this shift has been voluntary, and how much the result of the changes in labor demand.

Both sexes report a declining concentration within standard schedules, and an increased likelihood of working 40 hours within 4 to 4½ days. Women seem to be moving up from light (1- through 29-hour) to more intense (30- through 34-hour) part-time schedules, and from light (35- through 39-hour) to more intense (41 or more hours) full-time schemes. At the same time, men are increasingly represented within the lighter hours schedules. There has been surprising growth in the number of men reporting part-time and light full-time schedules. The movement away from standard and extended workweeks to a compressed (4- through 4½-day) schedule is heavily dominated by men. Even for persons working long hours, this change effectively lightens the workweek by holding a block of time free for other activities. Men also seem largely responsible for the emergence of the "compressed part-time" schedule, perhaps because of growth in the number of protective service jobs.

Mean hours per day

With more than half of all wage and salary workers and more than 60 percent of those working full time still reporting a 40-hour/5-day schedule, it is no surprise that the average workday is approximately 8 hours in length. However, as workers begin to compress their hours into fewer days, this variable should begin to show those effects. This change is most evident among part-time workers, where the length of the average workday has increased by a full hour (from 4.2 to 5.2 hours) since 1973.

In addition to compression, some of the change is attributable to distributional factors. The work force (including the part-time component) aged over the study period,

Table 3. Standardized percent change in the incidence of various weekly work schedules, by sex, May 1979 to May 1985

Usual hours worked per week	Usual days worked per week				
	Total	1-3 days	4-4.5 days	5 days	More than 5 days
Total					
Total[1]	0	10	36	−1	−3
Men[2]	0	29	62	−2	−7
Women[3]	0	−4	16	−3	27
Part-time					
1 to 29 hours:					
Total	5	3	14	−4	59
Men	10	14	23	−11	39
Women	−2	−7	4	−6	82
30 to 34 hours:					
Total	19	51	19	8	34
Men	27	109	25	15	36
Women	10	20	10	0	82
Standard hours					
35 to 39 hours:					
Total	3	(4)	39	−4	48
Men	20	(4)	80	6	107
Women	−10	(4)	14	−14	16
40 hours:					
Total	−4	(4)	67	−6	1
Men	−4	(4)	81	−6	−4
Women	−4	(4)	46	−5	15
Extended hours					
41 to 48 hours:					
Total	−5	(4)	121	10	−35
Men	−10	(4)	85	3	−34
Women	26	(4)	(4)	43	−19
49 or more hours:					
Total	12	59	181	22	0
Men	10	53	178	21	−1
Women	51	(4)	(4)	47	47

[1] Overall growth rate for the period May 1979 to May 1985 was 16.0 percent. This figure has been subtracted from the observed growth rate for each 1979–85 cell of the table to derive the standardized values shown. Thus, for example, the growth of schemes involving 40 hours of work in 4 to 4.5 days was about five times that of all nonagricultural wage and salary employment.

[2] Overall growth of male nonfarm payroll employment from May 1979 to May 1985 was 10.3 percent. This figure has been subtracted from the growth rate of male employment in each work schedule to derive the standardized values shown.

[3] Overall growth of female nonfarm payroll employment from May 1979 to May 1985 was 23.5 percent. This figure has been subtracted from the growth rate of female employment in each work schedule to derive the standardized values shown.

[4] Cell frequency is too small to justify computation.

with its members becoming more committed to labor force involvement. The strengthening of the labor force attachment of women also contributed to this upward movement.

Variations by class of worker

The category of workers we have been discussing to this point, denoted "wage and salary workers," includes those who are nominal employees of corporations which they own. While this classification is consistent with other data series published by the Bureau, it hinders the analysis of the work practices of persons who truly work for someone else as distinguished from those who work for themselves, even if their firms are incorporated and they are on the payroll. Whether or not the business is incorporated, its owner faces a different set of risks and responsibilities than does the typical wage and salary worker. Work schedules reflect this difference. For instance, although wage and salary workers average just 38 hours of work per week, the unincorporated self-employed report an average of about 43 hours, and the incorporated, more than 48. Wage and salary workers claim to work an average of 4.8 days per week, as compared with 5.2 for each of the self-employed groups (which are treated jointly below). Unpaid family workers helping in family businesses often maintain even more erratic schedules tied to periods of peak need. Table 4 illustrates differences between the average work schedules of these groups of workers by sex.

In the past, work schedule reports have devoted little attention to the self-employed and their unpaid family workers. It is relatively difficult for these individuals to summarize their "usual" work patterns by answering a few simple questions. Recognizing that the estimates for these groups may be less robust than for wage and salary workers, we still regard them as important enough to discuss. Each class of worker maintains its own "niche" in the total employment picture. The industries within which entrepreneurs find it easiest to become established (including agriculture, retail trade, and certain services) by their very nature demand long hours and extended workweeks. Certain types of businesses are largely or predominantly self-employed operations. Certain groups of workers (for example, white men) are particularly likely to open their own family businesses. Recognition of these patterns helps to explain why work schedules of these groups differ so dramatically from the norm.

It should be noted that men are twice as likely as women to report self-employment (with the associated longer hours and workweeks). White men are almost three times as likely as blacks to do so. Women are four times as likely as men to supply unpaid family services, but in the aggregate, women are also more likely to be employed for a wage or salary.

Men who are self-employed average more days and many more hours of work per week than do their counterparts who are wage and salary workers. For women, the difference is much less pronounced. Overall, the self-employed are four times as likely as wage and salary workers to average 6 or more days of work per week. The evidence suggests that—at least for men—they also work more hours per day.

Table 4. Incidence of selected work schedules, by class of worker and sex, May 1985

Work schedules and sex	Class of worker			
	Total employed	Wage and salary^1	Self-employed^2	Unpaid family workers
Total, 16 years and over (in thousands)	106,878	94,280	12,107	491
Percent of total employed	100.0	88.2	11.3	.5
Average hours per week	38.7	38.0	44.2	35.4
Full-time	43.3	42.3	51.0	48.7
Part-time	19.7	19.8	18.8	21.3
Average days per week	4.9	4.8	5.2	5.5
Full-time	5.1	5.1	5.1	(3)
Part-time	3.9	3.8	4.1	5.1
Average hours per day	7.9	7.8	^{4}8.4	(4)
Proportion working:				
Weekends	29.3	26.1	53.5	52.3
6 to 7 days	12.6	9.3	36.2	48.8
Men, 16 years and over (in thousands)	60,015	51,106	8,802	106
Percent of employed men	100.0	85.2	14.7	.2
Average hours per week	41.6	40.6	47.2	36.6
Full-time	44.6	43.4	51.7	51.6
Part-time	19.1	19.1	19.1	22.8
Average days per week	5.0	5.0	5.4	6.0
Full-time	5.2	5.1	5.1	(3)
Average hours per day	8.3	8.2	^{4}8.8	(4)
Proportion working:				
Weekends	32.2	27.9	56.7	74.5
6 to 7 days	16.1	11.8	39.6	75.6
Women, 16 years and over (in thousands)	46,864	43,173	3,305	385
Percent of employed women	100.0	92.1	7.1	.8
Average hours per week	35.0	34.9	36.0	35.1
Full-time	41.3	40.8	48.2	47.9
Part-time	20.0	20.2	18.5	20.8
Average days per week	4.7	4.7	4.9	5.3
Full-time	5.1	5.1	5.1	(3)
Average hours per day	7.4	7.4	^{4}7.1	(4)
Proportion working:				
Weekends	25.6	23.9	44.8	46.5
6 to 7 days	8.0	6.2	37.2	41.4

[1] Excludes the incorporated self-employed.
[2] Includes both incorporated and unincorporated self-employed.
[3] Not available.
[4] Data are available only for the self-employed and unpaid family workers combined.

Who works weekends?

The class-of-worker variable is particularly relevant to the discussion of specific days of work. The level and character of economic activity is quite different on weekends than during the week. It is even different on Sunday than on Saturday. During the week, about 20 percent of all workers hold primary jobs in manufacturing, and another 20 percent work in professional service jobs. On weekends, these industries account for about 10 percent and 14 percent of all primary jobs, respectively. Retail sales workers, who represent only about 17 percent of the weekday work force, account for more than 34 percent of the population active in their main job on weekends.

The self-employed (whether incorporated or not), and the unpaid working members of their families, often operate businesses which serve active weekend markets. They also bear a greater responsibility for the continued operation of their businesses than do individual wage and salary workers, and their risks associated with taking time off are necessarily greater. Consequently, whereas fewer than 1 in 10 wage and salary workers maintain an extended (6- or 7-day) workweek, this is the usual schedule reported by more than 1 of every 3 self-employed persons and nearly half of all unpaid family workers.

Table 5 is a "snapshot" of the characteristics of persons who usually report to their primary job on various days of the week. (The categories are not mutually exclusive: some who work Monday to Friday are also included in weekend distributions, and so forth.) As the largest segment of the work force, wage and salary workers dominate each of the groups detailed in the table. However, their share drops from 88 percent during the week to 77 percent on Saturday and to 58 percent among those who work continuously.

On Saturday, the number of persons working at their primary job contracts to 28.9 million, about a quarter (27 percent) of its weekday size. Because fewer than 1 percent of those who work do so exclusively on weekends, the composition of weekend employment tells us as much about who has taken a break as about who is reporting to work. On Saturday, the percentage of overall employment accounted for by prime-aged men holds steady. That of prime-aged women drops sharply, but the proportionate decline is offset by greater work effort among teens, young adults, and men age 65 and over. On Saturday, the representation of the self-employed and unpaid family workers is roughly twice what it is during the week. Of the wage and salary workers who report to work, a disproportionate share hold part-time jobs.

Table 5. Employed persons who usually work on specific days of the week, by selected characteristics, May 1985
[In percent]

Worker characteristic	Total	Persons who usually work— Monday to Friday	Saturday	Sunday	7 days per week
Total, 16 years and over (in thousands)[1]	106,878	106,343	28,949	13,246	4,866
Sex and age					
Total	100.0	100.0	100.0	100.0	100.0
16 to 24	18.9	18.6	26.3	29.7	16.3
25 to 54	67.7	67.9	60.9	57.7	65.1
55 to 64	10.8	10.8	9.7	9.3	13.1
65 or more years	2.6	2.6	3.1	3.3	5.5
Men	56.2	56.2	62.3	58.5	69.9
16 to 24	10.0	9.9	14.4	15.6	10.8
25 to 64	44.5	44.7	45.8	40.5	54.6
65 or more years	1.6	1.6	2.1	2.4	4.5
Women	43.8	43.8	37.7	41.5	30.1
16 to 24	8.8	8.7	12.0	14.1	5.5
25 to 64	34.0	34.1	24.8	26.5	23.6
65 or more years	1.0	1.0	1.0	.9	1.0
Class and work status					
Total	100.0	100.0	100.0	100.0	100.0
Full-time	80.4	80.7	74.6	69.7	83.8
Part-time	19.6	19.3	25.4	30.3	16.2
Wage and salary workers[2]	88.2	88.2	77.2	81.7	58.0
Full-time	71.2	71.5	55.3	54.6	47.3
Part-time	17.0	16.6	22.0	27.2	10.7
Self-employed workers[3]	11.3	11.4	21.9	17.4	39.8
Full-time	8.9	9.0	18.8	14.6	35.0
Part-time	2.4	2.4	3.1	2.8	4.8
Unpaid family workers	.5	.4	.9	.9	2.2
Full-time	.2	.2	.5	.6	1.5
Part-time	.2	.2	.4	.3	.7
Race and Hispanic origin[4]					
Total	100.0	100.0	100.0	100.0	100.0
White	87.5	87.5	89.1	89.0	91.4
Black	9.7	9.8	8.1	8.3	6.2
Hispanic origin	6.1	6.1	5.7	5.6	4.9

[1] Data are not additive, as persons working on any or all weekdays may also work on weekends.

[2] Excludes the incorporated self-employed.

[3] Includes both the incorporated and the unincorporated self-employed.

[4] Detail will not add to 100 percent because Hispanics are included in both the white and black populations and because data for the "other races" group are not presented.

The primary work force contracts still further on Sunday, to 13.2 million—about an eighth of its weekday size. This is the day when prime-aged men are most likely to be taking a break from their main job. (We have no way of judging what share devote the day to secondary employment.) The group normally reporting to their main job on Sunday includes still larger shares of teens and young adults, more older men, and proportionately more prime-aged women. Although there is a slight drop in the activity of the self-employed (largely men), unpaid family workers (largely women, teens, and young adults) continue to be relatively active.

Of those who normally work at the same job 7 days per week, more than half are prime-aged men; 3 of 10 are women; and 4 of 10 are self-employed. Sixteen percent maintain extended part-time ("dispersed") schedules, mostly as wage and salary employees. The representation of blacks and Hispanics, which drops on weekends, is particularly low among those working 7-day weeks. Undoubtedly, one reason is the lower probability that they own or operate family businesses.

Work schedules by industry and occupation

We have already noted that the industrial composition of the work force varies during the week, and that the timing of labor demands within each industry affects the labor pool upon which it may draw. Table 6 summarizes, for major industries and occupational groupings, several of the work schedule features previously mentioned. Each category reflects a differing level of labor demand, both with regard to total hours and to scheduling within the week. For illustrative purposes, the groups have been ranked according to the mean number of hours their employees report working each week.

The association between hours requirements, days of work, and female participation in the industry or occupation is fairly strong. The more time the activity involves, the less attraction it seems to hold for women. Although the relationship to weekend work is less pronounced, a similar pattern is evident there as well.

Multiple jobholding

A separate discussion of multiple jobholding appears elsewhere in this issue, but it is worth taking a brief look at the effect of this practice on aggregate estimates of time spent at work.

The information in this article relates to the worker's primary job. For the small group of workers (5.4 percent) who held two or more jobs in the May 1985 reference week, the total hours and days reported will understate the actual amount of time spent at work. Because dual jobholding can be a functional equivalent to working long hours on a single job, there are many applications in which we might like to see the data tabulated for all jobs combined. A reestimation on this basis increases the share of the work force shown to be working more than 40 hours, and reduces the share working 40 hours or less. Overall, it expands the share working more than 40 hours by 12.3 percent, with still greater impact on the estimates for women (19.7 percent), blacks (17.0 percent), and men and women ages 16 to 24 (14.7 percent and 28.5 percent respectively).[8]

DESPITE THE FACT that the majority of workers still report maintaining a 40-hour/5-day workweek, there is evidence that this scheme has been declining in popularity. Employment in such schedules has lagged behind total employment growth since 1979. Throughout the 1973–85 period, long-hour/long-day schemes have been contracting, both for men and for women.

In their place, three other schemes are emerging. Both sexes have demonstrated increased readiness to work a simple compressed workweek, wherein 40 hours of work are completed in under 5 days. Those working more than 40 hours per week appear to be working more compact schedules within the confines of a 5-day week (or less), holding two or more days free for other activities. Among those working 40 hours or less, some appear to be adopting "work spreading" schemes, which distribute their hours over $5\frac{1}{2}$ or more days per week. The result is a diversification of schedules which has occurred without much corresponding change in the mean or median estimates of usual hours or days worked per week.

In the aggregate, men continue to work more hours per week, more hours per day, and more days per week than do women, and they are also more likely to work on weekends. Elements of the standard workweek thus continue to dominate overall work schedule distributions. Nonetheless, the growth of the female work force has been most rapid in long hours schedules and those involving $5\frac{1}{2}$ or more days per week, while the expansion of the male labor force has occurred primarily in shorter, more compact schedule groupings. □

FOOTNOTES

[1] For a discussion of past trends, see Janice Neipert Hedges and Daniel E. Taylor, "Recent trends in worktime: hours edge downward," *Monthly Labor Review*, March 1980, p. 4.

[2] The Fair Labor Standards Act became effective in 1940.

[3] See Employment Standards Administration, *Minimum Wage and Maximum Hours: Standards Under the Fair Labor Standards Act—1984 Report* (U.S. Department of Labor, 1984).

[4] These data exclude workers in contract construction; all governmental establishments and government-owned and operated businesses (such as water utilities, transit authorities, and so forth); medical and educational services; and administrative, executive, professional, and part-time employees. Also excluded are persons who are self-employed, or who work anything other than the day shift. See *Area Wage Surveys: Metropolitan Areas, United States and Regional Summaries, 1973–1974* and *1985* (Bureau of Labor Statistics).

[5] The May 1985 supplement to the Current Population Survey (CPS) requested information on usual rather than scheduled hours. As such, it picks up the added effects of routine overtime and uncompensated long hours. In addition, the CPS information has been collected from household respondents, rather than employers' records as in the Area Wage Survey. Results of the two surveys are not directly comparable, but should normally reinforce one another's findings.

[6] Figures for 1973 exclude private household workers, and those not reporting work schedules. Figures for 1985 have been adjusted to distribute nonresponse.

[7] If private household workers had been included in distributions for both years, it is likely that the drop of the 40-hour week and the rise of the 49-or-more-hour week would both have been somewhat less pronounced.

[8] There may still be some omissions, because no hours details were collected for tertiary jobs.

Shift work and flexitime: how prevalent are they?

New data reveal that shift work and flexitime are not widespread; only 1 of 10 full-time wage and salary workers is on an evening or night shift, and only 1 of 8 has a flexible schedule

EARL F. MELLOR

Although the needs of society require a diversity of work schedules, most Americans have traditional morning to late-afternoon hours. The great majority of full-time wage and salary earners begin work between 7 and 9 in the morning. The proportion who work in the evening or at night, or who are on flexible schedules, is rather small. In contrast, almost half of all part-time employees work schedules other than regular day shifts, and nearly one-fifth have some type of flexible scheduling. The incidence of shift work and flexitime varies by sex, race, age, and other characteristics, but differences are more apparent by occupation and industry.

These patterns are revealed in newly available data from the Current Population Survey (CPS), which asked questions on beginning and ending hours of work, shift work, and the availability of flexitime, to name a few. The information relates to people who were at work during the week of May 12–18, 1985, and was collected in a special supplement to the May 1985 CPS.[1]

Workday, from start to finish

Nearly 8 of 10 full-time wage and salary workers began their workdays between 7 and 9 a.m. during the survey reference week, with 8 a.m., by far, the most reported time. (See table 1.) With so many workers starting at these hours, it is not surprising that the most frequent quitting times were between 4 and 6 p.m., with 5 p.m. leading. Thus, traditional daytime shifts predominate, with 8-to-5, 7-to-4, 8-to-4, and 9-to-5 schedules being the most popular. Of the top 10 work schedules (of a possible 576) only one—the tenth ranked 3-to-11 p.m. shift—included a substantial number of hours outside the normal daylight span. (The times actually reported are rounded to the nearest hour when they are entered on the CPS questionnaire. For example, 8 a.m. refers to any reported time between 7:30 and 8:29. See appendix for further details.)

For part-time workers, 7 to 9 a.m. were the most frequently reported starting times, accounting for 45 percent of the total. The most popular quitting times were in the 3-to-5 p.m. span. As was the case for full-time workers, part-timers most often reported an 8 a.m. to 5 p.m. work day—but these hours accounted for only 4 percent of the part-time schedules. Part-time jobs—in terms of starting time, quitting time, and the overall schedule—were far less concentrated within the top 10 rankings. Whereas the top 10 schedules were reported by 71 percent of all full-time workers, they fit the pattern for only 29 percent of part-time workers.

Shift work

There are two ways to determine a worker's shift. One is based on the time the person begins and ends the workday;[2] the other is based on responses to a question regarding which shift persons considered themselves to usually work. The former method permits a precise definition (for example, a day shift is one in which half or more hours worked are between 8:00 a.m. and 4:00 p.m.), and thus a shift work definition can be tailored to the user's particular needs.

Earl F. Mellor is an economist in the Division of Employment and Unemployment Analysis, Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

Table 1. Most prevalent beginning and ending hours of work and overall schedules of wage and salary workers, by usual full- and part-time status, May 1985

[Numbers in thousands]

Rank	Beginning time			Ending time			Overall daily schedule		
	Time	Number of workers	Percent of all workers	Time	Number of workers	Percent of all workers	Schedule	Number of workers	Percent of all workers
Full-time workers									
1	8 a.m.	29,116	39.7	5 p.m.	25,807	35.2	8 a.m. to 5 p.m.	16,025	21.8
2	7 a.m.	17,532	23.9	4 p.m.	16,750	22.8	7 a.m. to 4 p.m.	7,947	10.8
3	9 a.m.	11,004	15.0	6 p.m.	8,440	11.5	8 a.m. to 4 p.m.	7,256	9.9
4	6 a.m.	3,864	5.3	3 p.m.	6,645	9.1	9 a.m. to 5 p.m.	6,172	8.4
5	3 p.m.	2,043	2.8	7 p.m.	2,896	3.9	7 a.m. to 3 p.m.	4,087	5.6
6	10 a.m.	1,597	2.2	12 midnight	1,927	2.6	8 a.m. to 6 p.m.	2,902	4.0
7	4 p.m.	1,526	2.1	11 p.m.	1,816	2.5	9 a.m. to 6 p.m.	2,726	3.7
8	11 p.m.	1,110	1.5	8 p.m.	1,355	1.8	7 a.m. to 5 p.m.	2,585	3.5
9	5 a.m.	814	1.1	2 p.m.	1,256	1.7	7 a.m. to 6 p.m.	1,477	2.0
10	12 midnight	634	.9	7 a.m.	1,142	1.6	3 p.m. to 11 p.m.	1,238	1.7
Part-time workers									
1	9 a.m.	3,179	18.2	5 p.m.	2,481	14.2	8 a.m. to 5 p.m.	703	4.0
2	8 a.m.	3,111	17.8	4 p.m.	2,192	12.5	9 a.m. to 5 p.m.	651	3.7
3	7 a.m.	1,605	9.2	3 p.m.	1,962	11.2	9 a.m. to 3 p.m.	602	3.4
4	10 a.m.	1,517	8.7	2 p.m.	1,490	8.5	8 a.m. to 4 p.m.	550	3.1
5	4 p.m.	1,328	7.6	6 a.m.	1,311	7.5	7 a.m. to 4 p.m.	494	2.8
6	5 p.m.	1,318	7.5	9 p.m.	1,238	7.1	5 p.m. to 9 p.m.	449	2.6
7	3 p.m.	993	5.7	10 p.m.	1,106	6.3	9 a.m. to 4 p.m.	421	2.4
8	11 a.m.	782	4.5	1 p.m.	979	5.6	8 a.m. to 3 p.m.	409	2.3
9	12 noon	637	3.6	12 noon	967	5.5	8 a.m. to 12 noon	405	2.3
10	1 p.m.	605	3.5	8 p.m.	767	4.4	8 a.m. to 2 p.m.[1]	398	2.3

[1] There were also 398,000 workers on a 9 a.m. to 2 p.m. schedule.

NOTE: Data refer to wage and salary workers, excluding the incorporated self-employed, who were at work during the reference week. Times refer to beginning and ending hours most days of the week and are rounded to the nearest whole hour.

However, this makes no allowance for split or rotating shifts. The latter method allows the respondents to say what they consider is the shift usually worked. This concept permits the incorporation of split and rotating shifts as well as reduces the reporting of deviations from the usual work schedule which may have occurred in a given week. It is the self-identified notion of shift which is the focus of the analysis in this article.[3]

Generally speaking, shift work is a great advantage to employers who need to match production with demand, accommodate the nature of certain production processes, and reduce the cost of capital per employee. However, except for those who cannot work at a regular daytime job (for instance, students) and those who prefer evening or night hours, shift work often does not benefit workers or their families. In fact, the effects of shift work—particularly night and rotating shifts—can be quite disruptive, with such consequences as sleeping, digestive, and nervous disorders and interference with family relationships.[4]

Of the 73.4 million full-time wage and salary workers who were at work during the survey reference week, 61.7 million, or 84 percent, described their usual work period as a "regular daytime schedule." Of the remaining 11.6 million —called "shift workers"[5]—most worked an evening shift (4.6 million), followed by rotating (3.1 million), night (2.0 million), and split shifts (about 540,000). A substantial number (1.4 million) worked some other schedule; presumably, this would include daytime workers who felt their schedules were not "regular," and may include some on flexitime who vary their beginning and ending times.

Men were more likely than women to be shift workers. This was the case also in each age group, except for teenagers. (See table 2.) More than one-quarter of the teens who worked full time were not on a regular daytime schedule. Among adult men, the incidence of shift work decreased with age, reaching 15 percent for the 45 and over age groups. For adult women, the incidence fell with age to 11 percent for 35- to 44-year-olds, and then rose slightly in the upper ages, reaching 13 percent for those 65 and older. The evening shift accounted for one-third to one-half of all shift workers, except men age 65 and over.

Blacks were more likely than whites or Hispanics to be shift workers. Hispanic men were as likely as white men, but considerably less likely than black men, to work other than a regular daytime schedule. Hispanic women, however, were less likely than both white and black women to be shift workers. Married (spouse present) persons had much smaller proportions working shifts than either singles or those of other marital status. Given that single workers are usually younger than married workers, the higher incidence is probably the result of age differences. Younger workers have less seniority on the job—hence, less choice in shift selection. In addition, youths tend to be in the types of jobs that are more likely to require shift work. Another consideration is that married workers may be less willing to work other than day schedules.

Among occupational and industry groups, shift work is associated with skill and product demands which cannot be satisfied by daytime schedules alone. These include businesses whose customers wish to shop until 9 or 10 at night, or even around the clock; the need for police and fire protection and health care 24 hours a day; and the overnight delivery of goods. On the supply side, some production processes requires continuous operation, as it would be too costly to shut down each evening and restart each morning. In other cases, high capital costs necessitate around-the-clock utilization.

The incidence of shift work was 10 percent or less among full-time workers in managerial and professional jobs; administrative support, including clerical jobs; and farming, forestry, and fishing occupations. However, within some of these occupations, there were groups with an incidence of shift work of 20 percent or higher—for example, health diagnosing, assessment, and treating occupations among professional workers, and mail and message distributing workers within the administrative support category. (See table 3.) Protective service workers (61 percent) were most likely to work shifts (in fact, 22 percent worked rotating shifts), followed by workers in food (43 percent) and health services (36 percent). Other occupational groups traditionally associated with shift work—the operators, fabricators, and laborers group, and salesworkers in retail trade and personal services—had about one-quarter on shift work.

For most occupations, the evening shift was the most frequent departure from a regular day schedule. The exceptions were health professionals, retail and personal salesworkers, protective service workers, and motor vehicle operators, who reported rotating shifts more frequently than evening shifts. Night shifts were the least common, accounting for about 3 percent of all full-time workers. But, the incidence of night shifts was well above average for some in the groups noted for the likelihood of rotating shifts.

Shift work was more prevalent in the private sector (16.5 percent) than the public sector (12.8 percent). Among goods-producing industries in the private sector, shift work was highest in mining and lowest in construction. (See table 3.) In manufacturing, it was most frequent in areas requiring continuous production (because startup and shutdown costs are high), such as primary metals, automobiles, paper products, chemicals, and rubber and plastics. In the service-producing sector, shift work was most often reported in transportation, retail trade (particularly in eating and drinking places), personal services, entertainment and recreation, and hospitals—all activities for which product demand goes

Table 2. Shift usually worked by full-time wage and salary workers, by selected characteristics, May 1985

[Percent distribution]

Characteristic	Total employed (in thousands)	Regular daytime schedule	Shift workers					
			Total	Evening shift	Night shift	Rotating shift	Split shift	Other shift
Total, 16 years and over	73,395	84.1	15.9	6.3	2.7	4.3	0.7	1.9
Age								
Men, 16 years and over	43,779	82.2	17.8	6.8	3.0	4.9	.8	2.3
16 to 19	1,139	72.6	27.4	11.8	4.7	7.0	1.6	2.3
20 to 24	5,567	80.0	20.0	8.5	3.5	5.0	.9	2.1
25 to 34	14,281	80.0	20.0	7.8	3.3	5.6	.8	2.5
35 to 44	10,630	83.6	16.4	5.7	2.7	5.0	.7	2.3
45 to 54	7,094	85.4	14.6	5.3	2.7	3.9	.5	2.2
55 to 64	4,594	85.5	14.5	5.6	2.1	3.8	1.0	2.0
65 and over	474	85.4	14.6	2.8	2.5	4.0	1.0	4.5
Women, 16 years and over	29,616	87.0	13.0	5.5	2.3	3.3	.6	1.2
16 to 19	777	71.1	28.9	12.8	4.0	9.4	.6	2.1
20 to 24	4,346	84.0	16.0	6.7	2.0	5.1	.9	1.3
25 to 34	9,510	87.5	12.5	5.3	2.2	3.3	.6	1.0
35 to 44	7,080	88.9	11.1	4.8	2.3	2.2	.4	1.3
45 to 54	4,753	88.4	11.6	4.6	2.2	2.8	.8	1.2
55 to 64	2,838	87.3	12.7	5.3	2.6	3.2	.6	1.0
65 and over	311	85.8	14.2	7.3	3.8	–	.9	2.3
Race and Hispanic origin								
White	63,523	84.7	15.3	5.8	2.6	4.3	.7	1.9
Men	38,588	82.7	17.3	6.3	2.9	5.0	.8	2.3
Women	24,935	87.7	12.3	5.0	2.1	3.3	.6	1.2
Black	7,847	80.1	19.9	9.8	3.5	4.3	.7	1.7
Men	4,054	77.4	22.6	10.6	3.7	5.3	.7	2.3
Women	3,793	83.0	17.0	8.9	3.2	3.2	.7	1.1
Hispanic origin	4,911	84.6	15.4	7.1	2.5	3.3	1.0	1.6
Men	3,184	82.3	17.7	7.7	2.8	4.0	1.2	1.9
Women	1,727	88.8	11.2	5.8	1.9	2.0	.6	.9
Marital status								
Men:								
Single, never married	9,703	78.9	21.1	9.3	3.6	5.0	1.1	2.2
Married spouse present	29,666	83.5	16.5	5.7	2.7	5.1	.6	2.3
Widowed, divorced, or separated	4,410	80.4	19.6	8.5	3.6	4.0	1.1	2.3
Women:								
Single, never married	7,109	83.6	16.4	6.8	2.3	5.2	.6	1.3
Married, spouse present	15,679	89.9	10.1	4.3	1.9	2.3	.6	1.0
Widowed, divorced, or separated	6,828	83.7	16.3	7.0	3.3	3.6	.8	1.5

NOTE: Data refer to wage and salary workers, excluding the incorporated self-employed, who were at work during the reference week. Dash indicates fewer than 0.05 percent.

Table 3. Shift usually worked by full-time wage and salary workers, by occupation and industry, May 1985

[Percent distribution]

Occupation or industry	Total employed (in thousands)	Regular daytime schedule	Shift workers: Total	Shift workers: Evening shift	Shift workers: Night shift	Shift workers: Rotating shift	Shift workers: Split shift	Shift workers: Other shift
Total, 16 years and over	73,395	84.1	15.9	6.3	2.7	4.3	0.7	1.9
Occupation								
Managerial and professional specialty	18,944	91.4	8.6	2.0	1.2	2.7	.6	2.1
Executive, administrative, and managerial	9,079	92.6	7.4	1.8	.8	2.6	.5	1.8
Professional specialty	9,866	90.3	9.7	2.3	1.5	2.8	.8	2.3
Health diagnosing occupations	212	77.6	22.4	1.7	–	13.6	–	7.2
Health assessment and treating occupations	1,257	68.7	31.3	8.3	8.3	12.1	.1	2.6
Technical, sales, and administrative support	21,961	88.3	11.7	4.2	2.1	3.5	.5	1.3
Technicians and related support	2,548	84.5	15.5	6.5	3.3	4.6	.1	1.0
Health technologists and technicians	761	70.1	29.9	12.5	9.0	7.6	.2	.6
Sales occupations	6,730	82.8	17.2	4.1	2.2	6.9	1.1	2.9
Supervisors	1,957	84.0	16.0	2.8	2.1	7.4	1.3	2.4
Salesworkers, retail and personal services	2,400	72.3	27.7	8.3	3.6	11.5	1.1	3.2
Administrative support, including clerical	12,684	92.0	8.0	3.7	1.7	1.6	.3	.6
Computer equipment operators	673	81.2	18.8	11.0	2.7	4.1	–	1.0
Mail and message distributing	613	76.2	23.8	12.7	9.1	.4	.6	1.1
Service occupations	7,268	61.6	38.4	16.9	6.1	8.7	2.4	4.3
Private household	275	83.0	17.0	7.3	1.9	–	1.0	6.8
Protective service	1,286	39.2	60.8	19.8	7.2	23.8	.7	9.4
Service, except private household and protective	5,707	65.6	34.4	16.7	6.1	5.7	2.8	3.0
Food service	2,194	56.9	43.1	21.2	5.3	8.2	5.0	3.4
Health service	1,076	63.9	36.1	14.8	10.3	6.8	.6	3.6
Cleaning and building service	1,719	74.4	25.6	16.1	5.4	1.7	1.3	1.1
Personal service	718	73.9	26.1	7.5	3.7	6.2	3.0	5.7
Precision production, craft, and repair	10,477	87.0	13.0	6.3	2.2	3.7	.1	.7
Mechanics and repairers	3,582	87.3	12.7	6.0	2.3	3.6	.1	.6
Construction trades	3,282	94.1	5.9	3.4	1.0	1.2	.1	.3
Other precision production, craft, and repair	3,614	80.3	19.7	9.3	3.2	6.1	.2	.9
Operators, fabricators, and laborers	13,326	76.3	23.7	10.5	4.6	6.2	.5	1.9
Machine operators, assemblers, and inspectors	6,748	76.3	23.7	13.2	3.7	6.2	.1	.5
Transportation and material moving occupations	3,448	73.8	26.2	5.8	6.0	7.4	1.5	5.5
Motor vehicle operators	2,392	74.5	25.5	4.3	6.9	5.9	1.9	6.5
Handlers, equipment cleaners, helpers, and laborers	3,130	78.9	21.1	9.9	5.2	4.9	.2	.9
Farming, forestry, and fishing	1,418	89.9	10.1	1.5	1.4	.7	3.5	3.0
Industry								
Private sector	60,127	83.5	16.5	6.6	2.9	4.4	.8	1.9
Goods-producing industries	24,626	85.0	15.0	7.4	2.6	3.9	.3	.8
Agriculture	1,154	89.4	10.6	.9	2.2	.2	4.3	3.0
Mining	885	78.1	21.9	6.0	1.6	12.1	–	2.2
Construction	4,279	97.5	2.5	1.3	.4	.4	–	.4
Manufacturing	18,309	82.1	17.9	9.3	3.2	4.5	.1	.7
Durable goods	11,277	84.0	16.0	10.0	2.5	2.8	.1	.5
Nondurable goods	7,033	79.1	20.9	8.2	4.4	7.2	.2	1.0
Service-producing industries	35,501	82.4	17.6	6.1	3.0	4.8	1.1	2.6
Transportation and public utilities	4,958	79.4	20.6	6.1	3.5	6.4	1.2	3.5
Wholesale trade	3,222	91.9	8.1	2.9	2.1	.9	.4	1.7
Retail trade	9,111	73.7	26.3	9.1	3.7	8.6	1.9	3.0
Eating and drinking places	2,242	52.4	47.6	21.0	5.3	12.5	4.5	4.2
Finance, insurance, and real estate	5,003	93.9	6.1	1.9	1.0	1.1	.5	1.6
Services[1]	13,207	82.9	17.1	6.4	3.3	3.9	1.0	2.6
Private households	345	80.8	19.2	7.3	1.5	.7	.8	9.0
Business and repair	3,242	87.4	12.6	5.8	2.4	3.1	.1	1.0
Personal, except private household	1,379	74.0	26.0	10.1	3.8	6.6	2.1	3.4
Entertainment and recreation	529	66.6	33.4	13.8	2.2	7.3	4.1	6.1
Professional services	7,682	83.8	16.2	5.4	3.7	3.6	.9	2.5
Hospitals	2,303	73.0	27.0	10.5	6.6	8.5	.2	1.3
Public sector	13,268	87.2	12.8	4.6	2.0	3.7	.6	1.9
Federal Government	2,901	86.2	13.8	6.1	3.4	2.8	.2	1.2
State government	3,320	88.2	11.8	4.3	2.3	3.0	.5	1.7
Local government	7,047	87.1	12.9	4.2	1.3	4.5	.7	2.2

[1] Includes forestry and fisheries, not shown separately.

NOTE: Data refer to wage and salary workers, excluding the incorporated self-employed, who were at work during the reference week. Dash indicates fewer than 0.05 percent.

beyond traditional daytime hours.

The incidence of shifts was much higher for those who did not usually work 5 days a week. Almost two-thirds of those working full-time on a 3-day-a-week schedule and just over a third of those on 4-day schedules considered themselves shift workers. Half of the 3-day workers reported working "other shifts." This should be expected, because each day's work would average at least 12 hours and would not be considered by many as a regular daytime shift, even if most of the hours fell during daytime hours. About 29 percent of those working a 6-day week and 38 percent of 7-day workers considered themselves shift workers.

Of those who reported a reason for not working a regular daytime schedule, 28 percent cited voluntary reasons, including better arrangements for child care or care of other family members, better pay, or time for school. Of the 72 percent giving "involuntary" reasons, 9 of 10 cited the schedule as a requirement of the job; most of the remainder reported they worked shifts because they could not find any other job.

Part-timers were about three times as likely as full-time workers to work other than a regular daytime schedule. Employers often hire part-time help to cover periods of peak demand, which may be as short as 3 or 4 hours on weekdays and may require nonconventional working hours. This is the case, particularly in retail sales and in entertainment and recreation. Many seeking part-time work, especially students, are able to work only evenings or weekends. Nearly half of all part-time workers and four-fifths of the 16- to 19-year-olds were shift workers. About one-quarter of the part-timers worked in the evening. (See table 4.) Employees in sales, service (particularly protective service), transportation and material moving, and in handler, equipment cleaner, helper, and laborer jobs were most likely to work other than a regular daytime schedule. Seven of ten part-time workers in protective service jobs were on shifts.

Flexible schedules

Under flexitime, employees can vary the times their workdays begin and end. The arrangements vary among establishments, and even among units within an establishment, depending on such factors as production, customer, and other coverage requirements; public laws and collective bargaining agreements; and the attitudes of individual managers and supervisors.

The amount of flexibility made possible by flexitime arrangements varies—ranging from as little as 30 minutes to 3 hours or more. Some plans permit variation in the number of hours worked per day, and in some cases, even the total number of hours worked each week, or pay period, and provide for the accumulation of "credit hours." Nearly all plans have a "core-time" requirement: all employees must work during the core time every day, or in some cases, on specified days of the week. A flexitime plan may be a formal document with detailed definitions, rules, and procedures, or it may be so informal that it is not explicitly identified as a flexible work schedule.[6]

Some potential advantages of a flexitime program are decreased tardiness, added hours of service to the public, smoothing rush-hour traffic peaks, larger blocks of employee leisure time, facilitating child care, and better

Table 4. Shift usually worked by part-time wage and salary workers, by selected characteristics, May 1985

[Percent distribution]

Characteristic	Total employed (in thousands)	Regular daytime schedule	Shift workers					
			Total	Evening shift	Night shift	Rotating shift	Split shift	Other shift
Age								
Total, 16 years and over	17,497	52.5	47.5	25.1	5.0	7.1	2.3	8.0
Men, 16 years and over	5,670	43.5	56.5	30.3	5.4	7.3	2.5	11.0
16 to 19	2,008	21.0	79.0	53.6	4.4	7.7	1.6	11.8
20 to 24	1,228	41.2	58.8	31.8	7.5	8.6	1.4	9.5
25 and over	2,434	63.2	36.8	10.4	5.2	6.3	3.8	11.1
Women, 16 years and over	11,826	56.8	43.2	22.6	4.8	7.0	2.3	6.6
16 to 19	2,006	20.9	79.1	52.1	4.3	12.5	1.2	9.0
20 to 24	1,798	46.0	54.0	27.2	6.5	11.4	1.5	7.3
25 and over	8,022	68.2	31.8	14.1	4.6	4.6	2.7	5.8
Occupation								
Managerial and professional specialty	2,321	65.1	34.9	14.4	4.3	5.0	2.2	9.1
Executive, administrative, and managerial	516	71.8	28.2	10.4	3.6	3.6	1.8	8.9
Professional specialty	1,805	63.2	36.8	15.5	4.5	5.4	2.3	9.1
Technical, sales, and administrative support	6,460	54.1	45.9	24.4	4.7	8.6	.9	7.2
Technicians and related support	389	50.8	49.2	23.0	7.0	12.8	1.2	5.1
Sales occupations	2,902	40.8	59.2	31.8	4.8	14.0	.9	7.7
Administrative support, including clerical	3,169	66.7	33.3	17.8	4.3	3.1	.9	7.1
Service occupations	5,339	44.1	55.9	33.5	6.0	7.0	2.1	7.2
Private household	648	64.2	35.8	15.4	2.3	2.9	1.4	13.9
Protective service	235	29.1	70.9	27.6	12.5	8.8	12.0	10.1
Service, except private household and protective	4,457	42.0	58.0	36.4	6.2	7.5	1.7	6.1
Precision production, craft, and repair	653	75.7	24.3	9.5	3.3	2.6	.8	8.1
Mechanics and repairers	158	63.0	37.0	24.6	3.9	1.3	–	7.1
Construction trades	303	85.5	14.5	4.2	.7	1.1	–	8.5
Other precision production, craft, and repair	192	70.7	29.3	5.5	6.9	6.2	2.6	8.2
Operators, fabricators, and laborers	2,148	47.8	52.2	23.6	5.2	7.4	7.1	8.9
Machine operators, assemblers, and inspectors	555	68.8	31.2	16.6	3.5	4.5	–	6.7
Transportation and material moving occupations	550	39.9	60.1	11.5	6.3	6.0	26.5	9.7
Handlers, equipment cleaners, helpers, and laborers	1,043	40.7	59.3	33.7	5.5	9.7	.8	9.6
Farming, forestry, and fishing	577	51.9	48.2	21.0	3.5	3.5	4.8	15.4

NOTE: Data refer to wage and salary workers, excluding the incorporated self-employed, who were at work during the reference week. Dash indicates fewer than 0.05 percent.

Table 5. Full-time wage and salary workers on flexible work schedules, by selected characteristics, May 1985

[Numbers in thousands]

Characteristic	Total: With flexible schedules	Total: Percent of all workers	Men: With flexible schedules	Men: Percent of all workers	Women: With flexible schedules	Women: Percent of all workers
Age						
Total, 16 years and over	9,061	12.3	5,760	13.2	3,300	11.1
16 to 19	178	9.3	115	10.1	63	8.1
20 to 24	1,070	10.8	625	11.2	445	10.2
25 to 34	3,127	13.1	1,916	13.4	1,211	12.7
35 to 44	2,468	13.9	1,597	15.0	872	12.3
45 to 54	1,372	11.6	932	13.1	440	9.3
55 to 64	737	9.9	495	10.8	242	8.5
65 and over	108	13.8	80	16.9	28	9.2
Race and Hispanic origin						
White	8,105	12.8	5,270	13.7	2,835	11.4
Black	707	9.0	332	8.2	375	9.9
Hispanic origin	425	8.6	286	9.0	139	8.0
Occupation						
Managerial and professional specialty	3,448	18.2	2,340	21.5	1,109	13.8
Executive, administrative, and managerial	1,785	19.7	1,183	20.6	601	18.0
Professional specialty	1,664	16.9	1,156	22.4	507	10.8
Technical, sales, and administrative support	3,215	14.6	1,540	18.5	1,675	12.3
Technicians and related support	480	18.8	327	22.6	153	13.9
Sales occupations	1,340	19.9	940	23.1	400	15.1
Administrative support, including clerical	1,395	11.0	273	9.7	1,122	11.4
Service occupations	619	8.5	302	8.5	317	8.5
Private household	30	11.1	1	(1)	30	11.0
Protective service	109	8.5	101	8.7	8	6.6
Service, except private household and protective	479	8.4	200	8.4	279	8.4
Precision production, craft, and repair	717	6.8	658	6.8	59	7.3
Mechanics and repairers	255	7.1	246	7.1	9	7.0
Construction trades	232	7.1	229	7.1	3	(1)
Other precision production, craft, and repair	230	6.4	183	6.1	47	7.3
Operators, fabricators, and laborers	847	6.4	728	7.2	120	3.7
Machine operators, assemblers, and inspectors	273	4.0	187	4.5	85	3.3
Transportation and material moving occupations	397	11.5	389	11.8	8	5.6
Handlers, equipment cleaners, helpers, and laborers	178	5.7	151	5.7	26	5.4
Farming, forestry, and fishing	214	15.1	192	15.4	22	12.6

[1] Data not shown where base is less than 75,000.

NOTE: Data refer to wage and salary workers, excluding the incorporated self-employed, who were at work during the reference week.

scheduling of the work force to coincide with variations in the workload. Potential problem areas include the added need for managers and supervisors to schedule and plan the work flow and ensure the coverage of critical functions, the possible lack of supervision at some hours, added timekeeping needs, and nonlabor costs associated with more hours of operation (for example, heating and cooling).[7]

About 9.1 million full-time wage and salary workers (excluding the incorporated self-employed) who worked during the survey reference week in May 1985 were reported as having a work schedule which permitted them to vary their beginning and ending hours of work. (See table 5.) This was 12.3 percent of the covered workers. The incidence of flexible scheduling was lowest for teenagers (9.3 percent) and highest for the 35 to 44 and 65 and over age groups. Men were more likely than women to have flexibility in their work day, as were whites, compared with their black or Hispanic counterparts.

Among occupational groups, the ability to vary work hours ranged from 4 percent for machine operators, assemblers, and inspectors to 20 percent for those in sales occupations. For some more detailed classifications, the incidence was more than 30 percent, such as mathematical and computer scientists; natural scientists; technicians, except health, engineering, and science; and sales representatives (commodities except retail). The incidence was higher for men than for women for each occupational, age, and race or Hispanic category.

The likelihood of flexible scheduling was slightly higher in the private sector (12.6 percent) than in the public sector (11.3 percent). However, it was 20 percent in the Federal Government, where many agencies have formal flexitime programs. Within the private sector, those in service-producing industries (at 14.5 percent) had higher proportions with the freedom to vary work times than those in goods-producing industries (9.8 percent). Among industry groups, the incidence ranged from under 5 percent in furniture and fixtures, textiles, and apparel, to 15 percent or more in agriculture, printing and publishing, wholesale trade, finance, insurance, and real estate, business and repair services, personal services, entertainment and recreation, and the "other" professional services category, which includes legal services, membership organizations, and engineering, architectural, and surveying services.

Employees on regular daytime schedules were more likely to have the ability to vary their starting and ending hours (12.7 percent) than those on evening shifts (6.6 percent), night shifts (8.2 percent), or rotating shifts (10.8 percent). Nearly one-quarter of those on split shifts had either flexitime or some other scheduling arrangement permitting flexibility.

Part-time workers were more likely than their full-time counterparts to have flexibility in the scheduling of their work, with 3.3 million (18.6 percent) being able to do so. As with full-time workers, the proportion of men reporting flexibility was higher than that of women (19.8 versus 18.0 percent.) □

FOOTNOTES

[1] Statistics on wage and salary workers usually include self-employed workers whose businesses are incorporated because from a legal standpoint they are the paid employees of a corporation. However, they are excluded from the analysis here, as the primary interest in the scheduling of work lies in a universe of workers limited to those who work for someone else. To have a consistent universe throughout the article, data are limited to those who actually worked during the survey reference week, because some of the data were collected only for this group.

[2] Information on beginning and ending hours should not be used to indicate the number of hours worked per day—a statistic available through another question in the May 1985 survey. As previously mentioned, the times are rounded. For example, a 9:00 to 5:30 schedule would appear as 9:00 to 6:00. Because most workers usually arrive at work a few minutes before the required start time, someone who has a 7:30 to 4:00 work requirement, but actually arrives at 7:25 most days (and "punches in" accordingly), would be tallied as 7:00 to 4:00 if that earlier time was reported as the starting time. Both factors may combine to partially explain the large number of those with such 10-hour spans as 8-to-6 and 7-to-5 schedules. Accordingly, an 8-hour work requirement of 8:30 to 5:30 (less an hour for lunch) may appear as 8 to 6. In addition, proxy respondents may not know precise starting and ending times and may report the times an employee departs from and returns home. The span also includes any time not worked, such as lunch and other breaks and the time between the work periods of split shifts—which vary in length among workers.

[3] See *Workers on Late Shifts*, Summary 81–13 (Bureau of Labor Statistics, 1981); and Janice N. Hedges and Edward Sekscenski, "Workers on late shifts in a changing economy," *Monthly Labor Review*, September 1979, pp. 14–22, for previously published data on shift work. Data published in this article are not comparable to those previously published on the subject.

[4] See Hedges and Sekscenski, "Workers on late shifts"; and Peter Finn, "The effects of shift work on the lives of employees," *Monthly Labor Review*, October 1981, pp. 31–35.

[5] Although a regular daytime schedule is, strictly speaking, a "shift," the term shift work is used here to describe only those schedules other than a "regular daytime schedule."

[6] Some of the variations of flexitime used among the plans covering Federal Government employees are flexitour, gliding time, variable day, variable week, and maxiflex. See *The Federal Employees Flexible and Compressed Work Schedules Act of 1978: An Overview of the Experimental Program for Federal Agencies* (Washington, U.S. Office of Personnel Management, 1979).

[7] See John D. Owen, *Working Hours* (Lexington, MA, Lexington Books, 1979), which has a thorough discussion of alternative work schedules, including the practicality of flexitime in different work situations. For testimony which cites both the merits and limitations of flexitime, see *Flexible and Compressed Work Schedules* and *Federal Employees Flexible and Compressed Work Schedules Act*, hearings before the Subcommittee on Human Resources of the Committee on Post Office and Civil Service, U.S. House of Representatives (Washington, Government Printing Office, 1982 and 1985, respectively).

APPENDIX: Notes on the data

Unless otherwise indicated, information in this article covers wage and salary workers, excluding the incorporated self-employed, who reported having worked during the week of May 12–18, 1985. Coverage includes both the private and public sectors and workers both in and out of agricultural industries. The data were collected for the Bureau of Labor Statistics by the Bureau of the Census as part of the May 1985 Current Population Survey (CPS). The CPS employs a scientifically selected sample of about 59,500 households in all 50 States and the District of Columbia.

Information on beginning and ending hours of work were obtained from responses to the following questions:

34. LAST WEEK at what time of day did . . . begin work on this job most days?
35. LAST WEEK at what time of day did . . . end work on this job most days?

Answers were coded in 1-hour increments, centered on the hour. For example, answers ranging between 4:30 and 5:29 p.m. were coded as 5:00 p.m.

Information for most of the data on shift work was obtained from the following:

36. Which of the following best describes the hours . . . usually works at this job?
    - A regular daytime schedule ...... ○
    - A regular evening shift .... ○
    - A regular night shift .... ○
    - A rotating shift—one that changes periodically from days to evenings or nights .... ○
    - A split shift—one consisting of two distinct periods each day .... ○
    - Other .... ○

The May 1985 data on shift work are not comparable to those which were published for the 1973–80 period. The earlier data were based on beginning and ending hours of work questions (as in 34 and 35 above). At that time, the day shift was defined as one at which the majority of hours worked was between 8 a.m. and 4 p.m.; the evening shift had a majority of its hours between 4 p.m. and midnight; and the night shift had a majority of its hours worked between midnight and 8 a.m. In the event of a tie (for example, 12 noon to 8 p.m.), day took precedence over evening, and evening took precedence over night. "Shifts" were limited to 6- to 12-hour periods; those shorter or longer were classified as "miscellaneous" shifts. In addition, the 1973–80 data excluded farm workers but included any self-employed workers whose businesses were incorporated. The 1985 data are based on the self-identification of usual shift; the data include farm workers and exclude self-employed workers.

A limited amount of the 1985 shift work data was cross-tabulated according to the old definition of shifts. Of those reporting a regular daytime schedule, 97 percent would have been classified as working a day shift based on beginning and ending hours. There is far less conformity among those tabulated as working evening (90 percent) or night (63 percent) shifts, as many of these would have fallen into the miscellaneous category based on the "old" way of tabulating shifts. As expected, those reporting that they usually work a rotating shift were distributed among each of the categories based on beginning and ending hours; and many of those reporting that they usually work a split or "other" shift would have fallen into the previous "miscellaneous" category.

The data on the presence of flexitime were obtained from the question:

40. Is . . . on flexitime or some other schedule that allows workers to vary the time they begin and end work?

Yes .... ○
No .... ○
Don't know ... ○

The May 1985 data on flexitime are not comparable to those collected in May 1980, because of a difference in coverage. The earlier survey included self-employed workers whose businesses were incorporated (most of whom—by definition—can vary their work hours) and excluded farm workers, while the 1985 survey did not ask the flexitime question to the incorporated self-employed, but did include farm workers. Even though the 1985 data indicated only a small rise in the incidence of flexible work times—from 11.9 percent to 12.3 percent for full-time workers—the rise would have been larger if the incorporated self-employed had been included.

A note on communications

The *Monthly Labor Review* welcomes communications that supplement, challenge, or expand on research published in its pages. To be considered for publication, communications should be factual and analytical, not polemical in tone. Communications should be addressed to the Editor-in-Chief, *Monthly Labor Review*, Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C. 20212.

Moonlighting by women jumped to record highs

An important, but small, proportion of Americans work at two jobs or more; they do so principally for financial reasons such as meeting regular expenses or paying off debts and also to explore new careers while still holding on to their primary jobs

John F. Stinson, Jr.

According to a survey conducted in May 1985, multiple jobholders totaled 5.7 million, 5.4 percent of all employed workers. This was up from 4.9 percent in 1980 and was the highest level in more than 20 years. Data from the same survey confirm the continuance of two long-term trends: an increasing number of women among the moonlighters and a decline in the proportion of multiple jobholders with at least one job in agriculture.

These findings are from a special survey of work patterns of American workers.[1] Multiple jobholders, as identified in this survey, are those employed persons who, during the survey reference week, either (1) had jobs as wage or salary workers with two employers or more; (2) were self-employed and also held a wage and salary job; or (3) were unpaid family workers on their primary jobs but also held wage and salary jobs.[2] The primary job is the one at which the greatest number of hours were worked.

Demographic characteristics

The survey revealed that between 1980 and 1985, the number of women with two jobs or more rose by almost 40 percent to 2.2 million. Over the same period, the multiple jobholding or "moonlighting" rate for women (percent of employed with more than one job) jumped from 3.8 to 4.7 percent. In 1985, women made up nearly two-fifths of all moonlighters.

Moonlighting among women has actually been rising steadily since 1970, paralleling their continued increase in overall labor force participation. Over the decade and a half, the number of women holding at least two jobs has more than tripled and their moonlighting rate has risen from 2.2 to 4.7 percent. (See table 1.)

The moonlighting rate for men, which had undergone a long-term decline before stabilizing during the 1970's at around 6 percent, continued to hold steady at 5.9 percent in May 1985. While men are still more likely than women to be working at two jobs or more, the gender difference in the incidence of multiple jobholding has been sharply reduced over time. As recently as 1970, the moonlighting rate for men exceeded that for women by 5 percentage points; by 1975, the gap had shrunk to 3 percentage points; by 1980, it had declined to 2 points; and, as shown above, by 1985, it barely exceeded 1 point.

Significant differences still persist, however, in the types of jobs held by the men and women who moonlight. In 1985, about 40 percent of the women were working at multiple part-time jobs, while more than four-fifths of the male moonlighters usually worked full time at their primary jobs and part time on their secondary jobs.

Among men, the proportion holding more than one job increases progressively in each age group, reaching a peak of 7.1 percent in the 35 to 44 years interval and declining

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John F. Stinson, Jr. is an economist in the Division of Data Development and Users' Services, Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

steadily thereafter. Among women the pattern was much different. The proportion holding multiple jobs was 5 percent in all age groups below 45 years and then dropped off progressively. (See table 2.)

While married men were more apt to moonlight than either single men or those who were widowed, divorced, or separated, married women were somewhat less likely to work at more than one job than were those without a spouse.

Whites continued to be much more likely than blacks to work at two jobs or more. In fact, the moonlighting rate for whites increased from 5.1 to 5.7 percent between 1980 and 1985, while the black rate was unchanged at 3.2 percent. The increase for whites was principally among women, whose moonlighting rate rose a full percentage point to 4.9 percent; the rate for white men edged up slightly to 6.2 percent. Hispanic women had a moonlighting rate of 2.8 percent, about the same as that for black women, while the rate for Hispanic men was below that of blacks and only half the rate of white men.

Reasons for working at more than one job

Economic factors predominate among the reasons for moonlighting. About 41 percent of persons working more than one job in May 1985 reported that they did so in order to meet regular expenses or pay off debts, and 13 percent cited a desire to save for the future. Another 17 percent indicated that their principal reason for moonlighting was to get experience or build up a business, while 29 percent reported various other reasons. Women were slightly more likely than men to indicate the desire to get experience in a different field of work. (See table 3.)

Marital status had a clear effect on the reasons reported for moonlighting. Single men and women were more likely than other groups to moonlight in order to accumulate savings for the future. Current financial considerations played a much more important role in the decision to moonlight for widowed, divorced, and separated workers. More than two-thirds of the women and almost half of the men in that category cited either the need to meet regular expenses or to pay off debts as their reason for working at more than one job.

There was also a sharp divergence in the distribution of the reasons for multiple jobholding reported by blacks and whites. Blacks of both sexes were much more likely than whites to say they moonlighted in order to help with regular expenses and paying off debts and much less likely to say they did so to get experience or to build up a business.

Class of worker, industry, and occupation

The proportion of multiple jobholders engaged in farming in either their primary or secondary job—a prominent activity among dual jobholders in the past—declined to fewer than one-tenth in May 1985. In most cases, these workers had primary jobs as wage and salary workers in nonagricultural industries but did some farming on their own. (See table 4.) While the proportion of such workers had been edging down as shown in the following tabulation, the drop between 1980 and 1985 was particularly sharp, undoubtedly reflecting the myriad problems encountered by the farm sector in recent years:

	Total multiple jobholders (thousands)	*With at least one job in agriculture*	
		Total (thousands)	*Proportion*
1970	4,048	943	23.3
1975	3,918	890	22.7
1977	4,558	922	20.2
1979	4,724	871	18.4
1980	4,759	835	17.5
1985	5,730	532	9.3

Table 1. Employed persons 16 years and over holding two jobs or more and multiple jobholding rates by selected characteristics, May 1970 to May 1985

[Numbers in thousands]

Year	Total employed	Multiple jobholders				Multiple jobholding rate[1]				
		Total	Men	Women		Total	Men	Women	White	Black[2]
				Number	Percent of all multiple jobholders					
1970	78,358	4,048	3,412	636	15.7	5.2	7.0	2.2	5.3	4.4
1971	78,708	4,035	3,270	765	19.0	5.1	6.7	2.6	5.3	3.8
1972	81,224	3,770	3,035	735	19.5	4.6	6.0	2.4	4.8	3.7
1973	83,758	4,262	3,393	869	20.3	5.1	6.6	2.7	5.1	4.7
1974	85,786	3,889	3,022	867	22.3	4.5	5.8	2.6	4.6	3.8
1975	84,146	3,918	2,962	956	24.4	4.7	5.8	2.9	4.8	3.7
1976	87,278	3,948	3,037	911	23.1	4.5	5.8	2.6	4.7	2.8
1977	90,482	4,558	3,317	1,241	27.2	5.0	6.2	3.4	5.3	2.6
1978	93,904	4,493	3,212	1,281	28.5	4.8	5.8	3.3	5.0	3.1
1979	96,327	4,724	3,317	1,407	29.8	4.9	5.9	3.5	5.1	3.0
1980	96,809	4,759	3,210	1,549	32.5	4.9	5.8	3.8	5.1	3.2
1985	106,878	5,730	3,537	2,192	38.3	5.4	5.9	4.7	5.7	3.2

[1] Multiple jobholders as a percent of all employed persons.

[2] Beginning in 1977, data refer to black workers only: data for prior years refer to the black-and-other-population group.

NOTE: Data for 1970–1980 have not been adjusted to reflect 1980 census population controls.

Table 2. Employed persons with two jobs or more by age, marital status, race, and Hispanic origin, May 1985

[Numbers in thousands]

Characteristic	Total: Total employed	Total: Multiple jobholders: Number	Total: Multiple jobholders: Percent	Men: Total employed	Men: Multiple jobholders: Number	Men: Multiple jobholders: Percent	Women: Total employed	Women: Multiple jobholders: Number	Women: Multiple jobholders: Percent
Age									
Total, 16 years and over	106,878	5,730	5.4	60,015	3,537	5.9	46,864	2,192	4.7
16 to 19	6,289	289	4.6	3,370	134	4.0	2,919	156	5.3
20 to 24	13,857	777	5.6	7,345	436	5.9	6,512	340	5.2
25 to 34	31,246	1,771	5.7	17,641	1,090	6.2	13,605	682	5.0
35 to 44	24,446	1,522	6.2	13,698	967	7.1	10,478	556	5.2
45 to 54	16,682	847	5.1	9,526	558	5.9	7,156	290	4.1
55 to 64	11,545	433	3.8	6,739	294	4.4	4,806	139	2.9
65 and over	2,813	90	3.2	1,696	59	3.5	1,117	31	2.7
Marital status									
Single	26,167	1,448	5.5	14,768	767	5.2	11,399	681	6.0
Married, spouse present	65,443	3,448	5.3	39,444	2,447	6.2	25,999	1,001	3.8
Widowed, divorced, or separated	15,268	834	5.5	5,803	323	5.6	9,465	510	5.4
Race and Hispanic origin									
White	93,555	5,286	5.7	53,222	3,291	6.2	40,333	1,995	4.9
Black	10,416	338	3.2	5,240	187	3.6	5,176	151	2.9
Hispanic origin	6,489	194	3.0	3,984	125	3.1	2,505	69	2.8

NOTE: Detail for race and Hispanic-origin groups will not add to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups.

Table 3. Multiple jobholders by sex, marital status, race and the reason for working at more than one job, May 1985

Characteristic	Total (thousands)	Percent distribution by reason: Total	To meet regular household expenses	To pay off debts	To save for the future	To get experience or build up a business	Other reason
Total, 16 years and over	5,730	100.0	31.6	9.3	13.0	17.0	29.2
Men, 16 years and over	3,537	100.0	30.3	9.0	12.9	18.1	29.7
Single	767	100.0	20.7	10.4	21.5	19.5	27.9
Married, spouse present	2,447	100.0	33.4	7.6	11.0	18.0	30.1
Widowed, divorced, or separated	323	100.0	29.2	17.0	7.2	15.4	31.1
White	3,291	100.0	29.4	9.1	12.8	18.4	30.3
Black	187	100.0	45.6	10.6	12.8	11.1	20.0
Women, 16 years and over	2,192	100.0	33.7	9.7	13.1	15.3	28.2
Single	681	100.0	28.5	8.7	22.1	14.1	26.6
Married, spouse present	1,001	100.0	27.2	7.8	10.6	20.1	34.2
Widowed, divorced, or separated	510	100.0	53.5	14.8	6.0	7.0	18.8
White	1,995	100.0	33.3	8.9	12.9	15.7	29.2
Black	151	100.0	40.1	19.7	16.3	5.4	18.4

Table 4. Multiple jobholders by industry and class of worker of primary and second job, May 1985

[Numbers in thousands]

Primary job	Total employed	Multiple jobholders: Number	Multiple jobholders: As a percent of total employed	Second job in agriculture: Total	Second job in agriculture: Wage and salary job	Second job in agriculture: Self-employed	Second job in nonagricultural industries: Total	Second job in nonagricultural industries: Wage and salary job	Second job in nonagricultural industries: Self-employed
Total, 16 years and over	106,878	5,730	5.4	382	81	300	5,348	3,866	1,482
Agriculture	3,524	186	5.3	36	13	22	150	137	13
Wage and salary workers	1,731	103	6.0	32	10	21	71	58	13
Self-employed workers	1,582	74	4.7	3	3	(1)	71	71	(1)
Unpaid family workers	211	8	4.0	–	–	(2)	8	8	(2)
Nonagricultural industries	103,354	5,544	5.4	346	67	279	5,198	3,728	1,469
Wage and salary workers	95,379	5,286	5.5	342	64	278	4,924	3,459	1,469
Self-employed workers	7,694	269	3.5	3	3	(1)	266	266	(1)
Unpaid family workers	280	9	3.2	–	–	(2)	9	9	(2)

[1] Self-employed persons with a secondary business or farm, but no wage and salary job, are not counted as multiple jobholders.

[2] Persons whose primary job was as an unpaid family worker are counted as multiple jobholders only if they also had a wage and salary job.

Among the other multiple jobholders—that is, the vast majority who did not engage in any agricultural work—about one-third were self-employed in at least one job, usually the second job. The rest worked as wage and salary employees in both jobs.

The workers whose primary jobs were in industries such as entertainment and recreation services; professional services, especially educational services; and public administration were the most likely to engage in moonlighting. In terms of specific occupations, the men most likely to moonlight were those employed as teachers, both at and below the college level, or as health technologists and technicians. Between 16 and 19 percent of them held a second job. A high proportion of dual jobholders (13.9 percent) was also found among male protective service workers, a group which includes police, who frequently moonlight as guards and security personnel. There were no occupations for women with such high rates of multiple jobholding. The highest rates for women were among officials and administrators in public administration, with a moonlighting rate of 7.5 percent, and health diagnosing occupations; teachers at all levels; and engineering and science technicians, all with rates around 7 percent.

Hours of work and earnings

Multiple jobholders usually worked an average of about 14 hours per week on their secondary jobs. Almost two-thirds worked less than 16 hours, while about 15 percent reported 25 hours or more of moonlighting work. Although blacks are much less likely than whites to hold more than one job, about 20 percent of black moonlighters reported usually working more than 25 hours per week at their second job, compared with about 15 percent of whites.

Combining all jobs, moonlighters worked an average of 51 hours per week in May 1985. The average for men, at 55 hours per week, exceeded by 10 hours that usually worked by women with two jobs or more.

The median usual weekly earnings from all jobs of multiple jobholders (who were wage and salary workers on their primary job)[4] was $343 in May 1985. For women who moonlighted, total weekly earnings from all jobs ($241) were equal to little more than half of the earnings of multiple-jobholding men ($450). The total weekly earnings for black multiple jobholders were $305, slightly below the $344 average for whites.

Looking only at the second jobs, the earnings reported by multiple jobholders yielded a median of $70 in May 1985. Just over three-fifths of the moonlighters reported earnings of below $100 per week for their second job; one-fourth reported between $100 and $200; and about 13 percent reported earnings of over $200 per week. As was generally the case with regard to the principal job, men earned considerably more on the second job—$85 per week—than did women—$57 per week. Three quarters of the women reported weekly earnings of less than $100 on their second job, compared with a little more than half of the men.

Consistent with their greater hours worked, blacks reported earning more on their second jobs than did white moonlighters; the medians for the two groups were, respectively, $81 and $69 per week. Because black workers tend to earn much less in their primary jobs than do white workers, the earnings from secondary jobs help to narrow the income gap between whites and blacks who engage in multiple jobholding. ☐

FOOTNOTES

[1] The data were obtained through special questions asked in conjunction with the May 1985 Current Population Survey (CPS), the monthly survey of about 59,500 households which provides the basic labor force and unemployment data for the Nation. Data on multiple jobholders used to be collected each May in a supplement to the CPS until the supplement was ended after 1980. For the most recently published report on multiple jobholders, see Daniel E. Taylor and Edward S. Sekscenski, "Workers on long schedules, single and multiple jobholders," *Monthly Labor Review*, May 1982, pp. 47–53.

[2] Also included as multiple jobholders are a small number of persons who had two jobs because they changed jobs during the survey week. Persons employed only in private households (such as housekeepers, launderers, gardeners, babysitters, and so forth) who worked for two employers or more during the survey week, are not counted as multiple jobholders because working for several employers is considered an inherent characteristic of private household work rather than an indication of multiple jobholding. Also excluded are self-employed persons with additional farms or businesses and persons with secondary jobs as unpaid family workers.

[3] Included among the wage and salary workers are the incorporated self-employed (individuals who worked for corporations which they owned). The number of dual jobholders in this category is very small (58,000, or 1 percent of all moonlighters) and their inclusion among the wage and salary workers should have a minimal impact on the analysis of the data.

[4] Data on wage and salary earnings only were collected for the primary job. Data on earnings from all sources were collected for the second job.

Missed work and lost hours, May 1985

Absences were lower in 1985 than at any time since 1973; for the first time, absence rates in the goods-producing industries were lower than the rates in the service-producing industries

BRUCE W. KLEIN

On any given day, some people do not show up at work for one reason or another. These unscheduled absences can disrupt the work flow and raise costs such as sick pay and the hiring of temporary help. Absences may also result in a reduction in product quality and low morale among the workers who get additional duties passed onto them.

According to data collected in May 1985 from the Current Population Survey (CPS), about 4.7 percent of the full-time nonfarm workers had an absence in a typical week caused by illness, injury, civic duties, or personal reasons. The proportion of hours lost was 2.6 percent of the potential that would have been worked during the survey's reference week. These absence figures were substantially lower than those last obtained in a 1980 survey. In fact, they showed the first decline since the Bureau of Labor Statistics began estimating absences in 1973.

The proportion of full-time wage and salary workers who had an absence which kept them from working at least 35 hours per week declined by more than 20 percent between May 1980 and May 1985. An absence measure computed by the Bureau of National Affairs from entirely different data has also shown a similar decline over the same period.[1] In addition to a decline in the percent of workers absent from work, the CPS shows that the percent of total worktime lost because of absences also declined by more than 20 percent during the period mentioned.[2] (See table 1.)

The drop in absences during this 5-year period may have stemmed from the aftereffects of the 1981–82 recession. There appear to be two primary reasons for a drop in absences: (1) workers laid off during the recession are likely to have included many of the frequent absentees, and (2) remaining workers were less likely to be absent from their jobs in the aftermath of a recession or during a period of business uncertainty for fear of job loss.[3] In addition, absence rates may have remained low during the economic recovery because of explicit personnel policies on absences. In some cases, various penalties and incentives were put into place to keep them down.[4]

Although there has been a substantial reduction in the frequency of absences and in the proportion of time lost, the number of hours lost per individual worker with an absence increased slightly between 1980 and 1985. Reasons other than illness or injury were responsible for most of the increase.

Absence concepts

The term "absences," as used here, relates to generally unscheduled periods of leave from work. Reasons for absences include illnesses, injuries, personal and civic commitments, and mishaps. For example, car failure is some-

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Bruce W. Klein is an economist in the Division of Data Development and Users' Services, Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

times an excuse for an absence. The data presented here relate only to full-time wage and salary workers, those who usually work more than 35 hours per week and who hold only one job. They are deemed to have been absent by reporting that they worked less than 35 hours per week because of illness, injury, or other reasons.

Absences are measured by rates which identify (1) the proportion of workers with an absence; (2) the proportion of hours lost relative to all scheduled hours; or (3) relative to the hours usually worked by those with an absence. Specifically, the incidence rate is the number of workers absent divided by the total employed times 100 or,

$$\frac{\text{Number of workers absent}}{\text{Total employed}} \times 100 \ .$$

The inactivity rate is the number of hours absent divided by the total number of hours usually worked times 100 or,

$$\frac{\text{Numbers of hours absent}}{\text{Number of hours usually worked}} \times 100 \ .$$

A third measure, the severity rate, indicates the proportion of hours lost by workers with an absence relative to the hours they usually work, also expressed in percentage terms, or

$$\frac{\text{Number of hours lost by absent workers}}{\text{Number of hours usually worked by absent workers}} \times 100 \ .$$

Annual rates and comparisons

Extrapolating from the data gathered for May, it is estimated that because of absences, an average worker lost 7.2 days in 1985, compared with an estimate of 9.7 days in 1980. It is estimated that a typical worker had absences in 3 of 52 weeks during 1985, down from 4 of 52 weeks in 1980.

The absence rate for the United States—4.7 percent—compares favorably with recent percentage rates of the following countries: England (11.8), Canada (11.6), Denmark (7.7), France (5.9), the Netherlands (5.4), Belgium (3.8), Greece (3.1), Germany (3.0), Sweden (3.0), Italy (2.9), and Japan (2.5). The rates for Australia and Ireland are similar to the U.S. rate—4.3 and 5.2, respectively.[5]

Variation by industry and occupation

Differences in absence rates between the various industries and occupations were also significant, as were their trends. In May 1985, for the first time, the absence rates in goods-producing industries were lower than those in service-producing industries. This was true both for the incidence of absences and the measurement of hours lost because of absences. This reversal could reflect a new attitude in goods-producing industries regarding the costs associated with unscheduled work absences. Many companies have instituted various policies to reduce absences, using both "the carrot and the stick." In some instances, they have introduced the practice of giving bonuses to workers with high attendance. They have also counseled workers who are frequently absent before taking more serious steps against them. In part because of these new policies and the other factors cited above, the durable goods industry has achieved especially low absence rates. (See table 2.)

Public administrations have the highest percentage of workers with absences, which may be the result of liberal leave policies towards Federal, State, and local government employees. Businesses which supply professional services also have relatively high rates of absences, both in terms of incidence and inactivity. Within the professional services sector, educational and medical service providers have the highest absence rates. This may reflect the fact that teachers, who make up a large component of this group, usually have an allotment of personal days off which are filled by substitute teachers. Absences are not easily explained for employees of hospitals and other health service providers.

In terms of occupation, the absence rate reported by persons in executive and administrative positions, and those in management-related occupations was relatively low—3.2 percent. This contrasts sharply with the higher incidence of absences for professional specialists, 5.2 percent. These differences, which are also reflected in the proportion of time lost, could be caused by the high degree of competition and visibility among executives and also the fact that some of the professionals, such as teachers, have contracts which allow for a certain number of absences during the year. (See table 3.)

The precision production, craft, and repair occupations

Table 1. Absence rates for full-time nonagricultural wage and salary workers, by reason, May 1980 and May 1985

[Numbers in thousands]

Measure	1980	1985	1980–85 change	
			Number	Percent
Absent workers				
Total number of workers[1]	64,043	77,698	13,655	21.3
Total absent	3,926	3,683	−243	−6.2
Total incidence rate[2]	6.1	4.7	−1.4	−23.0
Illnesses and injuries	3.6	2.6	−1.4	−27.8
Miscellaneous reasons	2.6	2.1	−.5	−19.2
Hours lost				
Weekly hours usually worked	2,693,930	3,276,410	582,480	21.6
Weekly hours lost	89,823	86,279	−3,544	−3.9
Total inactivity rate[3]	3.3	2.6	−.7	−21.2
Illnesses and injuries	2.1	1.6	−.5	−23.8
Miscellaneous reasons	1.2	1.1	−.1	8.3
Hours lost per absent worker				
Usual weekly hours per worker	42.1	42.2	.1	.2
Total severity rate[4]	56.1	57.2	1.1	2.0
Illnesses and injuries	61.4	61.9	.5	.8
Miscellaneous reasons	48.9	51.6	2.7	5.5

[1] Includes incorporated self-employed workers.

[2] Number of workers absent as a percent of the total working.

[3] Number of hours absent as a percent of the total number of hours usually worked.

[4] Number of hours absent as a percent of the number of hours usually worked by absent workers.

Table 2. Absence rates for full-time wage and salary workers, by industry, May 1985
[Numbers in thousands]

Industry	Total number of workers[1]	Incidence rate (Percent of workers absent)			Inactivity rate (Percent of time lost)		
		Total	Illnesses and injuries	Miscellaneous reasons	Total	Illnesses and injuries	Miscellaneous reasons
Total, 16 years and over	76,093	4.8	2.6	2.2	2.7	1.6	1.1
Total nonagricultural wage and salary workers	74,906	4.8	2.6	2.2	2.7	1.6	1.1
Goods-producing industries	24,854	4.4	2.7	1.6	2.5	1.7	.8
Mining	929	4.0	2.8	1.2	3.6	2.4	1.1
Construction	4,817	4.3	2.4	1.9	2.5	1.5	.9
Manufacturing	19,108	4.4	2.8	1.6	2.4	1.7	.8
Durable goods	11,778	4.0	2.6	1.4	2.2	1.5	.6
Nondurable goods	7,330	5.1	3.2	2.0	2.9	1.9	1.0
Service-producing industries	50,054	5.1	2.6	2.4	2.8	1.5	1.3
Transportation and public utilities	6,477	4.8	2.6	2.2	3.2	1.8	1.4
Wholesale and retail trade	12,835	4.7	2.8	1.9	2.7	1.8	.9
Wholesale trade	3,322	3.8	2.2	1.6	2.4	1.6	.8
Retail trade	9,513	5.0	3.0	2.0	2.8	1.9	.9
Finance, insurance, and real estate	5,326	4.1	2.1	2.0	2.0	1.0	1.0
Services[2]	20,757	5.4	2.5	2.9	2.9	1.4	1.4
Professional services	14,858	5.8	2.7	3.1	3.1	1.5	1.6
Educational services	6,283	6.2	2.5	3.7	3.3	1.5	1.8
Health services, including hospitals	5,373	5.9	3.2	2.7	4.2	1.7	2.5
Other professional services	2,682	4.6	2.4	2.2	2.7	1.3	1.5
All other services	5,899	4.5	2.1	2.5	2.3	1.2	1.1
Public administration	4,659	5.9	3.1	2.8	3.0	1.6	1.3

[1] Excludes incorporated self-employed workers.
[2] Includes industries, not shown separately.

NOTE: Detail may not add to totals because of rounding.

have a relatively low incidence rate (4.3 percent). The less skilled group of operators, fabricators, and laborers have a higher incidence rate (5.5 percent). Among the lower skilled workers, handlers, equipment cleaners, helpers, and laborers have the highest absence rate (6.7 percent). These lowest skilled, low-paying jobs are often hazardous and have unpleasant working conditions, for example, fumes, noise, dirt, and heat. Given the gradual shift in technology, a substitution of high skilled manual workers for low skilled may have contributed to the reduction in absence rates.

Variation by personal characteristics

Teenagers have the highest absence rate of any age group, as shown below in the incidence rates for men and women in various age groups:

	Percent of workers with an absence in the reference week, May 1985		
	Total	*Men*	*Women*
All ages	4.8	3.7	6.3
16–19 years	7.0	6.7	7.4
20–24 years	4.8	3.9	5.9
25–54 years	4.6	3.4	6.3
55 years and over	5.7	5.0	6.8

Teenagers may have a higher absence rate because they attach more importance to nonwork activities than do older workers. As workers get into their early twenties, their absence rates decline and approach that of workers age 25 to 54. Past age 55, the absence rate rises again for both men and women. Health problems and health maintenance needs may affect this increase.

For women, the absence rate increases in their prime years, while for men, the rate falls. Understandably, women have a higher incidence of absences during their childbearing years, especially women with children under age 6. However, men with children have a relatively low absence rate. (See table 4.) Marital responsibilities seem to induce men toward a firmer commitment to their jobs, so that they spend less time away from work. For most women, the proportion of time lost increased with the presence of children, especially young ones. Women maintaining families alone who have three children or more have the highest absence rate. This may be because these women have no one to fall back on when their children need care during their working hours. Other family-related responsibilities, such as care of other family members, may be another factor in their relatively high absence rates.

ABSENCE RATES DROPPED considerably between 1980 and 1985. This is probably caused by the fallout from the recession of 1981–82 when workers with attendance problems may have been dismissed in greater numbers. This, in turn, may have induced fear of job dismissal in other workers who kept their absences low. Cost-cutting measures have also

Table 3. Absence rates for full-time wage and salary workers, by occupation, May 1985

[Numbers in thousands]

Occupation	Total number of workers[1]	Incidence rate (Percent of workers absent): Total	Incidence rate: Illnesses and injuries	Incidence rate: Miscellaneous reasons	Inactivity rate (Percent of time lost): Total	Inactivity rate: Illnesses and injuries	Inactivity rate: Miscellaneous reasons
Total, 16 years and over	76,093	4.8	2.6	2.2	2.7	1.6	1.1
Managerial and professional specialty	19,598	4.2	1.9	2.3	2.3	1.0	1.2
Executive, administrative, and managerial	9,381	3.2	1.6	1.6	1.7	.9	.8
Professional specialty	10,217	5.2	2.2	3.0	2.8	1.1	1.6
Technical, sales, and administrative support	22,745	4.9	2.7	2.2	2.5	1.5	1.1
Technicians and related support	2,624	3.0	2.1	1.7	1.8	1.0	.8
Sales occupations	6,934	3.9	2.3	1.6	2.2	1.4	.7
	6,477	4.8	2.8	2.2	3.2	1.8	1.4
Administrative support, including clerical	13,186	5.6	3.0	2.6	2.9	1.6	1.3
Service occupations	7,554	5.7	3.0	2.7	3.1	1.8	1.4
Private household	279	3.6	1.1	2.5	2.2	.2	1.9
Protective service	1,345	4.7	1.8	2.9	2.5	1.2	1.2
Service, except private household and protective	5,930	6.0	3.3	2.7	3.4	2.0	1.4
Precision production, craft, and repair	10,855	4.3	2.8	1.6	2.6	1.8	.8
Operators, fabricators, and laborers	13,897	5.5	3.4	2.1	3.4	2.3	1.1
Machine operators, assemblers, and inspectors	7,006	5.3	3.3	2.0	3.0	2.2	.8
Transportation and material moving occupations	3,619	4.8	3.0	1.8	3.4	2.3	1.3
Handlers, equipment cleaners, helpers, and laborers	3,272	6.7	4.1	2.6	4.1	2.8	1.3
Farming, forestry, and fisheries	1,444	3.1	1.3	1.8	1.8	.7	.9

[1] Excludes incorporated self-employed workers.

NOTE: Detail may not add to totals because of rounding.

Table 4. Absence rates for full-time wage and salary workers, by marital status, sex, presence and age of children, May 1985

[Numbers in thousands]

Marital status and sex	Total number of workers[1]	Incidence rate (Percent of workers absent): Total	Incidence rate: Illnesses and injuries	Incidence rate: Miscellaneous reasons	Inactivity rate (Percent of time lost): Total	Inactivity rate: Illnesses and injuries	Inactivity rate: Miscellaneous reasons
Women who maintain families							
With no children under 18 years old	1,475	5.4	3.8	1.6	3.3	2.7	0.6
With one child under 18 years old:							
Youngest child 6 to 17	1,386	5.6	3.2	2.4	2.8	1.9	.9
Youngest child under 6	360	8.4	4.9	3.5	3.8	2.1	1.7
With two children under 18 years old:							
Youngest child 6 to 17	622	5.9	2.9	3.0	3.1	1.6	1.5
Youngest child under 6	311	11.0	5.4	5.7	5.8	2.3	3.5
With three children or more under 18 years old:							
Youngest child 6 to 17	208	9.8	6.2	3.5	4.5	3.7	.8
Youngest child under 6	120	17.7	5.2	12.5	6.2	2.7	3.5
Married women, spouse present							
With no children under 18 years old	7,971	5.8	3.2	2.7	3.1	1.9	1.2
With one child under 18 years old:							
Youngest child 6 to 17	2,350	6.7	3.7	3.0	3.8	2.4	1.4
Youngest child under 6	1,506	12.8	3.6	9.2	9.3	2.1	7.3
With two children under 18 years old:							
Youngest child 6 to 17	1,833	6.4	2.8	3.6	3.0	1.5	1.5
Youngest child under 6	1,251	10.9	3.5	7.4	7.0	2.0	5.0
With three children or more under 18 years old:							
Youngest child 6 to 17	612	2.6	1.4	1.2	.8	.6	.2
Youngest child under 6	635	9.2	3.7	5.5	4.0	1.5	2.5
Married men, spouse present							
With no children under 18 years old	11,669	4.0	2.6	1.4	2.5	1.7	.8
With one child under 18 years old:							
Youngest child 6 to 17	4,204	4.0	2.4	1.6	2.5	1.6	.9
Youngest child under 6	3,188	3.5	1.8	1.8	1.9	1.0	1.0
With two children under 18 years old:							
Youngest child 6 to 17	3,711	2.3	1.5	.7	1.4	.9	.4
Youngest child under 6	3,601	3.4	1.9	1.5	1.7	1.0	.7
With three children or more under 18 years old:							
Youngest child 6 to 17	1,507	3.1	1.7	1.4	2.0	1.3	.7
Youngest child under 6	2,383	3.5	2.3	1.2	1.9	1.4	.5

[1] Excludes incorporated self-employed workers.

NOTE: Detail may not add to totals because of rounding.

caused employers, particularly in manufacturing, to institute various means to hold absences down, both through incentives and disciplinary action. Reflecting these trends, the absence rates in the goods-producing sector were lower in 1985 than those in the service-producing sector, a situation that has not been observed before, at least not since 1973. ☐

——*FOOTNOTES*——

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[1] *Quarterly Report on Job Absence and Turnover, 2d Quarter 1985* (Washington, The Bureau of National Affairs, Inc., Sept. 5, 1985).

[2] The situation in these 2 particular months (May 1980 and May 1985) may not be totally representative of the trend in absences over this 5-year period. However, separate estimates of absences based on CPS data for the 12 months of 1980 and 1985, showed declines well in excess of 10 percent.

[3] J. Paul Leigh, "The Effects of Unemployment and the Business Cycle on Absenteeism," *Journal of Economics and Business*, May 1985, pp. 159–70.

[4] Peter Perl, "Work Place Conflicts Arise Over Rules on Absenteeism," *The Washington Post*, June 23, 1986, p. A1.

[5] *Labour Force Sample Survey, 1983* (Luxembourg City, Luxembourg, Statistical Office of the European Communities, 1985), p. 114; *Report on the Special Survey of the Labour Force Survey, February 1984* (Tokyo, Japan, Statistics Bureau, Management and Coordination Agency, 1984), pp. 58–59; *The Labour Force Australia, February 1986* (Canberra, Australian Bureau of Statistics, April 1986), p. 21; *The Labor Force, December 1985* (Ottawa, Statistics Canada, January 1986), p. 118; *Arbetskraftsundersokningar, Arsmedetal 1985* (Stockholm, Sweden, Statistiska Centralbyran, 1985), p. 121.

Measures to increase incomes

The vital role of women in agriculture in many parts of the developing world means that they should be assisted in rural development programs, for example, by the introduction of appropriate technology and simple farm tools to reduce the burden of their work on the land and in the home. Technological innovation and appropriate training aimed at peasant and small-holder farmers should be organized as part of extension services which are easily accessible to even the poorer segments of the rural population. The adoption of appropriate technologies will be crucial to the attainment of food self-sufficiency in the coming decade, and here again is a field in which the ILO has an important role to play in the coming years, building on experience gained so far. Other policy measures to increase agricultural production deserving of consideration include the provision of infrastructural facilities and essential public services (for example, roads, irrigation, health centers, schools); improved access to credit; and pricing and marketing policies appropriate to the maximization of the growth of output and employment in rural areas.

——*The Changing World of Work: Major Issues Ahead*
(Report of the Director-General (Part I),
International Labour Conference, 72d sess.
(Washington, International Labour Organization,
1986), p. 18.

Work at home: new findings from the Current Population Survey

In May 1985, more than 8 million Americans reported at least 8 hours per week of home-based work; services, ranging from consulting to child care, were the most common pursuits of persons working substantial numbers of hours at home

FRANCIS W. HORVATH

For some Americans, there is no separation of gainful work between the home and the workplace. A large number of persons regularly squeeze extra hours into their workweek by performing job-related chores at home. Others have completely eliminated the trip to work by setting up businesses or performing work-for-hire while at home.

In May 1985, the Bureau of Labor Statistics made its first attempt to determine the size of the home-based work force. Along with other questions on work practices, the respondents to the May survey were asked whether: "As part of . . . (the worker)'s regularly scheduled work, does . . . (he/she) do any of (his/her) work for . . . (the principal employer) at home?" Persons answering affirmatively were asked to estimate the number of hours of work done at home.

While more than 18 million people responded affirmatively, almost half of them worked at home for less than 8 hours a week. Another 770,000 were farmers or farm laborers. The remainder, nearly 8.4 million persons, had worked at home for 8 hours or more in the reference week, as part of a nonfarm job. They are the focus of most of the analysis which follows.

It should be noted that persons working at home on a second job or business were not counted among home-based workers. "Work-at-home" as defined here pertains only to work done as part, or as an extension, of one's primary job. Of course, given this definition, it is possible that persons who regularly bring work home, such as managers reading or writing memos at home, or teachers grading papers, might consider such work to be "regularly scheduled," and will report it as home-based work.

Earlier studies

The May survey was the first specific attempt to estimate the size of the home-based work force. Other estimates had been available from secondary sources and private studies.[1] For example, in response to a special congressional request, the Census Bureau had produced a tabulation on persons working at home from the data gathered as part of the 1980 census.[2] The specific source for the study was a question on methods of travel to work, to which one possible response was "worked at home." According to the data, about 2.2 million persons were identified as home-based workers. More than half (1.2 million) of homeworkers were self employed.

More recently, a privately conducted study was designed to study work-at-home styles. In a telephone survey, respondents were asked questions about work hours, job satisfaction, and computer usage in the home. Nearly 60 percent of the respondents cited working part-time at home as the "ideal work arrangement."[3]

Francis W. Horvath is an economist in the Division of Data Development and Users' Services, Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

Who are 'homeworkers'?

Of the 17.3 million persons with any home-based work in nonfarm occupations (regardless of the number of hours reported), about 9.6 million (55 percent) were men. (See table 1.) While men outnumbered women in the general classification of home-based work, women who worked at home had a stronger commitment to the home as a workplace. For example, women averaged 11.1 hours per week on home-based work, while men put in 9.3 hours. About 8 percent of the women worked 35 hours or more at home, compared with 4 percent of the men. Overall, there were 60 percent more women than men who worked the equivalent of a full-time week at home.

Work at home appears to be a particularly attractive option for older persons, for whom the daily commute to work can be very tiring. Nearly one fifth of all nonfarm home-based workers working 35 hours or more weekly consisted of persons over 55 years of age, a group that accounts for only 1 in 8 of all employed workers.

The distribution of home-based work by race also showed slightly higher percentages of white workers than are found in the overall labor force. There were about 660,000 black and Hispanic workers with 8 hours or more of home-based work.

Industrial and occupational comparisons

Much of the interest in home-based work has centered around a few key industries and occupations. For example, it is believed that a growing number of clerical workers are opting to establish their own businesses at home, having been attracted by the idea of "being one's own boss."[4] Clerical workers such as secretaries, typists, forms processors, and data entry personnel have seen a drop in the cost of capital equipment that has enabled them to set up shop at home. Declining prices for personal computers and other electronic equipment have given many persons in professional service industries, such as financial records processing and bookkeeping, an opportunity to begin a business with very low startup costs.

Table 1. Employed persons working at home, by age, sex, and hours worked at home, May 1985

[Numbers in thousands]

Age and sex	Total	Number reporting hours worked at home[1]			
		Total	8 hours or more	35 hours or more	Mean hours
Total, 16 years and over	18,082	17,477	8,978	1,287	11.0
Total nonfarm workers, 16 and over	17,313	16,748	8,404	965	10.1
25 years and over	16,236	15,700	7,943	925	10.2
25 to 34	5,158	4,984	2,364	243	9.3
35 to 44	5,506	5,374	2,660	271	9.9
45 to 54	3,199	3,094	1,637	215	10.8
55 and over	2,373	2,248	1,282	195	12.2
Men, 16 years and over	9,559	9,277	4,580	369	9.3
25 and over	9,071	8,799	4,385	365	9.4
25 to 34	2,727	2,655	1,220	63	8.2
35 to 44	3,102	3,023	1,471	117	9.2
45 to 54	1,794	1,744	925	92	10.0
55 and over	1,448	1,377	769	93	11.3
Women, 16 years and over	7,754	7,471	3,824	596	11.1
25 and over	7,164	6,900	3,559	560	11.3
25 to 34	2,431	2,329	1,144	181	10.5
35 to 44	2,404	2,350	1,189	155	10.7
45 to 54	1,405	1,350	712	123	11.8
55 and over	925	871	513	103	13.8

[1] Some workers who reported working at home did not provide numbers of hours actually worked. Estimates below relate only to those reporting actual hours worked.

Table 2. Employed persons in nonagricultural industries with 8 hours or more of home-based work, by industry and sex, May 1985

[In thousands]

Industry	Men		Women	
	8 hours or more	35 hours or more	8 hours or more	35 hours or more
Nonagricultural industries	4,565	368	3,790	585
Mining	53	5	25	5
Construction	391	11	93	19
Manufacturing	676	42	258	40
Durable goods	451	21	102	12
Nondurable goods	225	21	156	29
Transportation and public utilities	247	16	115	20
Wholesale and retail trade	799	45	494	51
Finance, insurance, and real estate	465	49	310	35
Services[1]	1,757	193	2,375	413
Public administration	161	3	120	2

[1] Excludes forestry and fisheries.

Table 2 presents counts of home-based workers who worked for 8 hours or more at home by major nonagricultural industry group and sex. By far the largest industry group of home-based workers is in services. This category includes educational, professional, and business and repair services, as well as such social services as child care. Nearly 60 percent of women who worked 8 hours or more at home were in the services industry, compared with only 35 percent of the men.

The longer an individual's weekly hours of home-based work, the more likely he or she is to be engaged in a services industry. More than half of men and two-thirds of women in nonagricultural industries with long hours of home-based work were in service industries.

A more detailed look at home-based work in services is presented in table 3. Business and repair services accounted for nearly 100,000 of the persons working full-time workweeks at home. This category includes a variety of establishments, such as business management and consulting services and computer and data processing services. Social services, which encompass child care, accounted for 110,000 full-time home-based workers. Another 90,000 home-based workers were in "other professional services," covering legal services, architectural services, religious organizations, and others.

Table 3 also presents counts by class of worker. It shows that among the universe of persons with 8 hours or more of home-based work in the reference week, the majority were private wage and salary workers, who may simply be bringing work home on a regular basis. However, among those

Table 3. Employed persons in the services industry with 8 hours or more of home-based work, by class of worker, May 1985

[In thousands]

Industry	8 hours or more				35 hours or more			
	Wage and salary workers			All other workers[1]	Total	Wage and salary workers		All other workers[1]
	Total	Incorporated self-employed	All other wage and salary workers			Incorporated self-employed	All other wage and salary workers	
Services[2]	4,132	192	2,653	1,287	606	39	149	418
Private households	117	–	117	–	63	–	63	–
Business and repair services	679	67	255	357	97	11	10	76
Personal services, except private household	428	7	52	369	177	6	3	168
Entertainment and recreational services	111	9	35	67	20	2	4	14
Professional services	2,796	108	2,194	494	250	20	70	161
Hospitals	115	–	115	–	2	–	2	–
Health services, except hospitals	198	39	100	59	26	4	11	10
Educational services	1,545	–	1,510	35	19	–	15	4
Social services	234	11	108	115	110	6	19	85
Other professional services	705	58	353	284	92	9	22	61

[1] Includes the self-employed (unincorporated) and unpaid family workers.

[2] Excludes forestry and fisheries.

NOTE: Dash indicates zero or rounds to zero.

who worked 35 hours or more, close to 70 percent were self-employed in home-based, unincorporated businesses. Fewer than 10 percent of all full-time home-based workers were self-employed but incorporated.

It is not possible to determine from the May 1985 data how many persons working at home use a computer in their work, or how many persons "telecommute" to their jobs.[5] No specific questions on this topic were asked as part of the survey supplement. However, some insight about the effects of technological change on work practices can be gained by examining the distribution of home-based work by occupation. (See table 4.) One of the largest occupational groups of home-based workers is in "financial records processing." This category includes bookkeepers, accountants, and auditors, as well as persons operating billing, posting, and calculating machines.

Table 4. Employed persons working at home, by major and selected nonfarm occupations and hours worked at home, May 1985

[Numbers in thousands]

Occupation	Total	Number reporting hours worked at home[1]			
		Total	8 hours or more	35 hours or more	Mean hours
Major occupation					
Total	17,313	16,748	8,404	965	10.1
Managerial and professional speciality	9,468	9,182	4,373	272	8.8
Technical, sales, and administrative support	4,979	4,827	2,427	256	9.9
Service occupations	1,074	1,025	715	326	21.7
Precision production, craft, and repair	1,186	1,138	578	60	9.9
Operators, fabricators, and laborers	582	552	287	50	11.2
Selected occupations					
Engineers	371	351	158	9	7.5
Mathematical and computer scientists	185	183	94	3	7.8
Teachers	2,949	2,866	1,301	14	7.9
Secretaries, stenographers, and typists	406	397	246	35	11.5
Financial records processing	498	485	293	55	13.4
Private household	141	128	109	63	28.9
Personal services	592	569	462	243	27.3

[1] See footnote 1, table 1.

The ranking of some occupations by incidence of home-based work might be surprising. This may be related to the fact that the May 1985 survey measured those who bring work home as well as those who have formally set up a home-based workplace. The difference between merely bringing some work home and doing all or most of one's work at home is often reflected in the number of hours worked at home. For example, teachers, who might grade papers or prepare lectures at home, accounted for 1.3 million of the 8.4 million nonfarm workers with 8 or more hours of such work, but virtually none of the teachers accumulated 35 or more hours at home. Similarly, while almost 40 percent of all employed managerial and professional specialty workers reported regular homework, only 270,000 of them accumulated full-time workweeks while at home. As noted earlier, a very large proportion of those with 35 or more hours of home-based work were in service occupations, and in particular, personal services.

Formalized arrangements rare

In standard classifications, the Bureau of Labor Statistics divides employed workers into three class-of-worker categories—wage and salary, self-employed, and unpaid family workers. For purposes of comparability with the Bureau's establishment data, those workers who are the nominal employees of corporations which they own—the "self-employed incorporated"—are treated as wage and salary workers. In our analysis, however, these workers are displayed separately, leaving an "all other wage and salary workers" category that consists entirely of persons employed by someone else.

Table 5 displays a breakdown of home-based workers according to this classification. It suggests that formalized business arrangements are rare for the typical home-based worker. Fewer than 7 percent of those working full time at

Table 5. Percent distribution of employed persons with 8 hours or more of home-based work, by class of worker and sex, May 1985

Class of worker	Total		Men		Women	
	8 hours or more	35 hours or more	8 hours or more	35 hours or more	8 hours or more	35 hours or more
Total (in thousands)	8,978	1,287	5,019	634	3,959	653
Percent distribution						
Total	100.0	100.0	100.0	100.0	100.0	100.0
Agriculture	6.9	25.9	90.5	41.8	4.2	10.4
Self-employed unincorporated	5.1	21.5	7.4	37.4	2.2	6.1
Nonagriculture	93.1	74.0	91.0	58.0	95.7	89.6
Wage and salary	66.2	26.4	65.6	23.8	67.0	29.1
Self-employed incorporated	7.4	6.4	9.9	8.5	4.1	4.4
Private wage and salary	40.6	17.8	42.6	13.4	38.1	22.1
Government	18.3	2.2	13.1	1.7	24.9	2.5
Self-employed unincorporated	25.8	46.2	25.2	34.2	26.5	57.9
Unpaid family workers	1.1	1.4	.2	–	2.2	2.8

NOTE: Dash indicates zero or rounds to zero

home in nonagricultural jobs were incorporated. For agriculture and nonagriculture combined, about 2 of every 3 home-based workers who worked 35 hours or more were operating as unincorporated self-employed businesspersons.

Children and home-based work

Home-based work offers a chance for some persons with children to more effectively combine the roles of parent and worker. Elimination of commuting and child-care expenses can be a strong incentive for households with young children to experiment with home-based work. About 600,000 married mothers of children under 6 years of age reported some home-based work. (See table 6.) More than one-fifth of such women worked at home for 35 or more hours as part of their contribution to the job market.

In general, there were slight differences between women and men working in homes with young children. However, among nonfarm workers with 35 hours or more of home-based work, there were three times as many women with very young children as there were men.

Working exclusively at home

Using responses from the regular portion of the Current Population Survey as well as those from the May supplement, it is possible to compare the hours worked at home with all work hours during the previous week and thus identify persons working "entirely" at home. The classification showed 2.2 million persons working exclusively at home in May 1985. (See table 7.) About 390,000 of those working exclusively at home were in farming occupations, leaving almost 1.9 million persons as the home-based work force. About two-thirds of these were women.

As might be expected, the hours of persons working solely at home were far higher than the overall averages for home-based work. Where work was conducted exclusively within (or from) one's home, men averaged 41.1 hours, while women totaled 27.7 hours. About half of the persons whose work was entirely home based were in service industries, such as professional services, business and repair services, and personal services. Only about 100,000 of the persons with home-based work in professional specialty occupations, which includes computer programming as a subset, worked entirely at home.

Restricted industries

In the 1940's, following a series of public hearings, the Labor Department moved to restrict home-based work in a number of narrowly defined industries. This recently criticized and reevaluated "patchwork" of regulations was directed toward those activities which had been found to be in violation of the Fair Labor Standards Act. The seven industries were: women's apparel, jewelry, gloves and mittens, knitted outerwear, buttons and buckles, handkerchiefs, and embroidery. Homework in those industries was permitted for individuals meeting specific certificate requirements. The recent arguments surrounding home-based work have crystalized around these apparel and accessory industries.[6]

The May 1985 data do not allow an accurate determination of the number of persons whose home-based work is in the various restricted industries. The industrial classification used in tabulating these data no longer coincides with the 1940's-based industry definitions upon which the restrictions were based. Some of the restricted industries extend across multiple classifications in the current data, or fall into a highly aggregated "all other" category, which includes industries in addition to the restricted one. However, it is possible to create an upper-bound estimate of the total number of persons affected by the restrictions by adding up workers in every detailed industry classification which overlaps with the restricted industries. Using the finest available breakdown of industries,[7] it was estimated that the maximum number of persons working 8 hours or more at home in restricted industries could not exceed 125,000, and the number working 35 hours or more was below 20,000. About

Table 6. Employed married persons with 8 hours or more of home-based work, by presence and age of children, and sex, May 1985

[Numbers in thousands]

Presence and age of children	Men		Women	
	8 hours or more	35 hours or more	8 hours or more	35 hours or more
Total	3,868	505	2,658	504
Total nonfarm	3,514	277	2,549	457
Without children under age 18	1,519	142	1,162	198
With children under age 18	1,995	135	1,387	259
Children age 6 to 17, none younger	1,153	90	794	128
Children age 14 to 17, none younger	372	26	272	52
Children age 6 to 13	781	64	522	76
Children under age 6	842	45	594	132

Table 7. Employed persons working entirely at home by sex, occupation, industry, and hours worked at home, May 1985

[Numbers in thousands]

Sex, occupation, and industry	Total	8 hours or more	35 hours or more	Mean hours
Total, 16 years and over	2,243	1,992	1,067	32.1
Men	749	709	476	41.1
Women	1,494	1,284	591	27.7
Occupation				
Managerial and professional specialty	553	451	211	28.5
Technical, sales, and administrative support	593	482	210	25.4
Service occupations	504	478	288	34.0
Precision production, craft, and repair	142	121	55	27.0
Operators, fabricators, and laborers	82	76	38	28.5
Farming, forestry, and fishing	390	385	266	47.6
Industry				
Agriculture	421	403	277	45.7
Nonagricultural industries	1,823	1,589	790	29.0
Mining	16	14	5	(1)
Construction	81	66	24	25.0
Manufacturing	151	140	65	28.5
Durable goods	67	64	28	(1)
Nondurable goods	83	76	37	25.9
Transportation and public utilities	54	48	33	(1)
Wholesale trade	49	42	14	(1)
Retail trade	202	151	63	23.5
Finance, insurance, and real estate	111	102	64	34.0
Services	1,128	1,000	514	29.9
Public administration	25	22	3	(1)

[1] Data not shown where base is less than 75,000.

90,000 of these persons were in either the apparel industry—which includes both restricted and unrestricted work—or the jewelry industry. The total was evenly divided among men and women. Because this was the first time this survey has been conducted, it is not possible to determine if this number of homeworkers has been increasing or decreasing. ☐

FOOTNOTES

[1] Margrethe Olson, *Overview of Work-at-Home Trends in the United States* (New York, New York University, August 1983.)

[2] U.S. Bureau of the Census, unpublished data prepared for the House Subcommittee on Employment and Housing, April 1986.

[3] Electronic Services Unlimited, New York, NY, conducted a National Work-at-Home telephone survey in 1986 to determine work habits, buying needs, and preferences of home-based workers.

[4] For a thorough review of home-based clerical work, see chapter 7, "Home Based Office Work," *Automation of America's Offices*, OTA-CIT-287 (Washington, Office of Technology Assessment, December 1985); or National Research Council, *Office Workstations in the Home* (Washington, National Academy Press, 1985).

[5] Joanne H. Pratt, "Home Teleworking: A Study of its Pioneers," *Technological Forecasting and Social Change*, vol. 25, 1984, pp. 1–14.

[6] For a complete listing of Federal restrictions, see *Federal Register* "Department of Labor 29 CFR Part 530, Employment of Homeworkers in Certain Industries, Final Rule, November 5, 1984," and "Regulations, Part 530: Employment of Homeworkers in Certain Industries (U.S. Department of Labor, Wage and Hour Division, WH Publication 1026, March 1980). For a viewpoint of organized labor on the issue of computer homework, see "AFL-CIO Resolution on Computer Homework" in *Office Workstations in the Home*.

[7] The estimate was created using a list matching restricted industries with census detailed industry codes, provided by Mike Ginley, Wage and Hour Division, U.S. Department of Labor.

Overtime work: an expanded view

More comprehensive survey covers overtime hours even of persons who do not exceed the traditional 40-hour week; 1.6 million of them received premium pay in 1985

DARRELL E. CARR

About 10 percent of all American workers received overtime pay for hours worked in a typical week in May 1985. The great majority of them worked more than the traditional 40 hours that week; however, some received overtime pay even though their workweek did not exceed 40 hours.

Prior to 1985, data on overtime work were limited to employees who worked more than 40 hours a week at a single job.[1] In addition to these data, the May 1985 Current Population Survey also collected information on overtime work performed by persons with 40 or fewer hours of work in the reference week. An additional feature of the 1985 data is that they are not limited to persons holding only one job.

There were several reasons for extending the survey questions on overtime to workers with 40 or fewer hours of work in a week. First, these workers constitute a majority of those in wage and salary jobs.[2] The following tabulation shows the distribution of wage and salary workers, by hours, May 1985 (numbers in thousands):

Total, all schedules	90,892
41 hours or more	24,386
40 hours or fewer	66,506
40 hours	38,477
39 hours or fewer	28,028

Second, in some jobs, by custom or agreement, the standard full-time workweek is well below 40 hours. Finally, regardless of the length of the workweek, some workers receive overtime pay for working more than a set number of hours per day. The inclusion of these additional workers in the analysis of overtime pay sheds new light on the topic.

Why use overtime?

There were 10.5 million persons with some overtime work in the reference week for the May 1985 survey. They labored an average of 9 hours at premium rates (generally time-and-one-half), for a total of about 94 million hours. Thus, the total dollar costs of such premiums to employers ran into millions. Why would employers incur these additional expenses?

Over the very short term, employers use overtime hours to fill rush orders, to meet seasonal peaks in demand, and to maintain production schedules despite employee absences and mechanical failures. But overtime work is also used when employers are unable to hire workers with critical skills, or when they are simply reluctant to hire new workers because of uncertainties over future product demand and the labor requirements that go with it.

Some employers may even schedule overtime work on a regular basis, rather than hire additional workers, even when workers are readily available and product demand is fairly constant. Employers tend to use this approach, according to Ronald G. Ehrenberg, when they perceive the costs of overtime premiums to compare favorably with the quasi-fixed employee-related expenses—such as sick leave, annual vacations, paid holidays, health insurance, and pension funding—which they would incur if they expanded their payrolls.[3]

Darrell E. Carr is an economist in the Division of Data Development and Users' Services, Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

Does the use of overtime keep unemployment higher than it would otherwise be? In this regard, it should be noted that the framers of the Fair Labor Standards Act of 1938 believed that overtime work reduced the number of new hires, thereby keeping individuals jobless and general unemployment levels high. Therefore, they incorporated a provision into the Act which required time-and-one-half pay for all hours worked in excess of 40 a week in covered jobs. This measure was clearly designed to discourage the use of overtime, to encourage the hiring of more workers, and thus to reduce unemployment.[4]

Table 1. Total wage and salary workers, those who received overtime pay, and the rate of pay received, by selected characteristics, May 1985

[Numbers in thousands]

Characteristic	Total wage and salary workers[1]	Received overtime pay		Percent distribution by rate of pay received	
		Number[2]	Percent	Time-and-one-half	Other rates
Age and marital status					
Total, 16 years and over	90,892	10,528	11.6	91.8	8.2
16 to 24	18,869	2,137	11.3	93.3	6.7
25 to 34	27,345	3,893	14.2	91.6	8.4
35 to 44	20,354	2,310	11.3	91.1	8.9
45 to 54	13,451	1,339	10.0	91.3	8.7
55 and over	10,873	850	7.8	91.9	8.1
Men, 16 years and over	49,449	7,420	15.0	91.6	8.4
16 to 24	9,942	1,412	14.2	93.0	7.0
25 to 34	15,164	2,833	18.7	91.7	8.3
35 to 44	11,021	1,578	14.3	90.9	9.1
45 to 54	7,381	949	12.9	90.1	9.9
55 and over	5,942	647	10.9	91.7	8.3
Single	13,306	1,599	12.0	92.2	7.8
Married, spouse present	31,658	5,089	16.1	91.5	8.5
Widowed, divorced, and separated	4,484	732	16.3	91.2	8.8
Women, 16 years and over	41,443	3,107	7.5	92.4	7.6
16 to 24	8,927	724	8.1	93.6	6.4
25 to 34	12,181	1,059	8.7	91.4	8.6
35 to 44	9,333	732	7.8	91.5	8.5
45 to 54	6,071	389	6.4	94.3	5.7
55 and over	4,931	202	4.1	92.5	7.5
Single	10,777	783	7.3	91.6	8.4
Married, spouse present	22,314	1,486	6.7	92.3	7.7
Widowed, divorced, and separated	8,352	839	10.0	93.2	6.8
Race and Hispanic origin					
White, 16 years and over	78,765	9,381	11.9	91.9	8.1
Men	43,352	6,672	15.4	91.4	8.6
Women	35,413	2,709	7.6	93.2	6.8
Black, 16 years and over	9,640	944	9.8	90.6	9.4
Men	4,771	622	13.0	92.9	7.1
Women	4,869	322	6.6	86.2	13.8
Hispanic origin, 16 years and over	5,842	628	10.7	94.8	5.2
Men	3,528	473	13.4	95.6	4.4
Women	2,314	155	6.7	92.7	7.3

[1] Data refer to wage and salary workers, excluding the incorporated self-employed, who were at work during the survey week.

[2] Includes a small number of persons who did not report the number of overtime hours paid or the rate of pay received.

NOTE: Detail for race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups.

During the early sixties, the causal relationship between overtime and unemployment was asserted again. The *1964 Economic Report of the President* linked the heavy use of overtime in some industries with curtailed job opportunities, and proposed legislation that would increase the premium rate for overtime work from time-and-one-half to double-time.[5] However, the proposed legislation was not enacted.

Some economists, in the meantime, have played down the impact of overtime work on unemployment. For example, Ehrenberg found, first of all, that an overtime rate of time-and-one-half was not a sufficient penalty to deter employers from using overtime instead of hiring new workers, particularly where the fringe benefit costs (fixed costs not related to hours worked) are comparably high. Second, he calculated that while an increase in overtime rates to double-time would further reduce overtime hours, the reduction would not translate into a significant decline in the level of unemployment.[6]

In a 1977 followup study, which expanded upon Ehrenberg's earlier work on the effect of overtime on unemployment, Joyce Nussbaum and Donald Wise concluded: "Both theoretical and statistical analysis confirmed the hypothesis that an increase in the overtime premium would cause a reduction in average annual overtime hours. However, the hypothesis that this reduction in overtime hours would be compensated for by a commensurate increase in employment was not supported."[7]

These researchers also concluded that the increase in the number of jobs that would result from lifting the overtime rates from time-and-one-half to double-time would be small. They noted that the increase in the potential gains in jobs must be weighed against other consequences—lower income for the persons previously working overtime, a possible reduction in output, and a rise in prices.[8]

Who works overtime?

Men, 25 to 34 years of age, are the workers most likely to put in extra hours at overtime rates. Nearly one-fifth of them, regardless of the total number of hours they reported, had been paid some overtime premiums for work performed in the reference week. (See table 1.) Women were about half as likely as men to report paid overtime work.

Age and marital status also play a role in one's probability of working at overtime rates. Among both men and women, the likelihood of working overtime was relatively low for workers in the 16- to 24-year-old group, increased for the 25- to 34-year-old group, and declined progressively thereafter for each age group. The effect of marital status on the probability of working overtime was different for men and women. Married men were more likely to work overtime than single men. For women, the situation was reversed: married women, probably because of their household responsibilities, were less likely to work overtime than single women. Actually, the women most likely to work overtime were those in the "divorced, widowed, or separated" group. (See table 1.)

Table 2. Total wage and salary workers, those who received overtime pay, and the number of overtime hours paid, by occupation and industry, May 1985

[Numbers in thousands]

Occupation and industry	Total wage and salary workers[1]	Received overtime pay		Percent receiving overtime pay for —		
		Number[2]	Percent	1 to 8 hours	9 to 15 hours	16 hours and over
Total, 16 years and over	90,892	10,528	11.6	63.8	21.8	14.3
Occupation						
Managerial and professional specialty	21,265	1,268	6.0	62.7	25.9	11.4
Technical, sales, and administrative support	28,421	2,709	9.5	75.3	17.0	7.8
Service occupations	12,607	785	6.2	71.2	15.3	13.5
Precision production, craft, and repair	11,130	2,441	21.9	57.6	22.9	19.5
Operators, fabricators, and laborers	15,474	3,201	20.7	58.0	24.5	17.5
Farming, forestry, and fishing	1,995	124	6.2	51.6	38.7	9.7
Industry						
Agriculture	1,557	88	5.7	43.2	40.9	15.9
Private nonagricultural industries	73,544	9,447	12.8	63.5	21.9	14.7
Mining	913	254	27.8	42.2	20.1	37.8
Construction	4,789	755	15.8	53.0	25.8	21.2
Manufacturing	19,407	3,887	20.0	60.8	23.7	15.5
Transportation and public utilities	5,458	873	16.0	57.3	25.7	17.0
Wholesale and retail trade	18,611	1,978	10.6	70.6	19.2	10.2
Finance, insurance, and real estate	5,708	386	6.8	78.4	13.9	7.7
Services	18,620	1,313	7.1	71.1	18.2	10.8
Government	15,791	993	6.3	69.0	19.6	11.4

[1] Data refer to wage and salary workers, excluding the incorporated self-employed, who were at work during the survey week.

[2] Includes a small number of persons who did not report the number of overtime hours paid.

Whites were somewhat more likely to work at overtime rates than blacks or Hispanic origin workers. But, regardless of race or Hispanic origin, women were only half as likely as men to work overtime.

Occupation and industry. Among the various occupational groups, the highest proportion of workers reporting some work at overtime rates was in the precision production, craft, and repair group. About 22 percent of the 11.1 million members of this group had received premium rates for some of the hours worked during the May 1985 survey week. (See table 2.) Following closely behind at 20.7 percent were operators, fabricators, and laborers. Together, these two occupational groups accounted for more than half of the 10.5 million workers with some overtime earnings.

The proportion of workers with overtime earnings was much smaller among other occupational groups. For example, of the workers in the managerial and professional specialty occupations, only 6 percent reported paid overtime work. For the most part, these occupations are exempt from the overtime pay provisions of the Fair Labor Standards Act which, as of 1983, applied to an estimated 56 million nonsupervisory jobs.

In terms of industry concentration, overtime work was most common in mining, where 27 percent of the workers reported receiving premium pay in May 1985. In manufacturing, the proportion was 20 percent. Although fewer than

Table 3. Total wage and salary workers, those who received overtime pay, and the number of overtime hours paid, by length of the workweek, May 1985

[Numbers in thousands]

Length of the workweek	Total wage and salary workers[1]	Received overtime pay		Percent receiving overtime pay for —			Mean overtime hours paid
		Number[2]	Percent	1 to 8 hours	9 to 15 hours	16 hours and over	
Total, 16 years and over	90,892	10,528	11.6	63.8	21.8	14.3	9.0
Worked 41 hours or more	24,386	8,926	36.6	60.4	23.6	16.0	9.6
On one job	21,421	8,416	39.3	60.3	23.5	16.2	9.6
On two jobs or more	2,965	510	17.2	62.1	25.6	12.4	9.6
Worked 40 hours or fewer	66,506	1,601	2.4	83.3	11.7	5.0	6.0
Worked 40 hours	38,477	880	2.3	79.4	14.6	6.0	(3)
Worked 39 hours or fewer	28,026	722	2.6	87.8	8.2	4.0	(3)

[1] Data refer to wage and salary workers, excluding the incorporated self-employed, who were at work during the survey week.

[2] Includes a small number of persons who did not report the number of overtime hours paid.

[3] Not available.

one-fifth of all workers are now employed in manufacturing, the industry accounted for about two-fifths of those with paid overtime work in May 1985. The construction industry also had a relatively high proportion of workers (15.8 percent) reporting some overtime earnings. In contrast, in agriculture and such industries as finance, insurance, and real estate, government, and services, the proportion of employees with overtime work did not exceed 10 percent, and was generally much lower.

Hours worked. As might be expected, the great majority of persons receiving some overtime pay worked more than the 40-hour standard workweek. The following tabulation shows the number of wage and salary workers by hours worked and by the number and proportion receiving some overtime pay, May 1985 (numbers in thousands):

		Received overtime pay	
	At work	*Number*	*Percent*
Total, all schedules	90,892	10,528	11.6
Worked 41 hours or more	24,386	8,926	36.6
Had one job only	21,421	8,416	39.3
Had two jobs or more	2,965	510	17.2
Worked 40 hours or fewer	66,506	1,601	2.4

About 24.4 million persons reported having worked more than 40 hours in the May 1985 survey week. The great majority of these workers (21.4 million) worked at only one job. Our major interest—and the concern of the Fair Labor Standards Act—lies with this group. About two-fifths of them reported they had received overtime pay. This is about equal to the percentage of workers with overtime pay found in previous surveys of workers on long workweeks. As for the other three-fifths—those working more than 40 hours but not receiving any overtime pay—they appear to be largely in jobs which did not fall under the provisions of the Act. They were concentrated in managerial, professional, technical, sales, and administrative support jobs, where the payment of overtime premiums for hours worked in excess of 40 is not widely practiced.

The workers receiving premium pay for having labored beyond the 40-hour standard reported an average of 9.6 hours of overtime work. (See table 3.) Nearly two-thirds of them had put in 8 hours or fewer of overtime work. Of the remainder, most reported 9 to 15 hours of overtime; only a small minority—16 percent—reported 16 hours or more.

Even fewer hours of overtime were put in by those reporting the receipt of overtime pay even though their workweek had not exceeded the 40-hour standard. These persons worked an average of 6 hours at overtime premiums. More than four-fifths of them reported 8 or fewer hours for which they had collected overtime pay.

Time-and-one-half was by far the predominant rate of pay for overtime work in 1985. In fact, of the 10.5 million workers with some overtime earnings in the May survey, about 9.5 million, or more than 90 percent, said they were paid "time-and-one-half." Only about 200,000 reported receiving "double-time." Of the remainder, some reported a "graduated rate," but most responses were combined into an "all other" category. □

FOOTNOTES

[1] Daniel E. Taylor and Edward S. Sekscenski, "Workers on long schedules, single and multiple jobholders," *Monthly Labor Review*, May 1982, pp. 47–53.

[2] Data refer to wage and salary workers at work during the May 1985 survey week (May 12–18). Excluded are those who were employees of corporations which they owned.

[3] Ronald G. Ehrenberg, *Fringe Benefits and Overtime Behavior* (Lexington, MA, D.C. Heath and Co., 1971), p. 1.

[4] Charles H. Livengood, Jr., *The Federal Wage and Hour Law* (Philadelphia, PA, Amercian Law Association collaborating with the American Bar Association, 1951), p. 6.

[5] T. Aldrich Finegan, "Can a Case Be Made for Discourging Overtime?" in William G. Bowen, ed., *Labor and the National Economy* (New York, W.W. Norton and Co., Inc., 1965), p. 174.

[6] Ehrenberg, *Fringe Benefits*, p. 1.

[7] Joyce M. Nussbaum and Donald E. Wise, "The Employment Impact of the Overtime Provisions of the FLSA" (U.S. Department of Labor, 1977), Bibliographic Data Sheet.

[8] Nussbaum and Wise, "The Employment Impact," p. 123.

Preferred hours of work and corresponding earnings

Most workers are satisfied with the number of hours they currently work, although about 1 of 4—especially young people and low earners—would prefer more hours and more money; very few would trade income for leisure time

SUSAN E. SHANK

If given a choice of working the same, fewer, or more hours at the same rate of pay, most employees would prefer the same number of hours. An additional one-fourth would prefer to work more hours and earn more money, while 8 percent would choose to work fewer hours and earn proportionately less money. This finding that well over half of all workers are satisfied with their present hours and pay is based on information obtained from a new question on the May 1985 supplement to the Current Population Survey (CPS), and is consistent with results obtained from similar questions asked by Katona and others in 1966 and by Louis Harris and Associates in 1978.[1]

The degree of satisfaction with current hours and pay rises steadily with age. It is also positively related to the number of hours worked and the weekly earnings level. The "more hours and more money" option appeals especially to young people, many of whom are working only part time, and its popularity declines steadily with age. A large proportion of minority workers, especially men, would also prefer to work more hours and earn more money.

Very few employed persons wanted to work fewer hours and earn correspondingly less money. However, women were more likely than men to prefer reduced hours, even though it meant lower earnings. Also, the proportion choosing this alternative increased with age to a peak in the 35- to 44-age group.

The new CPS question asked for employee preferences on hours of work and corresponding earnings—given the same rate of pay. This question was last on the supplement because it differs significantly from other labor force questions, which focus on a person's activity and emphasize much more objective behavior. The question asked:

> If you had a choice, would you prefer to work:
>
> The same number of hours and earn the same money? .... ○
>
> Fewer hours at the same rate of pay and earn less money? .... ○
>
> More hours at the same rate of pay and earn more money? .... ○

Interviewers asked this question directly of the respondent—unlike other questions where a responsible person in the household could respond for all other household members. Self-response was required because preference is inherently individual and subjective. As a result, information was not obtained for approximately 22 percent of all employed persons. Nonresponse was higher for men than for women, and was substantially higher for teenagers and young adults than for persons age 25 and over. These were

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Susan E. Shank is an economist in the Division of Employment and Unemployment Analysis, Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

the persons less apt to be at home during the day and early evening hours when most interviews are conducted.

In spite of the difficulty in contacting individual respondents, answers were obtained from 8 of 10 wage and salary workers age 25 and over. In this article, distributions of persons wanting the same, fewer, or more hours and corresponding pay are based on the total who reported such preferences. Also, the data pertain only to wage and salary workers (excluding incorporated self-employed persons).

Although the following sections analyze workweek preferences separately by various demographic and job characteristics, it is important to note that many of these characteristics tend to occur simultaneously. For example, young people often work relatively few hours at low rates of pay and express a strong preference for more hours and more money. It should also be noted that preferences about work hours are already reflected, to some degree, in the jobs workers currently hold. This is particularly true for experienced adult workers who presumably have more control over their work schedules than do young people. The analysis of preferences by actual hours at work and by earnings focuses on the 25- to 54-age group in order to exclude those age categories where transition into and out of the labor market have a major impact on hours.

Effect of worker and job characteristics

Preferences about hours and pay differed by age and gender, as well as by present earnings level and actual hours worked. Correlations between workweek preferences and various worker and job characteristics were generally in the expected direction, although some of the magnitudes were surprising. For example, as weekly earnings rose, so did both the proportion of workers expressing satisfaction with their current schedules and the proportion opting for fewer hours and less money. However, it is noteworthy that relatively few men expressed a preference for fewer hours and less pay. Even among those who earned $1,000 or more per week, only 10 percent selected this alternative.

Age and gender. Almost two-thirds of all workers expressed satisfaction with their present hours and pay. This proportion rose steadily with age—from about 40 percent in the teen years to 80 percent for workers 55 and over. (See table 1.) Many older workers, especially those age 65 and over, voluntarily work part time, which contributes to the high degree of satisfaction with their present workweek.

While the proportion wanting to work the same hours increased with age, the percentage desiring more hours moved in the opposite direction. Slightly more than half of

Table 1. Workweek and pay preference of employed persons by selected characteristics, May 1985

[Numbers in thousands]

Characteristics	Total	Reported preference				Did not report preference
		Total	Same hours, same money (percent)	Fewer hours, less money (percent)	More hours, more money (percent)	
Total, 16 years and over	106,878	83,698	64.9	7.6	27.5	23,180
Wage and salary workers	97,110	76,195	64.8	7.5	27.7	20,915
Incorporated self-employed	2,831	1,963	75.0	11.4	13.7	868
All other wage and salary workers	94,280	74,232	64.6	7.3	28.1	20,048
Men, 16 years and over	51,106	37,400	63.5	5.9	30.6	13,706
16 to 19	3,208	1,950	39.7	2.6	57.8	1,257
20 to 24	6,980	4,883	48.5	3.9	47.7	2,097
25 to 34	15,583	11,957	60.4	6.0	33.6	3,625
35 to 44	11,387	8,376	66.8	6.7	26.5	3,012
45 to 54	7,684	5,521	72.6	6.7	20.6	2,163
55 to 64	5,236	3,932	79.5	6.8	13.7	1,304
65 and over	1,029	780	81.9	7.4	10.7	249
Women, 16 years and over	43,173	36,832	65.7	8.8	25.5	6,341
16 to 19	2,875	1,867	42.8	3.4	53.8	1,008
20 to 24	6,383	5,079	57.4	6.1	36.6	1,284
25 to 34	12,704	11,153	65.5	9.7	24.8	1,551
35 to 44	9,642	8,528	65.6	10.7	23.6	1,114
45 to 54	6,352	5,574	71.2	9.4	19.4	778
55 to 64	4,300	3,802	77.3	7.5	15.2	498
65 and over	927	829	81.3	6.9	11.8	98
White	81,699	64,419	65.5	7.7	26.8	17,280
Men	44,808	32,806	64.5	6.2	29.3	12,002
Women	36,891	31,613	66.5	9.4	24.2	5,278
Black	9,991	7,744	56.6	4.4	39.0	2,247
Men	4,934	3,537	54.0	3.8	42.2	1,398
Women	5,057	4,207	58.8	4.9	36.3	850
Hispanic origin	6,040	4,782	60.4	3.8	35.8	1,258
Men	3,663	2,816	58.0	2.6	39.3	848
Women	2,376	1,966	63.7	5.6	30.7	410
All other workers[1]	9,768	7,504	66.1	8.9	25.0	2,264

[1] Includes the self-employed (unincorporated) and unpaid family workers.

NOTE: Detail for the above race/Hispanic-origin groups will not sum to totals because data for the "other races" group are not shown and Hispanics are included in both the white and black groups.

the teenagers—many of whom work part time at low wages—said they wanted more hours and pay, but relatively few older workers wanted more hours. These differences reflect factors such as older persons' greater control over their work schedules, their higher earnings, and less desire for change.

The proportion preferring fewer hours and less pay was small in all age groups. Of the minority who wanted to change their schedules, more hours were preferred 4 to 1 over fewer hours. Only 4 percent of all workers under age 25 would like the fewer hours alternative. Even in the central age groups, where this option was most popular, fewer than 10 percent preferred it.

Women were more likely than men to prefer fewer hours and less pay. In the 25- to 54-age group, where child care and other household responsibilities are greatest, about 10 percent of the women and 6 percent of the men wanted fewer hours. The proportion of women preferring this option then declined to about 7 percent in the 55 and over age group. In contrast, the proportion of men wishing to work fewer hours rose with age until the mid-thirties, but then held steady at about 7 percent for subsequent age groups.

Men preferred to work longer hours somewhat more frequently than women. This difference was most evident in the young adult years, when household formation and spending for consumer goods is high. However, the proportions preferring to work more hours declined with age, and in the 45 and over age groups were virtually the same for women and men. In fact, for older workers there was little difference between the preferences of men and women. Approximately 80 percent of all workers 55 years and over were satisfied with their hours; about 13 percent preferred longer workweeks, while 7 percent opted for fewer hours.

Whites, blacks and Hispanics. Satisfaction with current hours and pay was greater for whites than minorities, with this difference most apparent among men. (See table 1.) The relatively low satisfaction level for both blacks and Hispanics is associated with high proportions wanting more hours and more money. Approximately 4 of 10 black and Hispanic men said they would prefer more hours, compared with about 3 of 10 white men. The fewer hours and related paycut option was selected by only 4 percent of all black and Hispanic workers, whereas about 8 percent of whites made this choice.

Table 2. Workweek and pay preference of 25- to 54-year-old wage and salary workers, by actual hours at work, May 1985

[Percent distribution]

Hours at work	Reported preference		
	Same hours, same money	Fewer hours, less money	More hours, more money
1 to 14	50.9	4.6	44.5
15 to 29	57.3	5.6	37.1
30 to 34	58.6	8.0	33.4
35 to 39	65.0	8.1	26.9
40	70.5	7.1	22.5
41 to 48	65.3	8.1	26.6
49 to 59	66.5	10.8	22.7
60 and over	63.9	16.3	19.8

NOTE: Data exclude incorporated self-employed workers.

Table 3. Workweek and pay preference of wage and salary workers, by occupation and industry, May 1985

[Percent distribution]

Occupation or industry	Same hours, same money	Fewer hours, less money	More hours, more money
Occupation			
Managerial and professional specialty	72.3	9.7	18.0
Technical, sales, and administrative support	66.1	8.3	25.6
Service occupations	56.6	4.5	38.9
Precision production, craft, and repair	63.5	6.4	30.1
Operators, fabricators, and laborers	59.4	5.6	35.0
Farming, forestry, and fishing	49.4	5.0	45.6
Industry			
Agriculture	49.4	7.3	43.3
Nonagriculture	64.8	7.3	27.8
Mining	66.3	8.0	25.6
Construction	58.6	5.3	36.1
Manufacturing	66.7	7.5	25.8
Transportation and public utilities	68.7	7.8	23.5
Wholesale trade	66.3	7.4	26.3
Retail trade	56.3	6.4	37.3
Finance, insurance, and real estate	68.6	8.0	23.5
Services	65.6	7.8	26.5
Public administration	72.3	7.2	20.5

NOTE: Data exclude incorporated self employed workers.

Hours worked. The proportion preferring the same hours and the same money increased steadily with hours actually worked up through 40 hours; it then turned downward. (See table 2.) As would be expected, the fraction wanting more hours and more money fell as hours worked rose—but again only through 40 hours. The changes in preference patterns at the 40-hour and 41- to 48-hours categories are somewhat surprising. The peak in satisfaction at 40 hours may reflect widespread acceptance of the traditional 40-hour workweek, while the monetary influence of the initial hours paid at premium rates, which many workers receive after 40 hours, may explain the small increase in the more hours response. In any case, the proportion wanting more hours declined again when actual hours reached 49 to 59 per week, and fell further (to about 20 percent) for those working 60 hours and over. In contrast, the fraction preferring fewer hours rose with actual worktime up to 35 to 39 hours; it then dipped at 40 hours before resuming its uptrend. However, even when the workweek was 60 hours or more, the proportion preferring more hours was larger than that preferring fewer hours.

Occupation and industry. The pattern of workweek preferences differed sharply across occupations, but variations were smaller among industry groups. (See table 3.) As would be expected, satisfaction was greatest among highly educated and well paid managerial and professional workers. These occupations also scored relatively high on the fewer hours choice and low on the more hours option.

Satisfaction with the current workweek and pay was less common among semi- and low-skilled manual workers and in the service occupations. Only about half of the helpers and laborers, and farming, forestry, and fishing workers wanted to keep the same hours. Here again, low satisfaction with the status quo correlated with a high preference for more hours. The latter alternative was picked by between 40 and 45 percent of the service workers, helpers and laborers, and those in farming, forestry, and fishing occupations.

Public administration was the industry with the highest proportion of workers preferring their current hours, and agriculture was the lowest. Satisfaction was also relatively low in retail trade, where the average workweek is short, and in construction, where hours of work are often irregular. Approximately 4 of 10 workers in retail trade, construction, and agriculture wanted more hours. However, in public administration only 2 of 10 preferred a longer workweek.

Work-leisure tradeoffs

The data on preferred hours of work may be used to examine the effect of income on tradeoffs people make between work and leisure.[2] According to labor supply theory, individuals decide how many hours to work based on their preferences for leisure versus all other goods and services. The wage rate represents the amount of consumption goods that can be obtained per hour worked. As the wage rate rises, two opposing effects are brought to bear on the hours decision.[3] *The substitution effect* leads to a decrease in leisure consumed and an increase in hours worked because leisure time costs more in terms of earnings forgone. In contrast, *the income effect* causes hours of work to fall because at the higher income associated with the higher wage rate, individuals will want to purchase more goods generally, including leisure.

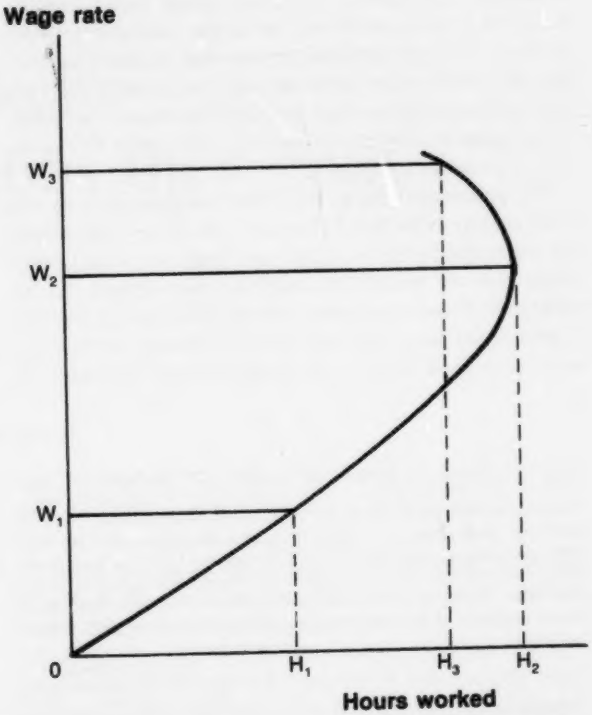
Table 4. Workweek and pay preference of 25- to 54-year-old wage and salary workers, by sex and earnings, May 1985

[Percent distribution]

Weekly earnings	Same hours, same money	Fewer hours, less money	More hours, more money
Men, total	65.5	6.5	28.0
Less than $150	39.3	3.9	56.7
$150 to $199	43.9	3.4	52.7
200 to 249	55.6	4.2	40.2
250 to 299	60.8	2.9	36.3
300 to 399	62.6	7.0	30.5
400 to 499	66.6	6.5	26.9
500 to 599	71.9	7.9	20.3
600 to 749	73.0	7.8	19.1
750 and over	76.6	8.9	14.5
Women, total	67.2	10.9	21.9
Less than $150	55.6	5.0	39.4
$150 to $199	66.6	7.4	25.9
200 to 249	66.6	12.2	21.2
250 to 299	66.2	14.1	19.7
300 to 399	72.6	11.9	15.5
400 to 499	75.7	12.4	11.9
500 to 599	72.0	15.2	12.8
600 to 749	73.2	13.9	12.9
750 and over	63.6	22.0	14.6

NOTE: Data exclude incorporated self-employed workers.

The interaction of these two effects determines whether more or fewer hours of labor will be supplied when the wage rate rises. Both the substitution and income effects are evident in the backward-bending labor supply curve illustrated below:



The lower part of the curve is positively sloped, meaning that at lower wages, labor hours supplied increase as the wage rises. However, above a certain wage rate *(W_2)*, the curve may begin to bend backward, as the income effect dominates.

May 1985 data on preferred hours by earnings suggest some indirect support for the backward-bending supply curve theory.[4] As earnings rise to high levels for prime working-age adults, smaller proportions want to increase their workweeks and larger fractions prefer to decrease their hours of work.[5] (See table 4.) This finding could reflect a strong income effect—causing workers with the highest earnings to want to reduce their work hours—as occurs on the negatively sloped part of the backward-bending supply curve. It could also indicate that workers with lower weekly earnings also have shorter workweeks and are more likely to want to increase, rather than decrease, their hours. Moreover, it is important to note that for men—even men earning $750 or more per week—the proportion wanting more hours of work exceeded that wanting fewer hours.

Women are more willing than men to forgo income for leisure. This was evident at virtually all earnings levels—especially in the prime working-age groups. (See table 4.) About 1 of 8 women earning $200–$499 per week would prefer to work fewer hours. Moreover, when weekly earnings reached $500 or more, the proportion preferring fewer hours was greater than that wanting more hours. No other worker group studied displayed this preference pattern. In the highest earnings category, about one-fifth of the women expressed a preference for shorter hours (more leisure), while only one-seventh wanted longer workweeks (more income). It is also interesting to note that women's satisfaction with their current hours increased as earnings rose only up to a point. Once earnings reached $300 or more per week, the proportion satisfied leveled off, and it then fell in the highest earnings category.

The preference pattern for prime working-age men differed sharply from that for women. At all earnings levels, the proportion of men wanting more hours was substantially larger than the proportion preferring more leisure. In the $300 to $499 earnings range, men preferred more hours 4 to 1 over fewer hours. Even at weekly earnings of $500 and over, only about 8 percent of prime working-age men were willing to trade income for leisure, whereas 15 to 20 percent wanted more hours and more money. Also, the proportion of men satisfied with the length of their workweek continued to rise as earnings increased. The substitution effect seems to outweigh the income effect for prime working-age men—even when earnings are extremely high.

In sum, two of three employed persons in May 1985 said they would prefer to work the number of hours they currently work and earn the same money. An additional one-fourth wanted to work more hours and earn more money. Only 8 percent would choose a shorter workweek and less money. As might be expected, the degree of satisfaction with present hours rose with age and with weekly earnings. In contrast, the proportion wanting to work more hours and earn more money, which was high for young people and low earners, fell sharply as age and earnings increased. Women were more likely than men to prefer fewer hours and a proportionate reduction in pay. Although the proportion of men and women willing to forgo income for leisure time was generally small, it rose steadily as weekly earnings increased. This suggests that at very high earnings, the labor supply curve may bend backward. ☐

—FOOTNOTES—

[1] See G. Katona, B. Strumpel and E. Zahn, *Aspirations and Affluence* (New York, McGraw-Hill, 1971), pp. 128–33; and Fred Best, "Exchanging Earnings for Leisure: Findings of an Exploratory National Survey on Work Time Preferences" (U.S. Department of Labor, Employment and Training Administration), R&D Monograph 79. The Katona and others questions were asked of a nationally representative sample of household heads. The Harris survey was based on a national sample of employed civilians 17 years of age and over. These two surveys obtained the following results:

	Percent preferring:		
	Same	*Fewer*	*More*
Katona and others, 1966	56	10	34
Louis Harris and Associates, 1978	61	11	28

[2] Leisure in this context represents all time except paid worktime. In other words, it includes time spent on housework, child care, school attendance and numerous other activities that are not commonly defined as leisure.

[3] Economists have argued about the relationship between the wage rate and the quantity of labor supplied since the English mercantilists in the 1600's. The landmark twentieth century work in this field is Lionel Robbins' "On the Elasticity of Demand for Income in Terms of Effort," *Economica*, June 1930, pp. 123–29. After pointing out that the demand for income can also be viewed as the supply of effort, Robbins says there is no *a priori* way to predict how a change in the wage rate will affect hours of work. Rather, one must observe how individuals vary the amount of work done when the wage rate changes. The same point is addressed in terms of income versus substitution effects by Paul A. Samuelson in *Economics*, 3d ed. (New York, McGraw-Hill, 1955), pp. 535–36.

[4] Cross-sectional data on preferences for more and fewer hours of work by weekly earnings are used as proxies for substitution and income effects. Data on hours that individuals chose to work at different pay rates are not available.

[5] Because only one-quarter of the wage and salary workers in the sample are asked the earnings questions, the standard errors of earnings estimates are relatively large. For this reason, percentages are not shown where the base is less than 100,000.

Temporary help workers: who they are, what jobs they hold

These workers are disproportionately female, young, and black; they are more likely to work part time and in clerical and industrial help jobs

WAYNE J. HOWE

Much attention, of late, has been given to the rapid employment growth in the temporary help supply service industry. This industry consists of businesses supplying temporary help to other establishments on a contractual basis.

For the most part, the focus has been on the conditions under which employers prefer to use temporary labor supplied by a temporary help supply agency.[1] For example, an employer with a fluctuating workload, particularly when unpredictable peakloads allow little time to recruit and hire directly, is likely to utilize this service. Also, if a need for additional workers is expected to be short term, a firm might find the costs involved in hiring, particularly those related to recruiting and training, to be excessive. The purchase of temporary help services allows the employer to incur labor costs for only the period the services are required, and to avoid any severence costs. In contrast to the employer-demand focus of earlier analyses, this article provides information about the composition of the temporary help supply service work force and the circumstances under which individuals are attracted to temporary employment.

Data on wage and salary employment in the temporary help supply service industry used in this article are obtained from the May 1985 supplement to the Current Population Survey (CPS), a monthly sample survey of households. This supplement included questions specifically designed to identify workers who viewed their jobs as temporary and whose salaries were being paid by a temporary help supply agency. The characteristics of such workers could then be examined through the information normally collected for all persons in the CPS in terms of their age, sex, race, marital status, full- or part-time employment, and occupation.

It should be noted that the temporary help supply employment industry level derived from the CPS is not strictly comparable to that obtained from the Current Employment Statistics (CES) program. The monthly CES survey derives its estimates from the payroll records of a sample of establishments. In the case of temporary help workers, the CES estimates relate to the total number of jobs in the industry, including those of the personnel who operate the temporary help agencies. By contrast, the new CPS data relate only to those workers who view their jobs as temporary. Thus, these data exclude not only the permanent employees who staff the many agencies, but may also exclude many of the workers who do not view their jobs as temporary, as they have a fairly continuous attachment to the temporary help agency. This explains at least part of the reason the number of temporary help workers identified in the CPS in May 1985—455,000—was much lower than the number of jobs in the temporary help industry as measured through the CES—689,000. The CPS data, while not representative of all the employees in the industry, are representative of the preponderance of them, particularly of those whose jobs are truly temporary. And, the CPS supplies the only information available on the characteristics of these workers.

Wayne J. Howe is an economist in the Division of Employment and Unemployment Analysis, Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

Who are these workers?

Just as employer demand for temporary workers increases during times of uncertainty, many workers seek temporary employment due to transitory or uncertain circumstances. Such workers might include teachers and students out of school for the summer or other vacation periods, or persons entering or leaving the labor force gradually. Women and young persons are more likely than others to experience these transitory conditions. Therefore, it should not be surprising that there was a disproportionately high concentration of both groups employed by temporary help supply agencies in May 1985. Almost two-thirds of the industry's work force were women, in contrast to their 2 of 5 proportion of all wage and salary jobs. (See table 1.) This difference clearly reflects the benefits offered to many women by the temporary help supply service industry, particularly the combination of flexible work schedules and the opportunity to acquire needed experience and job market exposure. In addition, the industry has a large number of administrative support jobs, and a disproportionate number of women are traditionally employed in such clerical positions.

Women with family responsibilities are particularly attracted to temporary employment because it provides the flexible work schedules that allow them to reconcile work outside the home with family commitments. Women who reenter the labor force after a long absence may prefer temporary jobs until they are able to find suitable permanent employment. Employment through a temporary help supply agency enables them to test the market by sampling a range of work environments until they find the right employment situation. At the same time, temporary employment allows these workers to acquire needed skills and experience while building confidence and increasing their marketability. Such skills and confidence can be lost during years outside the labor force. Some women prefer the flexibility of the temporary help environment for the long term. In either case, the increasing tendency among firms to contract out for temporary employees, particularly to staff administrative support positions, has provided a growing temporary job market for women.

Table 1. Employed wage and salary workers in all industries and in the temporary help supply industry, by selected characteristics, May 1985

[Percent distribution]

Characteristic	All industries	Temporary help supply industry
Age		
Total, 16 years and over	100.0	100.0
16 to 24	20.1	32.7
25 to 54	67.4	57.6
55 and over	12.5	9.7
Sex and race		
Men	55.0	35.8
Women	45.0	64.2
White	86.9	75.4
Black	10.4	20.2
White	100.0	100.0
Men	55.7	33.2
Women	44.3	66.8
Black	100.0	100.0
Men	49.4	48.9
Women	50.6	51.1
Occupations		
Managerial and professional specialty	24.0	11.0
Technical, sales, and administrative support	31.6	52.1
Administrative support, including clerical	17.3	43.3
Service occupations	13.7	10.8
Precision production, craft, and repair	12.1	4.6
Operators, fabricators, and laborers	16.6	16.9
Farming, forestry, and fishing	2.1	4.4

Table 2. Employed full- and part-time wage and salary workers in the temporary help supply industry, by selected characteristics, May 1985

[Percent distribution]

Characteristic	Full-time workers	Part-time workers
Age		
Total, 16 years and over	60.0	40.0
16 to 24	55.7	44.3
25 to 54	66.8	33.2
55 and over	(1)	(1)
Sex and race		
Men	64.4	35.6
Women[2]	57.5	42.5
Single	64.9	35.1
Married, spouse present	50.7	49.3
White	62.7	37.3
Men	71.0	29.0
Women	58.5	41.5
Black	44.6	55.3
Men	(1)	(1)
Women	(1)	(1)
Occupations		
Technical sales, and administrative support	66.1	33.9
Administrative support, including clerical	66.6	33.4
Operators, fabricators, and laborers	55.3	44.7
All other occupations	51.8	48.2

[1] Data not shown where base is less than 75,000.

[2] Includes widowed, divorced, and separated women, not shown separately.

Temporary employment is also appealing to young workers (16–24 years old) who want flexible schedules, allowing time to attend school, or the opportunity to work during vacations. Young workers held 1 of 3 temporary help supply service jobs in May 1985, compared with 1 of 5 wage and salary jobs in all industries. (See table 1.) The representation of young workers in this industry increases during the summer months, when many working mothers leave the labor force to care for school age children and students step in to take their places.[2]

Young persons who have little work experience may also be attracted to employment in temporary help agencies as a means of attaining higher paying permanent positions. Job search costs, in terms of both time and money, can be reduced by allowing a temporary help agency to establish contact with potential employers. However, contracts between employers and temporary help supply agencies may sometimes limit this type of job-switching.

In addition to the large concentration of women and youth, there is also a relatively high proportion of black temporary help workers. About 1 of 5 such workers is black, nearly twice the proportion found among all industries. (See table 1.) Only about half of the black workers in this industry were women, similar to the distribution of the black work force found in all industries. In contrast, among white workers, women accounted for two-thirds of the temporary help work force, but only 44 percent of wage and salary employment in all industries.

While the majority of temporary help supply employees work full time, a very large proportion, 2 of 5, work part time. (See table 2.) This was more than twice the average for all wage and salary workers. Women were less likely than men in this industry to work full time, but this depended largely on their marital status. Almost two-thirds of the single women in temporary help jobs worked full time, while only about half of the married women (with spouse present) did so. As would be expected, young people were less likely to work full time. Only 56 percent of youth age 16 to 24 were employed full time, while 67 percent of the temporary help work force age 25 to 54 were full-time workers.

What jobs do they hold?

Temporary help workers perform a variety of jobs, from service workers earning the minimum wage to highly paid technicians or administrators working as temporary specialists on specific projects. When compared with all industries, however, a particularly large concentration of temporary help workers were in the administrative support and industrial help occupations: indeed, 43 percent held clerical positions such as general office clerks, secretaries, typists, and receptionists—2½ times their proportion in all industries. (See table 1.)

More than 9 of 10 clerical jobs in the temporary help industry were filled by women. Skill requirements for many of these clerical positions are relatively low, but more highly skilled clerical workers, particularly those with word-processing skills, are much in demand; consequently, pay for them is relatively high compared with other clericals. Overall, the demand for temporary workers in clerical positions is less sensitive to seasonal and cyclical changes than is the demand for workers in other occupations. Future job growth is expected to be particularly strong for highly skilled workers who can operate the latest office equipment.[3]

When compared with workers in other occupations within the industry, persons in clerical positions are more likely to work full time—two-thirds of them in May 1985. (See table 2.) Although many clerical workers fill in only for short assignments or for workers who are ill, it is not unusual to work in the same temporary job for weeks or even months. Some stay with the temporary agency until they find permanent employment.

The second largest occupational market in this industry is for industrial help workers—helpers, laborers, handlers, and equipment cleaners. Little work experience is required for many of these jobs, and the demand for these workers is both seasonal and cyclical.[4] Many are employed as fill-ins to handle temporary work overloads or to step in when regular employees are ill or on vacation. Only 55 percent of the workers in these occupations were full time, somewhat lower than the proportion for administrative support workers. Moreover, just as women dominated the administrative support occupation, almost 90 percent of the operators, fabricators, and laborers were men. Finally, there are a large number of low skill, low paying laborer jobs in the temporary help industry, which may be responsible for the high concentration of black workers. Black men in particular are much more likely than their white counterparts to be employed in these jobs.[5]

IN SUMMARY, data from the May 1985 supplement to the CPS show that those temporary workers whose salaries are paid by temporary help firms are disproportionately female, young, and black. They are more likely than workers in other industries to work part time, and they are heavily concentrated in clerical and industrial help occupations. □

FOOTNOTES

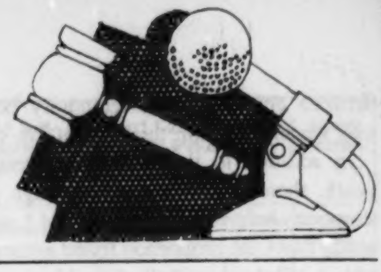
[1] For a discussion of these issues, see Max L. Cary and Kim L. Hazelbaker, "Employment growth in the temporary help industry," *Monthly Labor Review*, April 1986, pp. 29–36; and "Temporary Help Services—Who Uses Them and Why," *The Office*, May 1984, pp. 135–40.

[2] David Schwartz, "Life in the Temp Lane," *City Paper*, Vol. 6, no. 28, July 11–17, 1986, pp. 12–13.

[3] See Carey and Hazelbaker, "Employment growth," p. 38.

[4] *Ibid.*, p. 40.

[5] "Employment Conditions Among Black Americans," a paper prepared by the Division of Employment and Unemployment Analysis, Office of Employment and Unemployment Statistics (Bureau of Labor Statistics, February, 1986), p. 16.



Conventions

Steelworkers press organizing and coordinated bargaining

Joy K. Reynolds

The United Steelworkers of America (AFL-CIO, CLC) held its 23rd constitutional convention in Las Vegas, NV, August 25–29, 1986. Some 2,800 delegates took action to implement the two major themes of the convention: celebrating the union's 50th anniversary (the Steel Workers Organizing Committee was formed in June 1936) and addressing future challenges. Delegates enacted constitutional changes that, among other things, broadened the categories of persons eligible for membership and clarified the power to merge small locals. They elected five international tellers to 4-year terms to perform duties in connection with the 1989 referendum election of international officers and passed resolutions dealing with numerous topics, including collective bargaining, plant closings, and employee stock ownership plans. The convention heard speeches from Steelworkers International President Lynn Williams, AFL-CIO President Lane Kirkland, former Steelworkers President I.W. Abel, Amalgamated Clothing and Textile Workers Union President Murray Finley, Canadian Labour Congress (CLC) President Shirley Carr, and numerous national and State or provincial politicians from both the United States and Canada.

Speech highlights

In the keynote address, Steelworkers President Williams, who was reelected to that post in a November 1985 referendum, outlined the results of this year's bargaining in major industries, including containers, aluminum, nonferrous metals, and steel. Williams emphasized that the union intends to maintain its coordinated approach to bargaining despite the breakdown of coordinated strategies on the employer side. He admitted that the steel agreements reached with LTV, Bethlehem, National, and Inland involve sacrifices, but praised the employment security guarantees and profit-sharing aspects of those settlements. He charged that the union's high priority on preserving jobs and limiting contracting out was one major reason that USX (formerly U.S. Steel Corp.) locked out more than 22,000 workers on August 1. Williams thanked the AFL-CIO for its recently formed committee to support the USX workers, about whose efforts Clothing and Textile Workers President Murray Finley later addressed the convention. Williams criticized the trade policies of the U.S. and Canadian governments, arguing that "there is no such thing as free trade"; the union seeks "managed" trade, aimed at raising the standard of living in both seller and buyer nations.

Regarding developments within the Steelworkers "family," Williams cited the union's success in organizing new members, not only in its traditional membership base but also in public sector and other service industry units; the pace of organizing in 1986 was reported to be more than five new units a week. He noted the completion of the merger with the 34,000-member Upholsterers International Union, which became a division of the Steelworkers, with former Upholsterers President John Serembus serving as director.

The continued connection of retirees with the Steelworkers was personified by the appearance at the convention of former union president I.W. Abel, who has been appointed to head SOAR, the Steelworkers Organization of Active Retirees. According to its bylaws, SOAR will "deal with the social, economic, educational, legislative, and political developments and concerns of its members and spouses, the United Steelworkers of America, and the labor movement." President emeritus Abel, whose address anchored that portion of the convention celebrating the Steelworkers' jubilee, reviewed the history of the struggle to organize the steel industry and highlighted accomplishments of the union gained through both collective bargaining and involvement in the legislative process (for example, supporting enactment of the Occupational Safety and Health Act and the Employee Retirement Income Security Act).

In his address to the convention, AFL-CIO President Lane Kirkland pledged the Federation's support to the Steelworkers in its struggle against USX. He urged Government trade and employment policies that would help to preserve the Nation's industrial base, noting that "silicon chips cannot be sold over the counter in a 7-Eleven." He lauded the cooperative efforts of the union in attempting to meet the challenges facing the industry, but warned that such cooperation must be met by reciprocal actions on the part of employers.

Constitutional changes

The convention adopted constitutional changes and policy recommendations in many areas. Among the amendments enacted were the following:

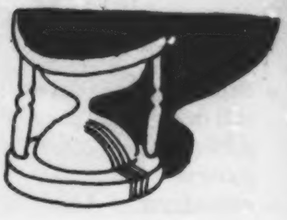
Joy K. Reynolds is an industrial relations specialist at the Bureau of Labor-Management and Cooperative Programs, U.S. Department of Labor.

- Replacement of references to membership in "a plant or mill or any other place" with the words "an enterprise, public or private," to reflect the union's expanding jurisdiction.
- Amendment of Article III to permit membership by supervisors, including those empowered to hire or fire, subject to terms established by the International Executive Board. (Previous language had provided that only supervisors without such powers could join, subject to the specific approval of the local union and the Board). Those opposing this change argued that the union should not rush to embrace persons who are firing their fellow workers. But the amendment carried on a standing vote after members of the constitution committee explained that the language was not intended to apply to mill foremen and supervisors, but is largely aimed at expanding recruitment in the public sector, where, for example, a recently organized unit of middle managers in Boston brought in more than 400 members through the Salaried Employees of North America, a division of the Steelworkers.
- Amendment of Article IV to provide for annual, instead of semiannual, audits of the international union finances.
- Amendment of Article V to provide, in part, that protests regarding local union voting for national officers must be "received' by the international tellers within 15 days of the election. Prior language had required such protests to be "filed" with the tellers no later than 10 days after the election.
- Amendment of Article VII to provide that 100 or more persons (formerly 10) eligible for membership shall constitute a local union upon receipt of a charter from the international secretary. Smaller groups may be chartered upon the authority of the international president. Further, language was added to provide for International Executive Board rules governing transfer of jurisdiction of one local to another. Supporters of these changes cited the large number of small locals (of 4,232 locals, 557 have nine or fewer members and 2,692 have fewer than 100 members) and the strength that comes from amalgamation. They argued that the amendment reflects existing Board power to combine locals and promised that mergers would be accomplished in consultation with district directors and the affected locals. According to Williams, "Obviously those that are functioning properly will continue." Floor discussion was closed before opponents of the measure spoke, as a delegate later took the floor to point out. The outcome of the voice vote being in doubt, a standing vote was held, and the change was adopted.
- Amendment of Article XIV to provide that when the assets of the strike and defense fund exceed $200 million in any month, payments to it shall cease until the balance falls below $150 million, instead of $180 million as previously provided. (Interim payments will be divided equally between the international and local unions.) In response to a resolution that a mechanism be established to enforce local affiliation with State and provincial central bodies, Article XIV was amended to provide for deduction for dues to such bodies from local per capita refunds by the international treasurer with the approval of the international president.
- Addition of Article XVIII to provide an associate membership aimed at organizing new membership and also to provide a means for continued affiliation by laid-off members who have gone beyond the 24-month period provided for continued membership status under Article XI, as well as for persons organized in units that subsequently fail to vote for union representation. The new article provides that associate members shall not be eligible to run or vote for international or local office but may participate in organizations of associates to the extent and under rules provided by the International Executive Board. These members will be eligible for benefits such as prepaid legal services, credit cards, and insurance coverage. Adoption of this category of membership parallels a recommendation of the AFL-CIO's Committee on the Evolution of Work.

Among the constitutional amendments proposed but not adopted were those reducing or capping members' dues and salaries of international officers and district directors, providing full voting membership for retirees, providing mail ballots in elections of international officers, expanding the access of members to absentee ballots in such elections, permitting locals to hold quarterly rather than monthly meetings, and providing for removal of local officers without "costly" trial procedures. In the collective bargaining area, amendments considered but not adopted included those to postpone conventions in years of major contract negotiations, to hold conventions in cities most affected by layoffs of members, to increase the amount of strike benefits, and to provide for strike benefits payment as a matter of right rather than after determination of need by the local union.

Other actions

As the union's "court of last resort," the convention heard appeals on matters such as local elections and trial procedures. The convention also adopted resolutions in the areas of politics, collective bargaining strategies and specific disputes, and legislative policies. For example, the union endorsed new strategies in collective bargaining, including consumer boycotts and corporate campaigns; adopted standards for the negotiation of Employee Stock Ownership Plans (they must be part of the labor agreement, must never be used as a substitute for an adequate, funded, Government-guaranteed pension plan, and should be based on thorough analysis of the company's finances and prospects for survival); and endorsed legislation to require advance notice of plant closings and bargaining over alternatives to closings or layoffs. □



Major Agreements Expiring Next Month

This list of selected collective bargaining agreements expiring in December is based on information collected by the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more. Private industry is arranged in order of Standard Industrial Classification.

Industry or activity	Employer and location	Labor organization[1]	Number of workers
Private			
Construction	Constructors Association of Western Pennsylvania (Pennsylvania)	Operating Engineers	3,000
	Constructors Association of Western Pennsylvania (Pennsylvania)	Laborers	3,600
	National Electrical Contractors Association, Western Pennsylvania Chapter (Pennsylvania)	Electrical Workers (IBEW)	1,500
Food products	Iowa Beef Processors, Inc. (Nebraska)	Food and Commercial Workers	2,000
Apparel	Plastic Soft Material Manufacturers Association (New York, NY)	Ladies' Garment Workers	2,600
Paper	Westvaco Corp. (Virginia and Maryland)	Paperworkers	1,050
Primary metals	Huntington Alloys Inc. (Huntington WV)	Steelworkers	1,000
	Copperweld Corp. (Warren, OH)	Steelworkers	2,000
	Neenah Foundry Co. (Neenah, WI)	Molders	1,000
Electrical products	AVX Corp., AVX Ceramics (Myrtle Beach, SC)	Electrical Workers (IBEW)	1,400
Transportation equipment	Dana Corp. (Interstate)	Auto Workers	7,000
Water transportation	Great Lakes Association of Stevedores (Interstate)	Longshoremen's Association	6,000
Air transportation	Northwest Airlines, flight attendants (Interstate)	Teamsters (Ind.)	3,000
	Republic Airlines, clerical and office (Interstate)	Air Line Pilots	6,300
	Western Airlines, pilots (Interstate)	Air Line Pilots	1,200
	Ozark Airlines, clerical and office (Interstate)	Machinists	1,800
Communication	General Telephone Co. of Pennsylvania (Pennsylvania)	Electrical Workers (IBEW)	2,000
Utilities	Public Service Co. of Colorado (Denver, CO)	Electrical Workers (IBEW)	3,000
	Southern California Edison Co. (California)	Electrical Workers (IBEW)	5,750
Wholesale trade	New York Oil Heating Association (New York, NY)	Teamsters (Ind.)	1,700
Retail trade	New York-Bronx Meat and Food Dealers Inc. (New York, NY)	Food and Commercial Workers	1,600
	Kroger Co. (Dayton, OH)	Food and Commercial Workers	2,000
Restaurants	San Mateo Hotel and Restaurant Owners Association (California)	Hotel Employees and Restaurant Employees	5,200
	Bob's Big Boy Restaurants (California)	Bob's Employees' Association (Ind.)	5,200
Real estate	Realty Advisory Board on Labor Relations, Inc., Commercial Building Agreement (New York, NY)	Service Employees	18,000
Services	Service Employers Association (New York)	Service Employees	36,000
	Associated Guard and Patrol Agencies (Chicago, IL)	Service Employees	6,000
Public			
General government	Alaska: State general unit	State Employees Association	7,900
	State labor trades and crafts	Laborers	1,500
	Minnesota: Hennepin County general unit	State, County and Municipal Employees	3,000
	Florida: Dade County classified employees	State, County and Municipal Employees	10,000
	New York: Broome County white-collar employees	Civil Service Employees Association	1,100
	Dutchess County general unit	State, County and Municipal Employees	1,200
	Oneida County general unit	Civil Service Employees Association	1,000
	Onondaga County general unit	State, County and Municipal Employees	3,500
	Orange County general unit	State, County and Municipal Employees	1,500
	Chautauqua County general unit	Civil Service Employees Association	1,200
	Nebraska: Omaha municipal employees	State, County and Municipal Employees	1,050
	Wisconsin: Milwaukee County general unit	State, County and Municipal Employees	6,000
	Milwaukee municipal employees	State, County and Municipal Employees	2,800
Law enforcement	Milwaukee Police Department	Police Association	1,800
	Ohio: Cincinnati Police Department	Police	1,050
Fire protection	Pennsylvania: Pittsburgh Fire Department	Fire Fighters	1,050
Education	California: San Diego Unified School District, office	Education Association (Ind.)	2,300
	Colorado: Boulder District 21, teachers	Education Association (Ind.)	1,250
	Cherry Creek teachers	Education Association (Ind.)	1,500

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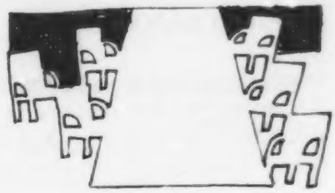
[1] Affiliated with AFL-CIO except where noted as independent (Ind.).



Developments in Industrial Relations

Steel update

The financially beleagured steel industry continued to suffer, as USX Corp. and Timken Co. were involved in work stoppages; Armco Inc. was unable to negotiate cuts in labor costs it had sought at its Middletown, OH, mill; and LTV Corp. filed for bankruptcy.

The Armco settlement with the Armco Employees Independent Federation does provide for a wage and benefit freeze for the 42-month contract term, but the company had been seeking a paycut of more than 75 cents an hour, cuts in holiday, vacation, and insurance benefits, and adoption of a two-tier pay system.

Armco said it accepted the terms, which ended a 5-day strike by the 4,200 employees, "primarily in the interest of the customer and [out of] growing concern for the company's financial position." Armco's ability to sustain a long strike was hampered by its financial commitments, including an $85 million pension payment due September 13.

Despite the company's dissatisfaction with the overall settlement, it did win the right to reopen negotiations in March of 1988 and 1989 if the mill fails to earn $50 million before taxes on operations during the preceding calendar year. However, the union maintains that even if earnings are below $50 million, the provision could be exercised only with its consent.

At USX Corp., there was a continuing dispute over which side impelled the stoppage that began on August 1, when the previous contract expired. The United Steelworkers contended the stoppage was a lockout, which would enable the idled employees to draw State unemployment benefits. According to USX, the stoppage was a strike, precluding the employees from drawing unemployment benefits. There was no single answer from the affected States—Pennsylvania, Ohio, Alabama, and Minnesota ruled the stoppage a lockout, while Illinois and Utah held that it was a strike. In some cases, the rulings were being appealed.

Both the company and the United Steelworkers viewed the Timken Co. stoppage as a strike. The 5,800 employees walked out of the three Ohio plants after the company demanded a 60-cent-an-hour wage decrease, and the union countered by offering a wage and benefit freeze.

The most significant recent event in the steel industry was LTV Corp., filing for protection from creditors under Chapter 11 of the bankruptcy code. LTV is the Nation's second largest steel producer. At the time, LTV reported assets of $6.14 billion and liabilities of $4.59 billion. The attempt to reorganize and return to profitability came just 3 months after the United Steelworkers had agreed to a $3.15 an hour cut in wages and benefits to aid the company, which has suffered $1.7 billion in losses since 1982. (See *Monthly Labor Review*, June 1986, p. 45.) The bankruptcy filing meant that further compensation cuts might be required of the employees, particularly after LTV officially informed the union that it wanted to renegotiate the April contract. The union's initial response was that it would not automatically agree to the proposal. The filing also raises the possibility that other companies that had already settled would press for renegotiation of their contracts to maintain competitive parity with LTV.

In conjunction with the Chapter 11 filing, LTV cancelled health and life insurance benefits for 76,000 retirees, including 61,000 retired Steelworkers. This triggered a strike by 4,400 workers at LTV's Indiana Harbor Works in East Chicago, IN, as well legal action by the Steelworkers to force a restoration of the benefits. The strike ended after 5 days when a bankruptcy judge acceded to LTV's request for permission to restore the benefits. The company said that ending the walkout was vital to improving its financial condition.

In another indication of LTV's difficult financial condition, the company asked the Pension Benefit Guaranty Board (PBGB) to assume payments to retirees covered by one pension plan, and the PBGB itself moved to take control of another underfunded plan. These events, combined with a possible PBGB takeover of two other LTV pension plans, could raise the PBGB obligation to more than $2.5 billion.

Dispute settled in meat processing

In the meat processing industry, a long dispute that pitted employees against management and a local union against the parent United Food and Commercial Workers (UFCW) apparently ended when the UFCW settled with Geo. A Hormel and Co.'s flagship plant in Austin, MN. Concurrent with the Austin accord, Hormel and the UFCW also negotiated a new contract for seven plants in six states. The difficulties at the Austin plant, which included a "corporate

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"Developments in Industrial Relations" is prepared by George Ruben of the Division of Developments in Labor-Management Relations, Bureau of Labor Statistics, and is largely based on information from secondary sources.

campaign" against Hormel that was initiated by the Local P-9 before the UFCW removed its officers and a year-long strike that ended with the contract settlement, can be traced through a number of developments in recent years:

- In 1982, Local P-9 agreed to a 3-year contract that included a no-strike guarantee, as well as elimination of an incentive pay plan. In return for these inducements to locate a new $100 million plant in Austin, Hormel pledged to maintain the employees standard wage rate at the same level as at other major companies in the industry.
- In 1983, the industry was hit by bankruptcies and plant closings, leading to cuts in the previous $10.69 an hour standard pay rate. Hormel pressed employees at all eight of its plants for similar cuts to remain competitive. Unlike employees at the other plants, those in Austin rejected the offer, contending that the "me-too" clause in their contract was only intended to raise wages. An arbitrator later ruled that Hormel could cut the rate at Austin to between $8 and $9 an hour.
- In 1984, employees of the seven other plants negotiated with Hormel on the issue and settled on an immediate $9 rate, rising to $10 in September 1985. Austin employees rejected the proposal and initiated the corporate campaign to bring consumer pressure against Hormel. At the same time, Hormel cut the pay rate to $8.25 at Austin. Leaders of the parent union condemned Local P-9's action in breaking ranks with the other locals and questioned the value of the corporate campaign tactic. Despite the condemnation, the local did not change.
- In August 1985, 1,400 employees struck the plant after negotiators failed to agree on a new contract to succeed the 1982 contract. To increase pressure on the company, Local P-9 accelerated the corporate campaign, which was declared to be an illegal secondary boycott in a National Labor Relations Board ruling issued the following month.
- In January 1986, Hormel began hiring replacements for the strikers, leading to intensified picketing at the plant and a call-up of the National Guard, as well as efforts by pickets to increase pressure on Hormel by traveling to other company plants. This led to the firing of 500 workers at the Ottumwa, IA, plant for honoring the roving picket line. At the end of the month, Hormel said that it had nearly a full work force, comprising 550 returning strikers and 550 replacement workers.
- In March 1986, the UFCW declared the strike a lost cause and moved to place Local P-9 in trusteeship, leading to legal actions that culminated in a ruling that the UFCW's action was proper.
- In July 1986, some of the former strikers formed the North American Meatpackers Union in an attempt to eventually supplant the UFCW as bargaining agent for the Austin employees.
- In August 1986, Hormel and the UFCW settled for the Austin operations. The accord provides for pay increases totaling 70 cents an hour for the strikers who returned to work in January. The replacement workers hired in January also will move up to $10.70 an hour over the contract term. Previously, they were paid $8 an hour to start and a maximum of $9 later. The union did not win immediate rehiring of the strikers who remained out until the stoppage was concluded, but Hormel did agree that for 2 years the strikers will have priority in filling openings that occur.

The new Austin contract runs for 4 years, compared with 3 years for the other locations, where concurrent settlements resulted in the same pay rates as for Austin. Hormel said that in the 1990 negotiations for the seven plants, it will agree to a common expiration date at all locations, including Austin, a major union goal to strengthen its bargaining position. The seven plants are in Fremont, NE, Beloit, WI, Algona, IA, Charlotte, NC, Dallas and Houston, TX, and Atlanta, GA.

In a related event, an arbitrator ordered Hormel to rehire the 500 workers it had fired in January for refusing to cross picket lines. Hormel accepted the ruling in principle, but noted that the January shutdown of part of the Ottumwa facility precluded rehiring all of the workers.

Elsewhere in meat processing, the UFCW settled with Oscar Mayer Co. for 2,300 workers in Davenport, IA, Madison, WI, and Chicago, IL. The 3-year accord provides for wage increases totaling 65 cents an hour, bringing the standard rate to $10.70; a new supplemental retirement plan; an additional paid holiday; and health care improvements.

Chrysler farms out work to American Motors

In an unusual move, Chrysler Corp. contracted out production of its large, rear-drive cars to American Motors Corp. (AMC). Chrysler said the farm-out was necessitated by the planned conversion of its St. Louis plant from large car to van production and by the unexpected continuing high demand for the large cars.

A major factor in winning the production contract was an agreement between AMC and Local 72 of the Auto Workers that lowered labor costs at the company's Kenosha, WI, plant, where the Chrysler cars will be produced on an assembly line that had been idle because of slow sales of AMC cars. The plant's other assembly line will continue to assemble AMC cars.

The AMC-Local 72 accord cut the 162 job classifications to 14 for skilled trade workers and to 32 for other workers. The number of classifications was a difficult issue, but a settlement did not come until the bargainers agreed on the precise duties each classification will encompass.

Locals of the Machinists and Teamsters unions also aided in the winning of the production contract by agreeing to cost-cutting measures for about 400 employees in Kenosha. UAW Local 75 also agreed to a cut in job classifications and other contract changes at AMC's parts plants in Milwaukee.

According to Chrysler, the production contract was expected to run for $2^1/_2$ years, with an option for extension. Despite the pickup in production, which was expected to result in the recall of more than 3,000 laid-off AMC employees, the company continued to indicate that it considered the Kenosha facility to be obsolete and that it was considering the possibility of opening a replacement plant in Kenosha, or elsewhere in the United States.

Talks completed for 'Chrysler Electronics City'

Another step toward the expected 1988 opening of "Chrysler Electronics City" in Huntsville, AL, occurred when the company and Auto Workers Local 1413 agreed on a contract to become effective in 1988. The favorable vote by the local union's members, who are employed at other Chrysler facilities in the area, was 706 to 256. A union official said the contract will provide for "substantial" wage increases, a reduction in job classifications, and "pay-for-knowledge" provisions under which employees will receive higher pay for mastering more than one job.

The plant, covering 750,000 square feet on a 325 acre site, will produce electronic components for Chrysler vehicles. Chrysler hopes to attract some of its suppliers to the site. The plant is expected to employ 2,500 UAW members.

GM offers departure incentives

General Motors Corp. moved to reduce operating costs by announcing "incentives" to resign or retire that could be offered to any white-collar employee of the company's North American automotive operations. This was part of the company's announced plan to reduce its white-collar work force by 25 percent by 1989. GM currently has 133,000 salaried employees involved in automotive production in the United States and 9,000 in Canada.

The announcement was applauded by industry observers who contended that GM is overstaffed, compared with Ford Motor Co. and Chrysler Corp., which have been reducing their white-collar staffs since the early 1980's. GM did offer departure inducements to white-collar workers in 1984, and an undisclosed number accepted. Under the 1986 program, the inducements were to be made to individuals at the discretion of management. The affected employees could refuse the offer.

Police officers pick assignments, work schedules

The Arlington County, VA., police department has adopted an experimental program under which officers demonstrating superior performance will have priority in picking their beats and days they work. Previously, assignments and work schedules were based strictly on length of service. A department official said the program was established because "there are always people who work harder than other people, and we had no way to reward them." The experiment is limited to the 29-member day section.

Under the evaluation procedure of the new program, officers will receive 1 point for issuing a parking ticket, ranging up to 50 points for a felony arrest. If the program proves workable during the 6-month trial, officers who average at least 35 points a day during the period will be given priority in selecting neighborhood assignments and work schedules for the next 12 months. Within the group of eligible officers, those with the most seniority would have the first choice.

The president of the Arlington County Police Beneficial Association said it was too early to comment on the experiment. Under Virginia law, public employee unions can discuss contract provisions with employers, but they are not permitted to engage in binding collective bargaining.

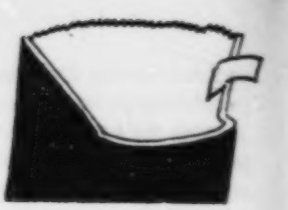
Shipbuilding companies bargain separately

Bargaining in the West Coast shipbuilding industry led off with a settlement between Todd Shipyard Corp.'s Los Angeles shipyard and Local 9 of the Marine and Shipbuilding Workers. The 3-year accord could set a pattern for settlements between other shipyards and the Pacific Coast Metal Trades Council, comprising 11 unions with 10,000 members. Since the 1950's, the employers had bargained with the Trades Council as a unit, the Pacific Coast Shipbuilders Association, but the member companies decided to bargain individually in 1986.

The 3-year Todd agreement froze top pay rates, leaving most workers at the $13.48 an hour rate that applies to nearly all trades. There was a change in pay progression, with new employees starting at $9.50 an hour and moving to the top rate after 3 years. Previously, they started at $8.50.

Todd also agreed to take over a union-administered pension and benefit plan, to establish a health maintenance organization, to offer dental coverage, and to increase sickness and accident benefits. □

Book Reviews



Labor in a turbulent era

American Workers, American Unions, 1920–1985. By Robert H. Zieger. Baltimore, MD, The Johns Hopkins University Press, 1986. 233 pp. $25, cloth; $9.95, paper.

Books on the history of the American workers and their unions are a rare occurrence indeed and for this reason alone Professor Robert H. Zieger's contribution is to be welcomed. Within the scope he has set for himself—no new sources and no original research—Zieger has succeeded in delineating the major economic and political events that have shaped the current labor movement and that in turn have been shaped by it. Although the author's sympathies are clear throughout the volume, the treatment of issues is even-handed, an approach further supported by a judiciously selected bibliography. It should serve as an excellent supplementary text in undergraduate courses in industrial relations and labor economics.

In his first chapter, the author takes us, perhaps too quickly, through the 1920's, stressing the economic plight of millions of workers during these much acclaimed years of prosperity.

Organized labor's massive and unexpected gains during the 1930's are the subject of chapter 2, which includes an insightful treatment of John L. Lewis, the CIO, and the organizing campaigns in steel, auto, and other manufacturing industries.

Chapter 3 discusses labor's role during World War II, a subject typically ignored in general history texts or those devoted to that period. Students of the labor movement will be grateful to the author not only for his discussion of black and women workers, but also for drawing attention to the flip-flop of the Communist party and its adherents before and after the German-Russian nonaggression pact. Unfortunately, his criticism of the National War Labor Board leads him to overlook the fact that the Board's policies, while trying to maintain some degree of wage control, also set the stage for an unprecendented growth in fringe benefits.

An undue emphasis on political radicalism and its effects on organized labor mars chapter 4. While the candidacy of Henry A. Wallace did garner some support from a few unions and while Jay Lovestone was indeed an interesting figure in the top echelon of the AFL, the extended discussion given to these matters is likely to leave the general reader with the impression that all of this was of major concern to workers and their unions. Even more regrettable are several characterizations such as ". . . the ouster of the Communist-oriented elements in 1949-50 and the attacks on the expelled affiliates . . . usually degenerated into repression and violence." It needs to be remembered that, for example, the contest between the International Union of Electrical, Radio and Machine Workers (IUE) and the United Electrical, Radio and Machine Workers of America (UE) was decided in representation elections conducted by the National Labor Relations Board, and not by strong-arm tactics.

Chapter 5 describes the merger between the AFL-CIO in 1955 and the surprising gains scored by unions among workers in the public sector. Chapter 6 takes us into the 1960's and closes with the defeat of Hubert Humphrey in 1968, described as labor's political "Last Hurrah," an event it can be argued that actually occurred as early as 1947.

In what appears to be an attempt to give the book greater currency, the author added a 7-page epilogue, "Into the Eighties." This, unfortunately, was a mistake since many issues facing labor are either barely referred to or are omitted altogether. It is hoped that the author will do full justice to these topics in the next edition.

—Harry P. Cohany
Department of Management
George Mason University
Fairfax, VA

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I certify that the statements made by me above are correct and complete.

(Signed) Henry Lowenstern, Editor-in-Chief

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Series	Release date	Period covered	Release date	Period covered	Release date	Period covered	BLS table number
Employment situation	November 7	October	December 5	November	January 9	December	1; 4–21
Occupational injuries and illnesses	November 13	1985	....	....	....	....	48
Producer Price Index	November 14	October	December 12	November	January 9	December	2; 33–35
Consumer Price Index	November 25	October	December 19	November	January 21	December	2; 30–32
Real earnings	November 25	October	December 19	November	January 21	December	14–17
Productivity and costs: Nonfinancial corporations	....	....	December 2	3d quarter	....	....	2; 42–44
Nonfarm business and manufacturing	....	....	....	....	January 29	4th quarter	2; 42–44
Major collective bargaining settlements	....	....	....	....	January 27	1986	3; 25–28
Employment Cost Index	....	....	....	....	January 27	4th quarter	1–3; 22–24
U.S. Import and Export Price Indexes	....	....	....	....	January 29	4th quarter	36–41

NOTES ON CURRENT LABOR STATISTICS

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics: series on labor force, employment, unemployment, collective bargaining settlements, consumer, producer, and international prices, productivity, international comparisons, and injury and illness statistics. In the notes that follow, the data in each group of tables are briefly described, key definitions are given, notes on the data are set forth, and sources of additional information are cited.

General notes

The following notes apply to several tables in this section:

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect on the data of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might prevent short-term evaluation of the statistical series. Tables containing data that have been adjusted are identified as "seasonally adjusted." (All other data are not seasonally adjusted.) Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. (Seasonally adjusted data appear in tables 1–3, 4–10, 13, 14, 17, and 18.) Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are seasonally adjusted with a procedure called X–11 ARIMA, which was developed at Statistics Canada as an extension of the standard X-11 method previously used by BLS. A detailed description of the procedure appears in *The X-11 ARIMA Seasonal Adjustment Method* by Estela Bee Dagum (Statistics Canada, Catalogue No. 12–564E, February 1980). The second change is that seasonal factors are calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at midyear for the July-December period. However, revisions of historical data continue to be made only at the end of each calendar year.

Seasonally adjusted labor force data in tables 1 and 4–10 were revised in the February 1986 issue of the *Review*, to reflect experience through 1985.

Annual revisions of the seasonally adjusted payroll data shown in tables 13, 14, and 18 were made in the July 1986 *Review* using the X-11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in table 42 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the Hourly Earnings Index in table 17—are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is $2 ($3/150 × 100 = $2). The $2 (or any other resulting values) are described as "real," "constant," or "1967" dollars.

Additional information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. News releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule preceding these general notes. More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in *Employment and Earnings*, a monthly publication of the Bureau. More data from the household survey are published in the two-volume data book—*Labor Force Statistics Derived From the Current Population Survey*, Bulletin 2096. More data from the establishment survey appear in two data books—*Employment, Hours, and Earnings, United States*, and *Employment, Hours, and Earnings, States and Areas*, and the annual supplements to these data books. More detailed information on employee compensation and collective bargaining settlements is published in the monthly periodical, *Current Wage Developments*. More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report*, and *Producer Prices and Price Indexes*. Detailed data on all of the series in this section are provided in the *Handbook of Labor Statistics*, which is published biennally by the Bureau. BLS bulletins are issued covering productivity, injury and illness, and other data in this section. Finally, the *Monthly Labor Review* carries analytical articles on annual and longer term developments in labor force, employment, and unemployment; employee compensation and collective bargaining; prices; productivity; international comparisons; and injury and illness data.

Symbols

p = preliminary. To increase the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally, this revision reflects the availability of later data but may also reflect other adjustments.
n.e.c. = not elsewhere classified.
n.e.s. = not elsewhere specified.

COMPARATIVE INDICATORS
(Tables 1–3)

Comparative indicators tables provide an overview and comparison of major BLS statistical series. Consequently, although many of the included series are available monthly, all measures in these comparative tables are presented quarterly and annually.

Labor market indicators include employment measures from two major surveys and information on rates of change in compensation provided by the Employment Cost Index (ECI) program. The labor force participation rate, the employment-to-population ratio, and unemployment rates for major demographic groups based on the Current Population ("household") Survey are presented, while measures of employment and average weekly hours by major industry sector are given using nonagricultural payroll data. The Employment Cost Index (compensation), by major sector and by bargaining status, is chosen from a variety of BLS compensation and wage measures because it provides a comprehensive measure of employer costs for hiring labor, not just outlays for wages, and it is not affected by employment shifts among occupations and industries.

Data on **changes in compensation, prices, and productivity** are presented in table 2. Measures of rates of change of compensation and wages from the Employment Cost Index program are provided for all civilian nonfarm workers (excluding Federal and household workers) and for all private nonfarm workers. Measures of changes in: consumer prices for all urban consumers; producer prices by stage of processing; and the overall export and import price indexes are given. Measures of productivity (output per hour of all persons) are provided for major sectors.

Alternative measures of wage and compensation rates of change, which reflect the overall trend in labor costs, are summarized in table 3. Differences in concepts and scope, related to the specific purposes of the series, contribute to the variation in changes among the individual measures.

Notes on the data

Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data. For detailed descriptions of each data series, see *BLS Handbook of Methods*, Volumes I and II, Bulletins 2134–1 and 2134–2 (Bureau of Labor Statistics, 1982 and 1984, respectively), as well as the additional bulletins, articles, and other publications noted in the separate sections of the *Review*'s "Current Labor Statistics Notes." Historical data for many series are provided in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). Users may also wish to consult *Major Programs, Bureau of Labor Statistics*, Report 718 (Bureau of Labor Statistics, 1985).

EMPLOYMENT DATA

(Tables 1; 4–21)

Household survey data

Description of the series

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 59,500 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons include (1) all civilians who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. Members of the Armed Forces stationed in the United States are also included in the employed total. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **overall unemployment rate** represents the number unemployed as a percent of the labor force, including the resident Armed Forces. The **civilian unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **labor force** consists of all employed or unemployed civilians plus members of the Armed Forces stationed in the United States. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons who are retired, those engaged in their own housework, those not working while attending school, those unable to work because of long-term illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy, and members of the Armed Forces stationed in the United States. The **labor force participation rate** is the proportion of the noninstitutional population that is in the labor force. The **employment-population ratio** is total employment (including the resident Armed Forces) as a percent of the noninstitutional population.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 4–10 are seasonally adjusted, based on the seasonal experience through December 1985.

Additional sources of information

For detailed explanations of the data, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 1, and for additional data, *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). A detailed description of the Current Population Survey as well as additional data are available in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*. Historical data from 1948 to 1981 are available in *Labor Force Statistics Derived from the Current Population Survey: A Databook*, Vols. I and II, Bulletin 2096 (Bureau of Labor Statistics, 1982).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

Establishment survey data

Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by more than 250,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

An **establishment** is an economic unit which produces goods or services (such as a factory or store) at a single location and is engaged in one type of economic activity.

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include working supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 12–17 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in the following industries: transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and

services. These groups account for about four-fifths of the total employment on private nonagricutural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W). The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

The Diffusion Index, introduced in the May 1983 *Review*, represents the percent of 185 nonagricultural industries in which employment was rising over the indicated period. One-half of the industries with unchanged employment are counted as rising. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. The diffusion index is useful for measuring the dispersion of economic gains or losses and is also an economic indicator.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of May 1986 data, published in the July 1986 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Unadjusted data have been revised back to April 1984; seasonally adjusted data have been revised back to January 1981. These revisions were published in the *Supplement to Employment and Earnings* (Bureau of Labor Statistics, 1986). Unadjusted data from April 1985 forward, and seasonally adjusted data from January 1982 forward are subject to revision in future benchmarks.

In the establishment survey, estimates for the 2 most recent months are based on incomplete returns and are published as preliminary in the tables (13 to 16 in the *Review*). When all returns have been received, the estimates are revised and published as final in the third month of their appearance. Thus, August data are published as preliminary in October and November and as final in December. For the same reason, quarterly establishment data (table 1) are preliminary for the first 2 months of publication and final in the third month. Thus, second-quarter data are published as preliminary in August and September and as final in October.

Additional sources of information

Detailed data from the establishment survey are published monthly in the BLS periodical, *Employment and Earnings*. Earlier comparable unadjusted and seasonally adjusted data are published in *Employment, Hours, and Earnings, United States, 1909–84*, Bulletin 1312–12 (Bureau of Labor Statistics, 1985) and its annual supplement. For a detailed discussion of the methodology of the survey, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 2. For additional data, see *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

Unemployment data by State

Description of the series

Data presented in this section are obtained from two major sources—the Current Population Survey (CPS) and the Local Area Unemployment Statistics (LAUS) program, which is conducted in cooperation with State employment security agencies.

Monthly estimates of the labor force, employment, and unemployment for States and sub-State areas are a key indicator of local economic conditions and form the basis for determining the eligibility of an area for benefits under Federal economic assistance programs such as the Job Training Partnership Act and the Public Works and Economic Development Act. Insofar as possible, the concepts and definitions underlying these data are those used in the national estimates obtained from the CPS.

Notes on the data

Data refer to State of residence. Monthly data for 11 States—California, Florida, Illinois, Massachusetts, Michigan, New York, New Jersey, North Carolina, Ohio, Pennsylvania, and Texas—are obtained directly from the CPS, because the size of the sample is large enough to meet BLS standards of reliability. Data for the remaining 39 States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates for the 11 States are revised to new population controls. For the remaining States and the District of Columbia, data are benchmarked to annual average CPS levels.

Additional sources of information

Information on the concepts, definitions, and technical procedures used to develop labor force data for States and sub-State areas as well as additional data on sub-States are provided in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*, and the annual report, *Geographic Profile of Employment and Unemployment* (Bureau of Labor Statistics). See also *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 4.

COMPENSATION AND WAGE DATA

(Tables 1–3; 22–29)

COMPENSATION AND WAGE DATA are gathered by the Bureau from business establishments, State and local governments, labor unions, collective bargaining agreements on file with the Bureau, and secondary sources.

Employment Cost Index

Description of the series

The **Employment Cost Index** (ECI) is a quarterly measure of the rate of change in compensation per hour worked and includes wages, salaries, and employer costs of employee benefits. It uses a fixed market basket of labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over time in employer costs of employing labor. The index is not seasonally adjusted.

Statistical series on total compensation costs and on wages and salaries are available for private nonfarm workers excluding proprietors, the self-employed, and household workers. Both series are also available for State and local government workers and for the civilian nonfarm economy, which consists of private industry and State and local government workers combined. Federal workers are excluded.

The Employment Cost Index probability sample consists of about 2,200 private nonfarm establishments providing about 12,000 occupational observations and 700 State and local government establishments providing

3,500 occupational observations selected to represent total employment in each sector. On average, each reporting unit provides wage and compensation information on five well-specified occupations. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Beginning with June 1986 data, fixed employment weights from the 1980 Census of Population are used each quarter to calculate the indexes for civilian, private, and State and local governments. (Prior to June 1986, the employment weights are from the 1970 Census of Population.) These fixed weights, also used to derive all of the industry and occupation series indexes, ensure that changes in these indexes reflect only changes in compensation, not employment shifts among industries or occupations with different levels of wages and compensation. For the bargaining status, region, and metropolitan/nonmetropolitan area series, however, employment data by industry and occupation are not available from the census. Instead, the 1980 employment weights are reallocated within these series each quarter based on the current sample. Therefore, these indexes are not strictly comparable to those for the aggregate, industry, and occupation series.

Definitions

Total compensation costs include wages, salaries, and the employer's costs for employee benefits.

Wages and salaries consist of earnings before payroll deductions, including production bonuses, incentive earnings, commissions, and cost-of-living adjustments.

Benefits include the cost to employers for paid leave, supplemental pay (including nonproduction bonuses), insurance, retirement and savings plans, and legally required benefits (such as Social Security, workers' compensation, and unemployment insurance).

Excluded from wages and salaries and employee benefits are such items as payment-in-kind, free room and board, and tips.

Notes on the data

The Employment Cost Index data series began in the fourth quarter of 1975, with the quarterly percent change in wages and salaries in the private nonfarm sector. Data on employer costs for employee benefits were included in 1980 to produce, when combined with the wages and salaries series, a measure of the percent change in employer costs for employee total compensation. State and local government units were added to the ECI coverage in 1981, providing a measure of total compensation change in the *civilian* nonfarm economy (excluding Federal employees). Historical indexes (June 1981 = 100) of the quarterly rates of change are presented in the May issue of the BLS monthly periodical, *Current Wage Developments*.

Additional sources of information

For a more detailed discussion of the Employment Cost Index, see the *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 11, and the following *Monthly Labor Review* articles: "Employment Cost Index: a measure of change in the 'price of labor'," July 1975; "How benefits will be incorporated into the Employment Cost Index," January 1978; "Estimation procedures for the Employment Cost Index," May 1982; and "Introducing new weights for the Employment Cost Index," June 1985.

Data on the ECI are also available in BLS quarterly press releases issued in the month following the reference months of March, June, September, and December; and from the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

Collective bargaining settlements

Description of the series

Collective bargaining settlements data provide statistical measures of negotiated adjustments (increases, decreases, and freezes) in compensation (wage and benefit costs) and wages alone, quarterly for private industry and semiannually for State and local government. Compensation measures cover all collective bargaining situations involving 5,000 workers or more and wage measures cover all situations involving 1,000 workers or more. These data, covering private nonagricultural industries and State and local governments, are calculated using information obtained from bargaining agreements on file with the Bureau, parties to the agreements, and secondary sources, such as newspaper accounts. The data are not seasonally adjusted.

Settlement data are measured in terms of future specified adjustments: those that will occur within 12 months after contract ratification—first-year—and all adjustments that will occur over the life of the contract expressed as an average annual rate. Adjustments are worker weighted. Both first-year and over-the-life measures exclude wage changes that may occur under cost-of-living clauses that are triggered by future movements in the Consumer Price Index.

Effective wage adjustments measure all adjustments occurring in the reference period, regardless of the settlement date. Included are changes from settlements reached during the period, changes deferred from contracts negotiated in earlier periods, and changes under cost-of-living adjustment clauses. Each wage change is worker weighted. The changes are prorated over all workers under agreements during the reference period yielding the average adjustment.

Definitions

Wage rate changes are calculated by dividing newly negotiated wages by the average hourly earnings, excluding overtime, at the time the agreement is reached. Compensation changes are calculated by dividing the change in the value of the newly negotiated wage and benefit package by existing average hourly compensation, which includes the cost of previously negotiated benefits, legally required social insurance programs, and average hourly earnings.

Compensation changes are calculated by placing a value on the benefit portion of the settlements at the time they are reached. The cost estimates are based on the assumption that conditions existing at the time of settlement (for example, methods of financing pensions or composition of labor force) will remain constant. The data, therefore, are measures of negotiated changes and not of total changes in employer cost.

Contract duration runs from the effective date of the agreement to the expiration date or first wage reopening date, if applicable. Average annual percent changes over the contract term take account of the compounding of successive changes.

Notes on the data

Care should be exercised in comparing the size and nature of the settlements in State and local government with those in the private sector because of differences in bargaining practices and settlement characteristics. A principal difference is the incidence of cost-of-living adjustment (COLA) clauses which cover only about 2 percent of workers under a few local government settlements, but cover 50 percent of workers under private sector settlements. Agreements without COLA's tend to provide larger specified wage increases than those with COLA's. Another difference is that State and local government bargaining frequently excludes pension benefits which are often prescribed by law. In the private sector, in contrast, pensions are typically a bargaining issue.

Additional sources of information

For a more detailed discussion on the series, see the BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 10. Comprehensive data are published in press releases issued quarterly (in January, April, July, and October) for private industry, and semi-

annually (in February and August) for State and local government. Historical data and additional detailed tabulations for the prior calendar year appear in the April issue of the BLS monthly periodical, *Current Wage Developments*.

Work stoppages

Description of the series

Data on **work stoppages** measure the number and duration of major strikes or lockouts (involving 1,000 workers or more) occurring during the month (or year), the number of workers involved, and the amount of time lost because of stoppage.

Data are largely from newspaper accounts and cover only establishments directly involved in a stoppage. They do not measure the indirect or secondary effect of stoppages on other establishments whose employees are idle owing to material shortages or lack of service.

Definitions

Number of stoppages: The number of strikes and lockouts involving 1,000 workers or more and lasting a full shift or longer.

Workers involved: The number of workers directly involved in the stoppage.

Number of days idle: The aggregate number of workdays lost by workers involved in the stoppages.

Days of idleness as a percent of estimated working time: Aggregate workdays lost as a percent of the aggregate number of standard workdays in the period multiplied by total employment in the period.

Notes on the data

This series is not comparable with the one terminated in 1981 that covered strikes involving six workers or more.

Additional sources of information

Data for each calendar year are reported in a BLS press release issued in the first quarter of the following year. Monthly data appear in the BLS monthly periodical, *Current Wage Developments*. Historical data appear in the *BLS Handbook of Labor Statistics*.

Other compensation data

Other BLS data on pay and benefits, not included in the Current Labor Statistics section of the *Monthly Labor Review*, appear in and consist of the following:

Industry Wage Surveys provide data for specific occupations selected to represent an industry's wage structure and the types of activities performed by its workers. The Bureau collects information on weekly work schedules, shift operations and pay differentials, paid holiday and vacation practices, and information on incidence of health, insurance, and retirement plans. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Monthly Labor Review*.

Area Wage Surveys annually provide data for selected office, clerical, professional, technical, maintenance, toolroom, powerplant, material movement, and custodial occupations common to a wide variety of industries in the areas (labor markets) surveyed. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Review*.

The National Survey of Professional, Administrative, Technical, and Clerical Pay provides detailed information annually on salary levels and distributions for the types of jobs mentioned in the survey's title in private employment. Although the definitions of the jobs surveyed reflect the duties and responsibilities in private industry, they are designed to match specific pay grades of Federal white-collar employees under the General Schedule pay system. Accordingly, this survey provides the legally required information for comparing the pay of salaried employees in the Federal civil service with pay in private industry. (See Federal Pay Comparability Act of 1970, 5 U.S.C. 5305.) Data are published in a BLS news release issued in the summer and in a bulletin each fall; summaries and analytical articles also appear in the *Review*.

Employee Benefits Survey provides nationwide information on the incidence and characteristics of employee benefit plans in medium and large establishments in the United States, excluding Alaska and Hawaii. Data are published in an annual BLS news release and bulletin, as well as in special articles appearing in the *Review*.

PRICE DATA
(Tables 2; 30–41)

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Consumer Price Indexes

Description of the series

The **Consumer Price Index** (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI-W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all urban consumer index (CPI-U) introduced in 1978 is representative of the 1972–73 buying habits of about 80 percent of the noninstitutional population of the United States at that time, compared with 40 percent represented in the CPI-W. In addition to wage earners and clerical workers, the CPI-U covers professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items are kept essentially unchanged between major revisions so that only price changes will be measured. All taxes directly associated with the purchase and use of items are included in the index.

Data collected from more than 24,000 retail establishments and 24,000 tenants in 85 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 28 major urban centers are presented in table 31. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

Notes on the data

In January 1983, the Bureau changed the way in which homeownership costs are measured for the CPI-U. A rental equivalence method replaced the

asset-price approach to homeownership costs for that series. In January 1985, the same change was made in the CPI-W. The central purpose of the change was to separate shelter costs from the investment component of homeownership so that the index would reflect only the cost of shelter services provided by owner-occupied homes.

Additional sources of information

For a discussion of the general method for computing the CPI, see *BLS Handbook of Methods, Volume II, The Consumer Price Index*, Bulletin 2134–2 (Bureau of Labor Statistics, 1984). The recent change in the measurement of homeownership costs is discussed in Robert Gillingham and Walter Lane, "Changing the treatment of shelter costs for homeowners in the CPI," *Monthly Labor Review*, June 1982, pp. 9–14.

Additional detailed CPI data and regular analyses of consumer price changes are provided in the *CPI Detailed Report*, a monthly publication of the Bureau. Historical data for the overall CPI and for selected groupings may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

Producer Price Indexes

Description of the series

Producer Price Indexes (PPI) measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 60,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The stage of processing structure of Producer Price Indexes organizes products by class of buyer and degree of fabrication (that is, finished goods, intermediate goods, and crude materials). The traditional commodity structure of PPI organizes products by similarity of end use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

Since January 1976, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

Notes on the data

Beginning with the January 1986 issue, the *Review* is no longer presenting tables of Producer Price Indexes for commodity groupings, special composite groups, or SIC industries. However, these data will continue to be presented in the Bureau's monthly publication *Producer Price Indexes*.

The Bureau has completed the first major stage of its comprehensive overhaul of the theory, methods, and procedures used to construct the Producer Price Indexes. Changes include the replacement of judgment sampling with probability sampling techniques; expansion to systematic coverage of the net output of virtually all industries in the mining and manufacturing sectors; a shift from a commodity to an industry orientation; the exclusion of imports from, and the inclusion of exports in, the survey universe; and the respecification of commodities priced to conform to Bureau of the Census definitions. These and other changes have been phased in gradually since 1978. The result is a system of indexes that is easier to use in conjunction with data on wages, productivity, and employment and other series that are organized in terms of the Standard Industrial Classification and the Census product class designations.

Additional sources of information

For a discussion of the methodology for computing Producer Price Indexes, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 7.

Additional detailed data and analyses of price changes are provided monthly in *Producer Price Indexes*. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

International price indexes

Description of the series

The BLS **International Price Program** produces quarterly export and import price indexes for nonmilitary goods traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national income accounts: it includes corporations, businesses, and individuals but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents. With publication of an all-import index in February 1983 and an all-export index in February 1984, all U.S. merchandise imports and exports now are represented in these indexes. The reference period for the indexes is 1977 = 100, unless otherwise indicated.

The product universe for both the import and export indexes includes raw materials, agricultural products, semifinished manufactures, and finished manufactures, including both capital and consumer goods. Price data for these items are collected quarterly by mail questionnaire. In nearly all cases, the data are collected directly from the exporter or importer, although in a few cases, prices are obtained from other sources.

To the extent possible, the data gathered refer to prices at the U.S. border for exports and at either the foreign border or the U.S. border for imports. For nearly all products, the prices refer to transactions completed during the first 2 weeks of the third month of each calendar quarter—March, June, September, and December. Survey respondents are asked to indicate all discounts, allowances, and rebates applicable to the reported prices, so that the price used in the calculation of the indexes is the actual price for which the product was bought or sold.

In addition to general indexes of prices for U.S. exports and imports, indexes are also published for detailed product categories of exports and imports. These categories are defined by the 4- and 5-digit level of detail of the Standard Industrial Trade Classification System (SITC). The calculation of indexes by SITC category facilitates the comparison of U.S. price trends and sector production with similar data for other countries. Detailed indexes are also computed and published on a Standard Industrial Classification (SIC-based) basis, as well as by end-use class.

Notes on the data

The export and import price indexes are weighted indexes of the Laspeyres type. Price relatives are assigned equal importance within each weight category and are then aggregated to the SITC level. The values assigned to each weight category are based on trade value figures compiled

by the Bureau of the Census. The trade weights currently used to compute both indexes relate to 1980.

Because a price index depends on the same items being priced from period to period, it is necessary to recognize when a product's specifications or terms of transaction have been modified. For this reason, the Bureau's quarterly questionnaire requests detailed descriptions of the physical and functional characteristics of the products being priced, as well as information on the number of units bought or sold, discounts, credit terms, packaging, class of buyer or seller, and so forth. When there are changes in either the specifications or terms of transaction of a product, the dollar value of each change is deleted from the total price change to obtain the "pure" change. Once this value is determined, a linking procedure is employed which allows for the continued repricing of the item.

For the export price indexes, the preferred pricing basis is f.a.s. (free alongside ship) U.S. port of exportation. When firms report export prices f.o.b. (free on board), production point information is collected which enables the Bureau to calculate a shipment cost to the port of exportation. An attempt is made to collect two prices for imports. The first is the import price f.o.b. at the foreign port of exportation, which is consistent with the basis for valuation of imports in the national accounts. The second is the import price c.i.f. (cost, insurance, and freight) at the U.S. port of importation, which also includes the other costs associated with bringing the product to the U.S. border. It does not, however, include duty charges.

Additional sources of information

For a discussion of the general method of computing International Price Indexes, see BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 8.

Additional detailed data and analyses of international price developments are presented in the Bureau's quarterly publication *U.S. Import and Export Price Indexes* and in occasional *Monthly Labor Review* articles prepared by BLS analysts. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

PRODUCTIVITY DATA

(Tables 2; 42—44)

U. S. productivity and related data

Description of the series

The productivity measures relate real physical output to real input. As such, they encompass a family of measures which include single factor input measures, such as output per unit of labor input (output per hour) or output per unit of capital input, as well as measures of multifactor productivity (output per unit of labor and capital inputs combined). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

Corresponding indexes of hourly compensation, unit labor costs, unit nonlabor payments, and prices are also provided.

Definitions

Output per hour of all persons (labor productivity) is the value of goods and services in constant prices produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the value of goods and services in constant dollars produced per unit of capital services input.

Multifactor productivity is the ratio output per unit of labor and capital inputs combined. Changes in this measure reflect changes in a number of factors which affect the production process such as changes in technology, shifts in the composition of the labor force, changes in capacity utilization, research and development, skill and efforts of the work force, management, and so forth. Changes in the output per hour measures reflect the impact of these factors as well as the substitution of capital for labor.

Compensation per hour is the wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, and the wages, salaries, and supplementary payments for the self-employed (except for nonfinancial corporations in which there are no self-employed)—the sum divided by hours paid for. **Real compensation per hour** is compensation per hour deflated by the change in the Consumer Price Index for All Urban Consumers.

Unit labor costs are the labor compensation costs expended in the production of a unit of output and are derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from current dollar value of output and dividing by output. **Unit nonlabor costs** contain all the components of unit nonlabor payments *except* unit profits.

Unit profits include corporate profits and the value of inventory adjustments per unit of output.

Hours of all persons are the total hours paid of payroll workers, self-employed persons, and unpaid family workers.

Capital services is the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories—weighted by rental prices for each type of asset.

Labor and capital inputs combined are derived by combining changes in labor and capital inputs with weights which represent each component's share of total output. The indexes for capital services and combined units of labor and capital are based on changing weights which are averages of the shares in the current and preceding year (the Tornquist index-number formula).

Notes on the data

Output measures for the business sector and the nonfarm business sector exclude the constant dollar value of owner-occupied housing, rest of world, households and institutions, and general government output from the constant dollar value of gross national product. The measures are derived from data supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are developed from data of the Bureau of Labor Statistics and the Bureau of Economic Analysis.

The productivity and associated cost measures in tables 42–44 describe the relationship between output in real terms and the labor time and capital services involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input. Although these measures relate output to hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; capital investment; level of output; utilization of capacity, energy, and materials; the organization of production; managerial skill; and the characteristics and efforts of the work force.

Additional sources of information

Descriptions of methodology underlying the measurement of output per hour and multifactor productivity are found in the BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 13. Historical data for selected industries are provided in the Bureau's *Handbook of Labor Statistics*, 1985, Bulletin 2217.

INTERNATIONAL COMPARISONS
(Tables 45–47)

Labor force and unemployment

Description of the series

Tables 45 and 46 present comparative measures of the labor force, employment, and unemployment—approximating U.S. concepts—for the United States, Canada, Australia, Japan, and six European countries. The unemployment statistics (and, to a lesser extent, employment statistics) published by other industrial countries are not, in most cases, comparable to U.S. unemployment statistics. Therefore, the Bureau adjusts the figures for selected countries, where necessary, for all known major definitional differences. Although precise comparability may not be achieved, these adjusted figures provide a better basis for international comparisons than the figures regularly published by each country.

Definitions

For the principal U.S. definitions of the **labor force**, **employment**, and **unemployment**, see the Notes section on EMPLOYMENT DATA: Household Survey Data.

Notes on the data

The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country, rather than to the U.S. standard of 16 years of age and over. Therefore, the adjusted statistics relate to the population age 16 and over in France, Sweden, and from 1973 onward, Great Britain; 15 and over in Canada, Australia, Japan, Germany, the Netherlands, and prior to 1973, Great Britain; and 14 and over in Italy. The institutional population is included in the denominator of the labor force participation rates and employment-population ratios for Japan and Germany; it is excluded for the United States and the other countries.

In the U.S. labor force survey, persons on layoff who are awaiting recall to their job are classified as unemployed. European and Japanese layoff practices are quite different in nature from those in the United States; therefore, strict application of the U.S. definition has not been made on this point. For further information, see *Monthly Labor Review*, December 1981, pp. 8–11.

The figures for one or more recent years for France, Germany, Great Britain, Italy, and the Netherlands are calculated using adjustment factors based on labor force surveys for earlier years and are considered preliminary. The recent-year measures for these countries are, therefore, subject to revision whenever data from more current labor force surveys become available.

Additional sources of information

For further information, see *International Comparisons of Unemployment*, Bulletin 1979 (Bureau of Labor Statistics, 1978), Appendix B and unpublished Supplements to Appendix B available on request. The statistics are also analyzed periodically in the *Monthly Labor Review*. Additional historical data, generally beginning with 1959, are published in the *Handbook of Labor Statistics* and are available in unpublished statistical supplements to Bulletin 1979.

Manufacturing productivity and labor costs

Description of the series

Table 47 presents comparative measures of manufacturing labor productivity, hourly compensation costs, and unit labor costs for the United States, Canada, Japan, and nine European countries. These measures are limited to trend comparisons—that is, intercountry series of changes over time—rather than level comparisons because reliable international comparisons of the levels of manufacturing output are unavailable.

Definitions

Output is constant value output (value added), generally taken from the national accounts of each country. While the national accounting methods for measuring real output differ considerably among the 12 countries, the use of different procedures does not, in itself, connote lack of comparability—rather, it reflects differences among countries in the availability and reliability of underlying data series.

Hours refer to all employed persons including the self-employed in the United States and Canada; to all wage and salary employees in the other countries. The U.S. hours measure is hours paid; the hours measures for the other countries are hours worked.

Compensation (labor cost) includes all payments in cash or kind made directly to employees plus employer expenditures for legally required insurance programs and contractual and private benefit plans. In addition, for some countries, compensation is adjusted for other significant taxes on payrolls or employment (or reduced to reflect subsidies), even if they are not for the direct benefit of workers, because such taxes are regarded as labor costs. However, compensation does not include all items of labor cost. The costs of recruitment, employee training, and plant facilities and services—such as cafeterias and medical clinics—are not covered because data are not available for most countries. Self-employed workers are included in the U.S. and Canadian compensation figures by assuming that their hourly compensation is equal to the average for wage and salary employees.

Notes on the data

For most of the countries, the measures refer to total manufacturing as defined by the International Standard Industrial Classification. However, the measures for France (beginning 1959), Italy (beginning 1970), and the United Kingdom (beginning 1976), refer to manufacturing and mining less energy-related products and the figures for the Netherlands exclude petroleum refining from 1969 to 1976. For all countries, manufacturing includes the activities of government enterprises.

The figures for one or more recent years are generally based on current indicators of manufacturing output, employment, hours, and hourly compensation and are considered preliminary until the national accounts and other statistics used for the long-term measures become available.

Additional sources of information

For additional information, see the BLS *Handbook of Methods*, Bulletin 2134-1 (Bureau of Labor Statistics, 1982), chapter 16 and periodic *Monthly Labor Review* articles. Historical data are provided in the Bureau's *Handbook of Labor Statistics*, Bulletin 2217, 1985. The statistics are issued twice per year—in a news release (generally in May) and in a *Monthly Labor Review* article (generally in December).

OCCUPATIONAL INJURY AND ILLNESS DATA

(Table 48)

Description of the series

The Annual Survey of Occupational Injuries and Illnesses is designed to collect data on injuries and illnesses based on records which employers in the following industries maintain under the Occupational Safety and Health Act of 1970: agriculture, forestry, and fishing; oil and gas extraction; construction; manufacturing; transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. Excluded from the survey are self-employed individuals, farmers with fewer than 11 employees, employers regulated by other Federal safety and health laws, and Federal, State, and local government agencies.

Because the survey is a Federal–State cooperative program and the data must meet the needs of participating State agencies, an independent sample is selected for each State. The sample is selected to represent all private industries in the States and territories. The sample size for the survey is dependent upon (1) the characteristics for which estimates are needed; (2) the industries for which estimates are desired; (3) the characteristics of the population being sampled; (4) the target reliability of the estimates; and (5) the survey design employed.

While there are many characteristics upon which the sample design could be based, the total recorded case incidence rate is used because it is one of the most important characteristics and the least variable; therefore, it requires the smallest sample size.

The survey is based on stratified random sampling with a Neyman allocation and a ratio estimator. The characteristics used to stratify the establishments are the Standard Industrial Classification (SIC) code and size of employment.

Definitions

Recordable occupational injuries and illnesses are: (1) occupational deaths, regardless of the time between injury and death, or the length of the illness; or (2) nonfatal occupational illnesses; or (3) nonfatal occupational injuries which involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment (other than first aid).

Occupational injury is any injury such as a cut, fracture, sprain, amputation, and so forth, which results from a work accident or from exposure involving a single incident in the work environment.

Occupational illness is an abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. It includes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion, or direct contact.

Lost workday cases are cases which involve days away from work, or days of restricted work activity, or both.

Lost workday cases involving restricted work activity are those cases which result in restricted work activity only.

Lost workdays away from work are the number of workdays (consecutive or not) on which the employee would have worked but could not because of occupational injury or illness.

Lost workdays—restricted work activity are the number of workdays (consecutive or not) on which, because of injury or illness: (1) the employee was assigned to another job on a temporary basis; or (2) the employee worked at a permanent job less than full time; or (3) the employee worked at a permanently assigned job but could not perform all duties normally connected with it.

The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked even though able to work.

Incidence rates represent the number of injuries and/or illnesses or lost workdays per 100 full-time workers.

Notes on the data

Estimates are made for industries and employment-size classes and for severity classification: fatalities, lost workday cases, and nonfatal cases without lost workdays. Lost workday cases are separated into those where the employee would have worked but could not and those in which work activity was restricted. Estimates of the number of cases and the number of days lost are made for both categories.

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses, or lost workdays, per 100 full-time employees. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Only a few of the available measures are included in the *Handbook of Labor Statistics*. Full detail is presented in the annual bulletin, *Occupational Injuries and Illnesses in the United States, by Industry*.

Comparable data for individual States are available from the BLS Office of Occupational Safety and Health Statistics.

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration, respectively. Data from these organizations are included in BLS and State publications. Federal employee experience is compiled and published by the Occupational Safety and Health Administration. Data on State and local government employees are collected by about half of the States and territories; these data are not compiled nationally.

Additional sources of information

The Supplementary Data System provides detailed information describing various factors associated with work-related injuries and illnesses. These data are obtained from information reported by *employers* to State workers' compensation agencies. The Work Injury Report program examines selected types of accidents through an employee survey which focuses on the circumstances surrounding the injury. These data are not included in the *Handbook of Labor Statistics* but are available from the BLS Office of Occupational Safety and Health Statistics.

The definitions of occupational injuries and illnesses and lost workdays are from *Recordkeeping Requirements under the Occupational Safety and Health Act of 1970*. For additional data, see *Occupational Injuries and Illnesses in the United States, by Industry*, annual Bureau of Labor Statistics bulletin; BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 17; *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985), pp. 411–14; annual reports in the *Monthly Labor Review*; and annual U.S. Department of Labor press releases.

1. Labor market indicators

Selected indicators	1984	1985	1984		1985				1986	
			III	IV	I	II	III	IV	I	II
Employment data										
Employment status of the civilian noninstitutionalized population (household survey)[1]										
Labor Force participation rate	64.4	64.8	64.4	64.5	64.8	64.7	64.7	64.9	65.1	[illegible]
Employment-population ratio	59.5	60.1	59.7	59.8	60.1	60.0	60.1	60.4	60.5	[illegible]
Unemployment rate	7.5	7.2	7.4	7.2	7.3	7.3	7.2	7.0	7.1	7.2
Men	7.4	7.0	7.3	7.1	7.1	7.1	7.0	6.9	6.8	7.1
16 to 24 years	14.4	14.1	14.5	13.8	14.1	14.2	14.0	14.0	13.3	[illegible]
25 years and over	5.7	5.3	5.5	5.4	5.4	5.4	5.3	5.2	5.3	5.4
Women	7.6	7.4	7.6	7.5	7.6	7.5	7.4	7.2	7.3	7.3
16 to 24 years	13.3	13.0	13.1	12.9	13.1	13.0	12.7	13.1	13.2	13.2
25 years and over	6.0	5.9	6.0	5.9	6.0	6.0	5.9	5.5	5.7	5.7
Unemployment rate, 15 weeks and over	2.4	2.0	2.3	2.1	2.0	2.0	2.0	1.9	1.9	[illegible]
Employment, nonagricultural (payroll data), in thousands:[1]										
Total	94,496	97,614	94,977	95,907	96,581	97,295	97,897	98,668	99,403	[illegible]
Private sector	78,472	81,199	78,914	79,736	80,341	80,958	81,414	82,069	82,731	[illegible]
Goods-producing	24,727	24,930	24,891	24,943	24,970	24,947	24,866	24,937	25,028	[illegible]
Manufacturing	19,378	19,314	19,489	19,486	19,439	19,323	19,241	19,261	19,284	[illegible]
Service-producing	69,769	72,684	70,086	70,964	71,611	72,347	73,031	73,731	74,375	[illegible]
Average hours										
Private sector	35.2	34.9	35.1	35.1	35.0	34.9	34.9	34.9	34.9	[illegible]
Manufacturing	40.7	40.5	40.6	40.5	40.4	40.4	40.6	40.8	40.7	[illegible]
Overtime	3.4	3.3	3.3	3.4	3.3	3.2	3.3	3.5	3.4	[illegible]
Employment Cost Index										
Percent change in the ECI, compensation:[2]										
All workers (excluding farm, household, and Federal workers)	–	–	1.3	1.2	1.3	.7	1.0	.6	1.1	.7
Private industry workers	–	–	.8	1.3	1.2	.8	1.3	.6	1.1	[illegible]
Goods-producing[3]	–	–	.9	1.1	1.5	.7	.6	.8	1.1	[illegible]
Servicing-producing[3]	–	–	.7	1.4	1.0	1.0	1.8	.5	1.1	[illegible]
State and local government workers	–	–	3.5	1.0	1.2	.2	3.4	.7	1.0	[illegible]
Workers by bargaining status (private industry)										
Union	–	–	.7	1.1	.7	.6	.8	.5	1.0	[illegible]
Nonunion	–	–	.9	1.3	1.6	1.0	1.4	.6	1.2	[illegible]

[1] Quarterly data seasonally adjusted.

[2] Annual changes are December to December change. Quarterly changes are calculated using last month of each quarter.

[3] Good producing industries include mining, construction, and manufacturing. Service producing industries include all other private sector industries.

– Data not available.

2. Annual and quarterly percent changes in compensation, prices, and productivity

Selected measures	1984	1985	1984		1985				1986	
			III	IV	I	II	III	IV	I	II
Compensation data: [1], [2]										
Employment Cost Index–compensation (wages, salaries, benefits)										
Civilian nonfarm	–	–	1.3	1.2	1.5	0.7	1.6	0.6	1.1	0.7
Private nonfarm	–	–	.8	1.3	1.2	.8	1.3	.6	1.1	.8
Employment Cost Index–wages and salaries										
Civilian nonfarm	–	–	1.3	1.2	1.2	.9	1.7	.6	1.0	.8
Private nonfarm	–	–	.8	1.2	1.2	1.1	1.3	.6	1.0	.9
Price data [1]										
Consumer Price Index (All urban consumers): All items	4.0	3.8	1.2	.3	1.0	1.1	.7	.9	-.4	.6
Producer Price Index										
Finished goods	1.7	1.8	-.5	.9	.0	.7	-1.4	2.5	-3.1	.3
Finished consumer goods	1.6	1.5	-.5	.8	-.3	.7	-1.4	2.5	-4.1	.2
Capital equipment	1.8	2.7	-.5	1.1	1.3	.4	-1.4	2.5	.2	.5
Intermediate materials, supplies, components	1.3	-.3	-.4	-.1	-.4	.2	-.5	.4	-2.9	-.8
Crude materials	-1.6	-5.8	-2.0	-1.2	-8.1	-2.1	-6.5	4.3	-7.6	-2.2
Productivity data [3]										
Output per hour of all persons:										
Business sector	2.3	1.0	-.3	-.1	.9	2.7	3.4	-3.2	3.3	-.3
Nonfarm business sector	1.8	.5	-.7	-.4	.3	1.8	2.2	-3.5	4.3	-.5
Nonfinancial corporations [4]	2.0	1.2	-1.6	1.1	.8	2.2	4.9	-2.8	-.5	-2.3

[1] Annual changes are December-to-December change. Quarterly changes are calculated using the last month of each quarter. Compensation and price data are not seasonally adjusted and the price data are not compounded.

[2] Excludes Federal and private household workers.

[3] Annual rates of change are computed by comparing annual averages. Quarterly percent changes reflect annual rates of change in quarterly indexes. The data are seasonally adjusted.

[4] Output per hour of all employees.

– Data not available.

3. Alternative measures of wage and compensation changes

Components	Quarterly average						Four quarters ended–					
	1985				1986		1985				1986	
	I	II	III	IV	I	II	I	II	III	IV	I	II
Average hourly compensation: [1]												
All persons, business sector	3.9	5.1	4.4	3.9	2.5	2.7	3.9	4.5	4.4	4.4	3.9	3.3
All employees, nonfarm business sector	3.9	4.4	3.2	3.6	3.1	2.1	3.9	4.2	3.9	3.8	3.6	3.0
Employment Cost Index–compensation:												
Civilian nonfarm [2]	1.3	.7	1.6	.6	1.1	.7	4.8	4.6	4.9	4.3	4.1	4.0
Private nonfarm	1.2	.8	1.3	.6	1.1	.8	4.4	4.2	4.7	3.9	3.8	3.8
Union	.7	.8	.8	.5	1.0	.2	3.5	3.1	3.2	2.6	2.9	2.5
Nonunion	1.6	1.6	1.4	.6	1.2	.8	4.9	4.8	5.4	4.6	4.2	4.2
State and local governments	1.2	.2	3.4	.7	1.0	.6	6.5	6.1	6.0	5.7	5.5	5.8
Employment Cost Index–wages and salaries:												
Civilian nonfarm [2]	1.2	.9	1.7	.6	1.0	.8	4.4	4.5	5.0	4.4	4.2	4.1
Private nonfarm	1.2	1.1	1.3	.6	1.0	.9	4.1	4.3	4.8	4.1	3.9	3.7
Union	.7	1.1	.9	.5	.7	.4	3.0	3.4	3.6	3.1	3.2	2.5
Nonunion	1.4	1.1	1.5	.6	1.1	.5	4.8	4.8	5.4	4.6	4.3	4.1
State and local governments	1.0	.2	3.5	.8	1.0	.4	5.6	5.5	5.6	5.6	5.5	5.7
Total effective wage adjustments [3]	.7	.8	1.2	.5	.6	.7	3.6	3.5	3.5	3.3	3.1	2.9
From current settlements	.1	.2	.2	.1	.0	.2	.7	.9	.9	.7	.6	.5
From prior settlements	.6	.5	.5	.2	.4	.6	2.2	1.9	1.8	1.8	1.7	1.8
From cost-of-living provision	.1	.1	.4	.1	.2	.0	.7	.7	.8	.7	.8	.7
Negotiated wage adjustments from settlements [3]												
First-year adjustments	3.3	2.5	2.0	2.1	1.0	1.3	2.4	2.4	2.4	2.3	2.0	1.7
Annual rate over life of contract	3.2	2.8	3.1	1.9	1.6	2.6	2.3	2.4	2.5	2.7	2.5	2.3
Negotiated wage and benefit adjustments from settlements: [4]												
First-year adjustment	3.6	3.5	2.0	2.0	.4	.7	3.4	3.4	3.1	2.6	2.3	1.5
Annual rate over life of contract	2.7	3.4	3.0	1.4	1.3	1.6	2.6	2.7	2.7	2.7	2.6	2.0

[1] Seasonally adjusted.

[2] Excludes Federal and household workers.

[3] Limited to major collective bargaining units of 1,000 workers or more. The most recent data are preliminary.

[4] Limited to major collective bargaining units of 5,000 workers or more. The most recent data are preliminary.

4. Employment status of the total population, by sex, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1985				1986								
	1984	1985	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
TOTAL															
Noninstitutional population [1], [2]	178,080	179,912	180,304	180,470	180,642	180,810	181,361	181,512	181,678	181,843	181,998	182,183	182,354	182,525	[illegible]
Labor force[2]	115,241	117,167	117,522	117,814	117,832	117,927	118,477	118,779	118,900	118,929	119,351	119,796	119,744	119,879	[illegible]
Participation rate [3]	64.7	65.1	65.2	65.3	65.2	65.2	65.3	65.4	65.4	65.4	65.6	65.8	65.7	65.7	[illegible]
Total employed [2]	106,702	108,856	109,251	109,513	109,671	109,904	110,646	110,252	110,481	110,587	110,797	111,353	111,554	111,852	[illegible]
Employment-population ratio [4]	59.9	60.5	60.6	60.7	60.7	60.8	61.0	60.7	60.8	60.8	60.9	61.1	61.2	61.3	[illegible]
Resident Armed Forces [1]	1,697	1,706	1,732	1,700	1,702	1,698	1,691	1,691	1,693	1,695	1,687	1,680	1,672	1,697	[illegible]
Civilian employed	105,005	107,150	107,519	107,813	107,969	108,206	108,955	108,561	108,788	108,892	109,110	109,673	109,882	110,155	[illegible]
Agriculture	3,321	3,179	3,017	3,058	3,070	3,151	3,299	3,096	3,285	3,222	3,160	3,165	3,112	3,048	[illegible]
Nonagricultural industries	101,685	103,971	104,502	104,755	104,899	105,055	105,655	105,465	105,503	105,670	105,950	106,508	106,769	107,107	[illegible]
Unemployed	8,539	8,312	8,271	8,301	8,161	8,023	7,831	8,527	8,419	8,342	8,554	8,443	8,190	8,027	[illegible]
Unemployment rate [5]	7.4	7.1	7.0	7.0	6.9	6.8	6.6	7.2	7.1	7.0	7.2	7.0	6.8	6.7	[illegible]
Not in labor force	62,839	62,744	62,782	62,656	62,810	62,883	62,885	62,733	62,778	62,914	62,647	62,387	62,610	62,646	[illegible]
Men, 16 years and over															
Noninstitutional population [1], [2]	85,156	86,025	86,217	86,293	86,374	86,459	86,882	86,954	87,035	87,120	87,195	87,268	87,373	87,460	[illegible]
Labor force[2]	65,386	65,967	66,074	66,227	66,176	66,139	66,679	66,838	66,864	66,757	66,943	66,964	66,936	66,944	[illegible]
Participation rate [3]	76.8	76.7	76.6	76.7	76.6	76.5	76.7	76.9	76.8	76.6	76.8	76.7	76.6	76.5	[illegible]
Total employed [2]	60,642	61,447	61,629	61,656	61,731	61,793	62,458	62,243	62,288	62,254	62,190	62,322	62,365	62,515	[illegible]
Employment-population ratio [4]	71.2	71.4	71.5	71.4	71.5	71.5	71.9	71.6	71.6	71.5	71.3	71.4	71.4	71.5	[illegible]
Resident Armed Forces [1]	1,551	1,556	1,580	1,551	1,552	1,549	1,539	1,539	1,540	1,541	1,533	1,525	1,518	1,541	[illegible]
Civilian employed	59,091	59,891	60,049	60,105	60,179	60,244	60,919	60,704	60,748	60,713	60,657	60,797	60,847	60,974	[illegible]
Unemployed	4,744	4,521	4,445	4,571	4,445	4,346	4,221	4,595	4,577	4,503	4,754	4,642	4,571	4,429	[illegible]
Unemployment rate [5]	7.3	6.9	6.7	6.9	6.7	6.6	6.3	6.9	6.8	6.7	7.1	6.9	6.8	6.6	[illegible]
Women, 16 years and over															
Noninstitutional population [1], [2]	92,924	93,886	94,087	94,177	94,266	94,351	94,479	94,558	94,643	94,723	94,803	94,895	94,981	95,065	[illegible]
Labor force[2]	49,855	51,200	51,448	51,587	51,655	51,788	51,797	51,941	52,036	52,172	52,408	52,832	52,808	52,935	[illegible]
Participation rate [3]	53.7	54.5	54.7	54.8	54.8	54.9	54.8	54.9	55.0	55.1	55.3	55.7	55.6	55.7	[illegible]
Total employed[2]	46,061	47,409	47,622	47,857	47,939	48,111	48,187	48,009	48,194	48,333	48,608	49,031	49,189	49,337	[illegible]
Employment-population ratio [4]	49.6	50.5	50.6	50.8	50.9	51.0	51.0	50.8	50.9	51.0	51.3	51.7	51.8	51.9	[illegible]
Resident Armed Forces [1]	146	150	152	149	149	149	152	152	153	154	154	155	154	156	[illegible]
Civilian employed	45,915	47,259	47,470	47,708	47,790	47,962	48,035	47,857	48,041	48,179	48,454	48,876	49,035	49,181	[illegible]
Unemployed	3,794	3,791	3,826	3,730	3,716	3,677	3,610	3,932	3,842	3,839	3,800	3,801	3,619	3,598	[illegible]
Unemployment rate [5]	7.6	7.4	7.4	7.2	7.2	7.1	7.0	7.6	7.4	7.4	7.3	7.2	6.9	6.8	[illegible]

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[1] The population and Armed Forces figures are not adjusted for seasonal variation.

[2] Includes members of the Armed Forces stationed in the United States.

[3] Labor force as a percent of the noninstitutional population.

[4] Total employed as a percent of the noninstitutional population.

[5] Unemployment as a percent of the labor force (including the resident Arme Forces).

5. Employment status of the civilian population, by sex, age, race and Hispanic origin, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1985				1986								
	1984	1985	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
TOTAL															
Civilian noninstitutional population[1]	176,383	178,206	178,572	178,770	178,940	179,112	179,670	179,821	179,985	180,148	180,311	180,503	180,662	180,828	180,997
Civilian labor force	113,544	115,461	115,790	116,114	116,130	116,229	116,786	117,088	117,207	117,234	117,664	118,116	118,072	118,182	118,220
Participation rate	64.4	64.8	64.8	65.0	64.9	64.9	65.0	65.1	65.1	65.1	65.3	65.4	65.3	65.4	65.3
Employed	105,005	107,150	107,519	107,813	107,969	108,206	108,955	108,561	108,788	108,892	109,110	109,673	109,882	110,155	109,891
Employment-population ratio[2]	59.5	60.1	60.2	60.3	60.3	60.4	60.6	60.4	60.4	60.4	60.5	60.8	60.8	60.9	60.7
Unemployed	8,539	8,312	8,271	8,301	8,161	8,023	7,831	8,527	8,419	8,342	8,554	8,443	8,190	8,027	8,329
Unemployment rate	7.5	7.2	7.1	7.1	7.0	6.9	6.7	7.3	7.2	7.1	7.3	7.1	6.9	6.8	7.0
Not in labor force	62,839	62,744	62,782	62,656	62,810	62,883	62,885	62,733	62,778	62,914	62,647	62,387	62,610	62,646	62,777
Men, 20 years and over															
Civilian noninstitutional population[1]	76,219	77,195	77,369	77,498	77,566	77,651	78,101	78,171	78,236	78,309	78,387	78,484	78,586	78,634	78,722
Civilian labor force	59,701	60,277	60,407	60,526	60,553	60,548	61,212	61,183	61,268	61,053	61,208	61,387	61,323	61,235	61,345
Participation rate	78.3	78.1	78.1	78.1	78.1	78.0	78.4	78.3	78.3	78.0	78.1	78.2	78.0	77.9	77.9
Employed	55,769	56,562	56,751	56,849	56,897	56,982	57,706	57,384	57,459	57,391	57,312	57,560	57,499	57,607	57,547
Employment-population ratio[2]	73.2	73.3	73.3	73.4	73.4	73.4	73.9	73.4	73.4	73.3	73.1	73.3	73.2	73.3	73.1
Agriculture	2,418	2,278	2,171	2,188	2,210	2,278	2,349	2,258	2,411	2,347	2,278	2,320	2,266	2,173	2,272
Nonagricultural industries	53,351	54,284	54,580	54,661	54,687	54,704	55,356	55,127	55,048	55,043	55,034	55,241	55,233	55,435	55,275
Unemployed	3,932	3,715	3,656	3,677	3,656	3,566	3,507	3,799	3,809	3,663	3,897	3,827	3,824	3,628	3,798
Unemployment rate	6.6	6.2	6.1	6.1	6.0	5.9	5.7	6.2	6.2	6.0	6.4	6.2	6.2	5.9	6.2
Women, 20 years and over															
Civilian noninstitutional population[1]	85,429	86,506	86,727	86,810	86,901	86,988	87,112	87,165	87,263	87,355	87,444	87,547	87,629	87,669	87,779
Civilian labor force	45,900	47,263	47,558	47,663	47,713	47,870	47,895	47,921	47,952	48,107	48,409	48,805	48,916	48,989	48,922
Participation rate	53.7	54.7	54.8	54.9	54.9	55.0	55.0	55.0	55.0	55.1	55.4	55.7	55.8	55.9	55.7
Employed	42,793	44,154	44,363	44,609	44,656	44,882	44,980	44,710	44,797	45,009	45,284	45,701	45,918	45,999	45,879
Employment-population ratio[2]	50.1	51.0	51.2	51.4	51.4	51.6	51.6	51.3	51.3	51.5	51.8	52.2	52.4	52.5	52.3
Agriculture	595	596	557	609	591	597	696	593	598	576	609	565	609	627	610
Nonagricultural industries	42,198	43,558	43,806	44,000	44,065	44,285	44,284	44,117	44,199	44,433	44,675	45,136	45,309	45,372	45,269
Unemployed	3,107	3,129	3,195	3,054	3,057	2,988	2,915	3,211	3,155	3,097	3,125	3,104	2,998	2,990	3,042
Unemployment rate	6.8	6.6	6.7	6.4	6.4	6.2	6.1	6.7	6.6	6.4	6.5	6.4	6.1	6.1	6.2
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	14,735	14,506	14,456	14,463	14,472	14,474	14,458	14,465	14,485	14,484	14,480	14,472	14,467	14,505	14,496
Civilian labor force	7,943	7,901	7,825	7,925	7,864	7,811	7,678	7,984	7,987	8,074	8,047	7,923	7,833	7,958	7,953
Participation rate	53.9	54.5	54.1	54.8	54.3	54.0	53.1	55.2	55.1	55.7	55.6	54.7	54.1	54.9	54.9
Employed	6,444	6,434	6,405	6,355	6,416	6,342	6,269	6,467	6,532	6,492	6,515	6,411	6,465	6,549	6,465
Employment-population ratio[2]	43.7	44.4	44.3	43.9	44.3	43.8	43.4	44.7	45.1	44.8	45.0	44.3	44.7	45.2	44.6
Agriculture	309	305	289	261	269	276	254	246	276	298	274	280	238	249	239
Nonagricultural industries	6,135	6,129	6,116	6,094	6,147	6,066	6,015	6,221	6,256	6,194	6,241	6,131	6,227	6,300	6,226
Unemployed	1,499	1,468	1,420	1,570	1,448	1,469	1,409	1,517	1,455	1,582	1,532	1,512	1,368	1,409	1,488
Unemployment rate	18.9	18.6	18.1	19.8	18.4	18.8	18.4	19.0	18.2	19.6	19.0	19.1	17.5	17.7	18.7
White															
Civilian noninstitutional population[1]	152,347	153,679	153,938	154,082	154,203	154,327	154,784	154,889	155,005	155,122	155,236	155,376	155,502	155,604	155,723
Civilian labor force	98,492	99,926	100,179	100,533	100,478	100,533	100,961	101,232	101,248	101,249	101,515	101,975	101,922	102,189	102,127
Participation rate	64.6	65.0	65.1	65.2	65.2	65.1	65.2	65.4	65.3	65.3	65.4	65.6	65.5	65.7	65.6
Employed	92,120	93,736	94,055	94,369	94,507	94,585	95,165	94,803	94,958	95,081	95,180	95,731	95,760	96,271	95,953
Employment-population ratio[2]	60.5	61.0	61.1	61.2	61.3	61.3	61.5	61.2	61.3	61.3	61.3	61.6	61.6	61.9	61.6
Unemployed	6,372	6,191	6,124	6,164	5,971	5,948	5,796	6,429	6,290	6,168	6,335	6,244	6,162	5,918	6,174
Unemployment rate	6.5	6.2	6.1	6.1	5.9	5.9	5.7	6.4	6.2	6.1	6.2	6.1	6.0	5.8	6.0
Black															
Civilian noninstitutional population[1]	19,348	19,664	19,728	19,761	19,790	19,819	19,837	19,863	19,889	19,916	19,943	19,974	20,002	20,028	20,056
Civilian labor force	12,033	12,364	12,378	12,412	12,457	12,522	12,548	12,545	12,656	12,740	12,781	12,754	12,601	12,473	12,630
Participation rate	62.2	62.9	62.7	62.8	62.9	63.2	63.3	63.2	63.6	64.0	64.1	63.9	63.0	62.3	63.0
Employed	10,119	10,501	10,500	10,566	10,518	10,657	10,737	10,690	10,791	10,856	10,889	10,825	10,836	10,654	10,757
Employment-population ratio[2]	52.3	53.4	53.2	53.5	53.1	53.8	54.1	53.8	54.3	54.5	54.6	54.2	54.2	53.2	53.6
Unemployed	1,914	1,864	1,878	1,846	1,939	1,865	1,810	1,855	1,865	1,884	1,892	1,929	1,766	1,819	1,873
Unemployment rate	15.9	15.1	15.2	14.9	15.6	14.9	14.4	14.8	14.7	14.8	14.8	15.1	14.0	14.6	14.8

See footnotes at end of table.

5. Continued— Employment status of the civilian population, by sex, age, race and Hispanic origin, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1985				1986								
	1984	1985	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Hispanic origin															
Civilian noninstitutional population[1]	11,478	11,815	12,004	12,040	12,075	12,111	12,148	12,184	12,219	12,255	12,290	12,326	12,362	12,397	12,432
Civilian labor force	7,451	7,698	7,844	7,854	7,782	7,772	7,787	7,943	7,920	7,975	8,002	8,110	8,123	8,102	8,170
Participation rate	64.9	64.6	65.3	65.2	64.4	64.2	64.1	65.2	64.8	65.1	65.1	65.8	65.7	65.4	65.7
Employed	6,651	6,888	7,026	6,982	6,953	6,962	6,998	6,969	7,105	7,144	7,123	7,251	7,274	7,213	7,264
Employment-population ratio[2]	57.9	57.8	58.5	58.0	57.6	57.5	57.6	57.2	58.2	58.3	58.0	58.8	58.8	58.2	58.4
Unemployed	800	811	818	872	829	810	789	974	815	832	879	858	849	889	906
Unemployment rate	10.7	10.5	10.4	11.1	10.7	10.4	10.1	12.3	10.3	10.4	11.0	10.6	10.5	11.0	11.1

[1] The population figures are not seasonally adjusted.

[2] Civilian employment as a percent of the civilian noninstitutional population.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" groups are not presented and Hispanics are included in both the white and black population groups.

6. Selected employment indicators, monthly data seasonally adjusted

(In thousands)

Selected categories	Annual average		1985				1986								
	1984	1985	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
CHARACTERISTIC															
Civilian employed, 16 years and over	105,005	107,150	107,519	107,813	107,969	108,206	108,955	108,561	108,788	108,892	109,110	109,673	109,882	110,156	109,891
Men	59,091	59,891	60,049	60,105	60,179	60,244	60,919	60,704	60,748	60,713	60,657	60,797	60,847	60,974	60,923
Women	45,915	47,259	47,470	47,708	47,790	47,962	48,035	47,857	48,041	48,179	48,454	48,876	49,036	49,181	48,968
Married men, spouse present	39,056	39,248	39,103	39,272	39,314	39,278	39,615	39,382	39,365	39,555	39,614	39,626	39,611	39,716	39,623
Married women, spouse present	25,636	26,336	26,531	26,702	26,721	26,804	26,958	26,583	26,856	26,802	26,920	27,427	27,523	27,438	27,203
Women who maintain families	5,465	5,507	5,556	5,514	5,605	5,683	5,702	5,733	5,771	5,812	5,718	5,868	5,829	5,826	5,827
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,555	1,535	1,438	1,485	1,537	1,572	1,673	1,519	1,680	1,587	1,480	1,498	1,486	1,469	1,501
Self-employed workers	1,553	1,458	1,414	1,436	1,361	1,409	1,492	1,444	1,453	1,475	1,486	1,504	1,427	1,379	1,472
Unpaid family workers	213	185	179	172	158	164	163	156	172	180	186	154	171	178	157
Nonagricultural industries:															
Wage and salary workers	93,565	95,871	96,546	96,530	96,676	96,921	97,911	97,516	97,688	97,831	97,994	98,372	98,206	98,667	98,738
Government	15,770	16,031	16,145	16,213	16,157	16,194	16,418	16,104	16,085	16,187	16,325	16,387	16,647	16,479	16,307
Private industries	77,794	79,841	80,401	80,317	80,519	80,727	81,494	81,412	81,604	81,643	81,669	81,984	81,559	82,188	82,432
Private households	1,238	1,249	1,266	1,271	1,197	1,131	1,256	1,197	1,213	1,321	1,275	1,279	1,243	1,261	1,234
Other	76,556	78,592	79,135	79,046	79,322	79,596	80,238	80,216	80,390	80,322	80,394	80,705	80,317	80,927	81,198
Self-employed workers	7,785	7,811	7,846	7,981	8,013	7,903	7,655	7,869	7,644	7,571	7,757	7,807	8,081	7,982	7,927
Unpaid family workers	335	289	256	248	249	250	273	270	240	253	239	235	254	262	277
PERSONS AT WORK PART TIME[1]															
All industries:															
Part time for economic reasons	5,744	5,590	5,554	5,475	5,498	5,494	5,543	5,377	5,538	5,823	5,980	5,537	5,389	5,443	5,544
Slack work	2,430	2,430	2,433	2,251	2,306	2,303	2,364	2,369	2,330	2,603	2,659	2,434	2,464	2,411	2,496
Could only find part-time work	2,948	2,819	2,815	2,897	2,883	2,864	2,883	2,703	2,953	2,974	2,883	2,610	2,624	2,711	2,764
Voluntary part time	13,169	13,489	13,496	13,713	13,645	13,556	13,858	13,817	13,754	13,933	13,630	14,268	13,901	14,023	13,860
Nonagricultural industries:															
Part time for economic reasons	5,512	5,334	5,289	5,241	5,296	5,294	5,275	5,158	5,301	5,621	5,673	5,320	5,191	5,259	5,299
Slack work	2,291	2,273	2,292	2,115	2,198	2,195	2,208	2,224	2,159	2,430	2,523	2,308	2,323	2,286	2,327
Could only find part-time work	2,866	2,730	2,730	2,801	2,784	2,760	2,776	2,636	2,861	2,849	2,790	2,724	2,579	2,660	2,712
Voluntary part time	12,704	13,038	13,053	13,277	13,194	13,122	13,441	13,389	13,286	13,590	13,191	13,779	13,898	13,663	13,469

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

7. Selected unemployment indicators, monthly data seasonally adjusted

(Unemployment rates)

Selected categories	Annual average		1985				1986								
	1984	1985	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
CHARACTERISTIC															
Total, all civilian workers	7.5	7.2	7.1	7.1	7.0	6.9	6.7	7.3	7.2	7.1	7.3	7.1	6.9	6.8	7.0
Both sexes, 16 to 19 years	18.9	18.6	18.1	19.8	18.4	18.8	18.4	19.0	18.2	19.6	19.0	19.1	17.5	17.7	18.7
Men, 20 years and over	6.6	6.2	6.1	6.1	6.0	5.9	5.7	6.2	6.2	6.0	6.4	6.2	6.2	5.9	6.2
Women, 20 years and over	6.8	6.6	6.7	6.4	6.4	6.2	6.1	6.7	6.6	6.4	6.5	6.4	6.1	6.1	6.2
White, total	6.5	6.2	6.1	6.1	5.9	5.9	5.7	6.4	6.2	6.1	6.2	6.1	6.0	5.8	6.0
Both sexes, 16 to 19 years	16.0	15.7	15.3	17.0	15.5	15.9	14.9	16.2	14.5	16.4	16.0	16.2	15.0	15.2	16.1
Men, 16 to 19 years	16.8	16.5	16.2	18.5	15.8	16.2	14.7	16.5	15.3	17.2	17.3	17.8	15.3	16.7	17.0
Women, 16 to 19 years	15.2	14.8	14.4	15.3	15.1	15.5	15.1	15.8	13.7	15.6	14.7	14.4	14.7	13.5	15.2
Men, 20 years and over	5.7	5.4	5.2	5.2	5.2	5.1	5.0	5.4	5.5	5.2	5.5	5.4	5.5	5.0	5.4
Women, 20 years and over	5.8	5.7	5.7	5.5	5.4	5.4	5.3	5.9	5.6	5.5	5.5	5.4	5.3	5.2	5.3
Black, total	15.9	15.1	15.2	14.9	15.6	14.9	14.4	14.8	14.7	14.8	14.8	15.1	14.0	14.6	14.8
Both sexes, 16 to 19 years	42.7	40.2	38.8	39.7	40.8	41.6	41.9	39.1	43.7	42.8	40.8	40.2	38.6	39.5	38.3
Men, 16 to 19 years	42.7	41.0	41.1	41.0	45.2	41.0	41.3	38.7	44.1	41.4	40.8	38.5	41.6	37.4	38.9
Women, 16 to 19 years	42.6	39.2	36.1	38.2	36.0	42.3	42.4	39.5	43.4	43.7	40.8	41.9	35.1	41.8	37.8
Men, 20 years and over	14.3	13.2	13.3	13.7	13.7	13.1	12.7	13.3	12.6	12.6	12.7	13.3	12.7	13.2	13.7
Women, 20 years and over	13.5	13.1	13.5	12.1	13.6	12.6	12.0	12.5	12.2	12.5	12.8	12.8	11.9	12.5	12.5
Hispanic origin, total	10.7	10.5	10.4	11.1	10.7	10.4	10.1	12.3	10.3	10.4	11.0	10.6	10.5	11.0	11.1
Married men, spouse present	4.6	4.3	4.3	4.2	4.3	4.3	4.3	4.5	4.5	4.2	4.5	4.5	4.4	4.1	4.2
Married women, spouse present	5.7	5.6	5.6	5.3	5.5	5.3	5.1	5.5	5.6	5.3	5.4	5.2	5.3	5.1	5.0
Women who maintain families	10.3	10.4	11.3	10.4	10.0	9.4	9.9	9.9	10.1	9.4	10.2	10.1	9.2	10.3	10.1
Full-time workers	7.2	6.8	6.8	6.8	6.7	6.6	6.4	6.9	6.9	6.7	7.0	6.7	6.6	6.4	6.7
Part-time workers	9.3	9.3	9.3	9.6	8.8	9.0	8.4	9.4	9.1	9.6	9.2	9.1	9.0	9.3	9.3
Unemployed 15 weeks and over	2.4	2.0	2.0	2.0	1.9	1.9	1.8	2.0	1.9	1.8	1.9	2.0	1.9	1.9	2.0
Labor force time lost[1]	8.6	8.1	8.1	7.9	7.9	7.8	7.6	8.1	8.1	8.1	8.3	8.1	7.7	7.7	8.0
INDUSTRY															
Nonagricultural private wage and salary workers	7.4	7.2	7.2	7.1	7.0	6.9	6.7	7.2	7.2	7.2	7.3	7.1	7.2	6.9	7.0
Mining	10.0	9.5	8.9	7.7	7.3	10.3	10.9	9.2	10.4	12.8	13.7	17.6	17.0	16.7	13.3
Construction	14.3	13.1	13.6	13.5	13.4	12.6	12.9	13.2	13.0	12.0	13.3	12.1	13.2	12.2	12.7
Manufacturing	7.5	7.7	7.7	7.5	7.7	7.3	7.0	7.2	7.2	6.8	7.5	7.3	6.9	6.8	7.0
Durable goods	7.2	7.6	7.7	7.3	7.6	7.3	7.0	7.4	6.8	6.8	7.3	7.1	6.7	6.9	6.5
Nondurable goods	7.8	7.8	7.8	7.8	7.8	7.3	7.1	7.0	7.7	6.8	7.7	7.5	7.2	6.7	7.8
Transportation and public utilities	5.5	5.1	5.3	5.1	5.1	5.0	4.3	5.3	6.1	5.6	5.3	5.5	6.1	4.6	4.7
Wholesale and retail trade	8.0	7.6	7.8	7.7	7.5	7.6	7.2	7.8	7.6	8.1	8.1	7.7	7.8	7.4	7.6
Finance and service industries	5.9	5.6	5.5	5.4	5.4	5.3	5.2	5.9	5.7	5.9	5.5	5.4	5.7	5.7	5.6
Government workers	4.5	3.9	3.8	3.9	3.6	3.8	3.4	3.8	4.0	3.5	3.7	3.6	3.2	3.2	3.5
Agricultural wage and salary workers	13.5	13.2	13.3	12.9	12.5	10.6	10.9	14.3	11.9	13.4	15.8	13.2	11.6	13.8	13.5

[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

8. Unemployment rates by sex and age, monthly data seasonally adjusted

(Civilian workers)

Sex and age	Annual average		1985				1986							
	1984	1985	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
Total, 16 years and over	7.5	7.2	7.1	7.1	7.0	6.9	6.7	7.3	7.2	7.1	7.3	7.1	6.9	6.8
16 to 24 years	13.9	13.6	13.3	13.9	13.5	13.3	13.0	13.6	13.2	13.9	14.2	13.5	13.0	12.8
16 to 19 years	18.9	18.6	18.1	19.8	18.4	18.8	18.4	19.0	18.2	19.6	19.0	19.1	17.5	17.7
16 to 17 years	21.2	21.0	20.3	22.7	21.4	21.1	20.9	21.8	19.4	20.9	21.1	20.6	19.4	19.6
18 to 19 years	17.4	17.0	16.7	17.8	16.9	17.5	16.4	17.2	17.1	18.9	17.5	17.9	15.7	16.6
20 to 24 years	11.5	11.1	10.9	10.9	11.0	10.6	10.4	10.8	10.6	10.9	11.7	10.7	10.8	10.2
25 years and over	5.8	5.6	5.6	5.4	5.4	5.3	5.1	5.7	5.7	5.4	5.5	5.6	5.4	5.3
25 to 54 years	6.1	5.8	5.8	5.7	5.6	5.5	5.4	5.9	5.9	5.8	5.9	5.9	5.8	5.6
55 years and over	4.5	4.1	4.1	3.9	3.8	3.9	3.9	4.4	4.3	3.9	3.6	3.7	3.8	3.7
Men, 16 years and over	7.4	7.0	6.9	7.1	6.9	6.7	6.5	7.0	7.0	6.9	7.3	7.1	7.0	6.8
16 to 24 years	14.4	14.1	13.8	14.6	13.9	13.5	12.8	13.6	13.6	14.5	15.0	14.0	13.5	13.3
16 to 19 years	19.6	19.5	19.3	21.5	19.4	19.3	18.2	19.3	18.9	20.2	20.4	20.1	18.2	19.2
16 to 17 years	21.9	21.9	20.7	24.0	20.9	21.6	20.9	23.2	20.0	21.2	21.6	19.4	20.0	21.0
18 to 19 years	18.3	17.9	18.3	19.9	18.7	18.0	16.2	16.6	17.8	19.7	19.6	20.4	16.1	18.1
20 to 24 years	11.9	11.4	11.0	11.1	11.2	10.6	10.3	10.7	11.0	11.6	12.2	11.0	11.2	10.3
25 years and over	5.7	5.3	5.3	5.3	5.2	5.1	5.0	5.5	5.5	5.2	5.4	5.5	5.5	5.3
25 to 54 years	5.9	5.6	5.5	5.5	5.4	5.4	5.3	5.7	5.7	5.5	5.8	5.8	5.8	5.5
55 years and over	4.6	4.1	4.0	4.1	4.0	3.9	3.9	4.4	4.3	3.9	3.8	4.1	3.9	4.1
Women, 16 years and over	7.6	7.4	7.5	7.3	7.2	7.1	7.0	7.6	7.4	7.4	7.3	7.2	6.9	6.8
16 to 24 years	13.3	13.0	12.9	13.1	13.1	13.2	13.2	13.6	12.7	13.2	13.3	13.0	12.5	12.1
16 to 19 years	18.0	17.6	16.9	17.9	17.4	18.3	18.5	18.6	17.5	19.0	17.6	18.0	16.6	16.0
16 to 17 years	20.4	20.0	19.8	21.2	22.0	20.6	20.8	20.2	18.7	20.5	20.5	21.9	18.7	18.1
18 to 19 years	16.6	16.0	14.9	15.5	15.1	16.9	16.5	17.7	16.3	18.1	15.3	15.1	15.3	15.0
20 to 24 years	10.9	10.7	10.9	10.7	10.8	10.6	10.5	11.0	10.1	10.0	11.1	10.4	10.4	10.1
25 years and over	6.0	5.9	6.0	5.6	5.6	5.4	5.3	5.9	5.9	5.8	5.7	5.7	5.4	5.4
25 to 54 years	6.3	6.2	6.2	5.9	5.9	5.7	5.6	6.2	6.3	6.2	6.1	6.1	5.7	5.8
55 years and over	4.2	4.1	4.2	3.7	3.6	3.9	3.8	4.4	4.4	3.8	3.4	3.1	3.6	3.1

9. Unemployed persons by reason for unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Reason for unemployment	Annual average		1985				1986							
	1984	1985	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
Job losers	4,421	4,139	4,142	4,040	4,061	3,933	3,776	4,162	4,246	4,034	4,311	4,335	3,937	3,831
On layoff	1,171	1,157	1,167	1,161	1,175	1,132	1,163	1,152	1,164	1,028	1,133	1,066	1,079	990
Other job losers	3,250	2,982	2,975	2,879	2,906	2,801	2,613	3,010	3,082	3,006	3,178	3,269	2,858	2,841
Job leavers	823	877	852	911	808	876	998	1,001	1,002	1,110	975	1,013	1,034	978
Reentrants	2,184	2,256	2,335	2,237	2,226	2,225	2,066	2,292	2,197	2,191	2,217	2,064	2,223	2,232
New entrants	1,110	1,039	918	1,045	1,055	1,033	1,025	1,097	1,000	1,059	1,062	1,059	965	1,000
PERCENT OF UNEMPLOYED														
Job losers	51.8	49.6	50.2	49.1	50.0	48.8	48.0	48.7	50.3	48.1	50.3	51.2	48.3	47.6
On layoff	13.7	13.9	14.2	14.1	14.4	14.0	14.8	13.5	13.9	12.2	13.2	12.6	13.2	12.3
Other job losers	38.1	35.9	36.1	35.0	35.6	34.7	33.2	35.2	36.5	35.8	37.1	38.6	35.0	35.3
Job leavers	9.6	10.6	10.3	11.1	9.9	10.9	12.7	11.7	11.9	13.2	11.4	12.0	12.7	12.2
Reentrants	25.6	27.1	28.3	27.2	27.2	27.6	26.3	26.8	26.0	26.1	25.9	24.4	27.2	27.8
New entrants	13.0	12.5	11.1	12.7	12.9	12.8	13.0	12.8	11.8	12.6	12.4	12.5	11.8	12.4
PERCENT OF CIVILIAN LABOR FORCE														
Job losers	3.9	3.6	3.6	3.5	3.5	3.4	3.2	3.6	3.6	3.4	3.7	3.7	3.3	3.2
Job leavers	.7	.8	.7	.8	.7	.8	.9	.9	.9	.9	.8	.9	.9	.8
Reentrants	1.9	2.0	2.0	1.9	1.9	1.9	1.8	2.0	1.9	1.9	1.9	1.7	1.9	1.9
New entrants	1.0	.9	.8	.9	.9	.9	.9	.9	.9	.9	.9	.9	.8	.8

10. Duration of unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Weeks of unemployment	Annual average		1985				1986								
	1984	1985	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Less than 5 weeks	3,350	3,498	3,484	3,430	3,485	3,374	3,311	3,582	3,589	3,628	3,705	3,384	3,394	3,427	3,407
5 to 14 weeks	2,451	2,509	2,505	2,536	2,448	2,460	2,441	2,622	2,640	2,685	2,737	2,708	2,486	2,379	2,533
15 weeks and over	2,737	2,305	2,307	2,277	2,205	2,188	2,056	2,340	2,258	2,135	2,209	2,320	2,255	2,295	2,405
15 to 26 weeks	1,104	1,025	1,035	1,057	894	973	969	1,149	1,099	1,001	1,072	1,036	1,066	1,086	1,114
27 weeks and over	1,634	1,280	1,272	1,220	1,311	1,215	1,087	1,191	1,159	1,134	1,137	1,284	1,190	1,209	1,291
Mean duration in weeks	18.2	15.6	15.5	15.4	15.7	15.4	14.9	15.3	14.4	14.3	14.4	15.2	15.0	15.6	15.6
Median duration in weeks	7.9	6.8	6.9	7.0	6.9	6.9	6.8	6.9	6.8	6.5	6.6	7.3	7.1	7.2	7.2

11. Unemployment rates of civilian workers by State, data not seasonally adjusted

State	Aug. 1985	Aug. 1986	State	Aug. 1985	Aug. 1986
Alabama	8.4	10.1	Montana	6.4	6.5
Alaska	7.9	10.2	Nebraska	4.9	3.9
Arizona	6.9	6.9	Nevada	7.3	5.2
Arkansas	7.7	8.5	New Hampshire	3.6	2.9
California	7.3	6.7			
			New Jersey	4.4	4.5
Colorado	5.5	6.6	New Mexico	8.6	9.0
Connecticut	4.8	3.9	New York	6.1	5.9
Delaware	6.2	4.1	North Carolina	5.8	5.1
District of Columbia	8.4	8.4	North Dakota	4.9	5.5
Florida	5.8	5.9			
			Ohio	8.8	8.0
Georgia	6.6	5.9	Oklahoma	6.8	9.2
Hawaii	5.7	4.7	Oregon	7.8	8.3
Idaho	7.4	8.2	Pennsylvania	7.3	6.3
Illinois	8.8	7.9	Rhode Island	4.5	3.3
Indiana	7.1	6.4			
			South Carolina	6.7	5.9
Iowa	7.1	6.8	South Dakota	4.4	4.1
Kansas	4.8	5.3	Tennessee	7.7	7.4
Kentucky	8.5	7.5	Texas	7.0	9.1
Louisiana	11.8	12.3	Utah	5.0	5.3
Maine	4.4	4.2			
			Vermont	4.0	3.5
Maryland	4.2	4.0	Virginia	5.4	4.4
Massachusetts	3.7	3.7	Washington	7.1	7.6
Michigan	9.7	7.9	West Virginia	10.9	11.6
Minnesota	5.1	4.3	Wisconsin	6.1	6.2
Mississippi	10.4	12.7			
Missouri	6.1	6.3	Wyoming	6.1	8.0

NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the database.

12. Employment of workers on nonagricultural payrolls by State, data not seasonally adjusted

(In thousands)

State	Aug., 1985	July, 1986	Aug., 1986^p	State	Aug., 1985	July, 1986	Aug., 1986^p
Alabama	1,425.3	1,446.5	1,436.5	Nebraska	649.4	653.7	654.7
Alaska	249.2	243.3	243.5	Nevada	451.7	467.7	468.6
Arizona	1,262.3	1,331.6	1,335.4	New Hampshire	476.1	490.5	494.7
Arkansas	805.6	817.3	823.4				
California	10,848.1	11,160.2	11,173.1	New Jersey	3,470.5	3,563.8	3,583.6
				New Mexico	516.4	520.2	521.4
Colorado	1,419.5	1,444.3	1,447.9	New York	7,799.1	7,927.9	7,912.7
Connecticut	1,569.8	1,605.5	1,607.6	North Carolina	2,623.3	2,681.9	2,697.3
Delaware	295.9	298.6	301.7	North Dakota	252.3	248.5	248.6
District of Columbia	645.1	659.4	667.1				
Florida	4,367.5	4,502.1	4,508.2	Ohio	4,385.8	4,515.6	4,523.9
				Oklahoma	1,173.2	1,140.5	1,139.3
Georgia	2,583.6	2,634.0	2,651.4	Oregon	1,034.7	1,046.4	1,059.4
Hawaii	423.7	431.3	431.5	Pennsylvania	4,756.4	4,808.8	4,833.3
Idaho	341.2	335.0	335.7	Rhode Island	426.1	424.7	430.6
Illinois	4,788.7	4,807.2	4,825.7				
Indiana	2,185.9	2,253.1	2,263.7	South Carolina	1,301.1	1,339.0	1,346.8
				South Dakota	250.4	251.5	252.0
Iowa	1,072.3	1,083.4	1,083.7	Tennessee	1,875.1	1,929.3	1,943.8
Kansas	986.1	981.9	989.7	Texas	6,677.0	6,664.5	6,653.4
Kentucky	1,248.3	1,272.8	1,275.4	Utah	626.9	632.7	632.7
Louisiana	1,580.9	1,511.3	1,500.6				
Maine	476.4	477.9	485.6	Vermont	223.9	223.0	224.6
				Virginia	2,446.9	2,534.2	2,536.5
Maryland	1,900.5	1,949.3	1,942.1	Washington	1,720.9	1,761.0	1,773.0
Massachusetts	2,928.3	2,959.4	2,966.4	West Virginia	600.3	603.3	597.1
Michigan	3,506.7	3,549.3	3,577.9	Wisconsin	1,981.9	2,020.7	2,032.1
Minnesota	1,879.0	1,899.0	1,906.3				
Mississippi	831.6	840.7	835.0	Wyoming	213.5	203.0	200.8
Missouri	2,111.2	2,153.9	2,162.9	Puerto Rico	673.4	725.9	697.2
Montana	280.9	274.1	273.1	Virgin Islands	36.8	37.4	37.2

^{p} = preliminary

NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the database.

13. Employment of workers on nonagricultural payrolls by industry, monthly data seasonally adjusted

(In thousands)

Industry	Annual average		1985				1986								
	1984	1985	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.^{p}	Sept.^{p}
TOTAL	94,496	97,614	98,128	98,428	98,686	98,910	99,296	99,429	99,484	99,783	99,918	99,843	100,105	100,251	[illegible]
PRIVATE SECTOR	78,472	81,199	81,592	81,853	82,073	82,281	82,659	82,748	82,765	83,072	83,198	83,161	83,508	83,641	83,746
GOODS PRODUCING	24,727	24,930	24,843	24,903	24,931	24,977	25,101	25,038	24,945	25,036	24,965	24,854	24,869	24,886	[illegible]
Mining	966	930	917	913	907	901	887	880	852	821	790	772	768	752	[illegible]
Oil and gas extraction	607	585	577	571	565	560	556	541	518	488	461	446	442	431	[illegible]
Construction	4,383	4,687	4,728	4,754	4,765	4,787	4,901	4,884	4,838	4,972	4,974	4,947	4,980	5,012	5,014
General building contractors	1,161	1,251	1,267	1,276	1,283	1,287	1,330	1,320	1,296	1,315	1,314	1,299	1,299	1,305	1,299
Manufacturing	19,378	19,314	19,198	19,236	19,259	19,289	19,303	19,294	19,255	19,245	19,201	19,135	19,121	19,122	19,094
Production workers	13,295	13,130	13,029	13,069	13,074	13,100	13,111	13,097	13,061	13,060	13,025	12,979	12,961	12,966	12,942
Durable goods	11,505	11,516	11,421	11,447	11,453	11,461	11,466	11,455	11,418	11,415	11,378	11,307	11,294	11,296	11,259
Production workers	7,739	7,680	7,572	7,584	7,584	7,595	7,595	7,579	7,545	7,547	7,519	7,462	7,441	7,445	7,432
Lumber and wood products	704	700	702	705	708	710	716	716	715	719	719	721	724	729	732
Furniture and fixtures	487	493	491	489	490	494	494	494	493	494	496	496	498	499	498
Stone, clay, and glass products	580	591	590	591	591	593	596	597	594	600	599	597	593	593	595
Primary metal industries	857	813	795	797	801	803	798	795	787	785	780	761	758	742	741
Blast furnaces and basic steel products	334	305	304	304	302	303	300	299	293	291	288	286	285	265	264
Fabricated metal products	1,463	1,468	1,459	1,460	1,459	1,456	1,455	1,452	1,450	1,451	1,447	1,440	1,428	1,430	1,432
Machinery, except electrical	2,196	2,182	2,147	2,146	2,139	2,133	2,137	2,127	2,118	2,111	2,100	2,089	2,079	2,075	2,046
Electrical and electronic equipment	2,209	2,207	2,179	2,161	2,179	2,182	2,182	2,181	2,177	2,177	2,175	2,143	2,169	2,169	2,164
Transportation equipment	1,901	1,971	1,970	1,987	1,990	1,996	1,996	1,998	1,989	1,985	1,972	1,974	1,969	1,978	1,973
Motor vehicles and equipment	862	876	871	873	870	872	867	864	858	854	839	839	824	831	827
Instruments and related products	714	723	723	722	723	725	724	725	726	723	721	717	713	716	714
Miscellaneous manufacturing industries	382	369	366	365	367	367	368	370	369	369	369	369	363	365	363
Nondurable goods	7,873	7,798	7,777	7,789	7,806	7,828	7,837	7,839	7,837	7,830	7,823	7,828	7,827	7,826	7,835
Production workers	5,546	5,470	5,457	5,485	5,490	5,505	5,516	5,518	5,516	5,513	5,506	5,517	5,520	5,521	5,510
Food and kindred products	1,612	1,608	1,607	1,610	1,612	1,623	1,623	1,631	1,632	1,633	1,640	1,648	1,645	1,650	1,651
Tobacco manufactures	64	65	65	64	65	64	64	63	63	63	62	62	62	59	57
Textile mill products	746	704	697	699	701	702	702	705	707	703	706	707	710	711	709
Apparel and other textile products	1,185	1,125	1,121	1,121	1,122	1,130	1,133	1,122	1,117	1,119	1,113	1,106	1,108	1,106	1,109
Paper and allied products	681	680	682	683	687	686	687	687	688	689	689	690	687	685	687
Printing and publishing	1,376	1,435	1,442	1,447	1,454	1,457	1,461	1,467	1,469	1,472	1,474	1,477	1,483	1,480	1,482
Chemicals and allied products	1,049	1,046	1,042	1,040	1,037	1,035	1,034	1,032	1,031	1,029	1,024	1,026	1,025	1,026	[illegible]
Petroleum and coal products	189	178	171	171	170	169	168	167	166	166	166	164	163	163	161
Rubber and misc. plastics products	780	780	785	790	794	796	802	803	804	800	796	797	792	794	799
Leather and leather products	189	166	165	164	164	164	163	162	160	157	154	151	152	152	151
SERVICE-PRODUCING	69,769	72,684	73,285	73,525	73,735	73,933	74,195	74,391	74,539	74,745	74,953	74,989	75,236	75,375	75,525
Transportation and public utilities	5,159	5,242	5,257	5,260	5,272	5,277	5,286	5,277	5,280	5,266	5,265	5,167	5,288	5,250	5,279
Transportation	2,917	3,006	3,023	3,026	3,040	3,046	3,056	3,048	3,053	3,040	3,037	3,035	3,057	3,059	3,058
Communication and public utilities	2,242	2,236	2,234	2,234	2,232	2,231	2,230	2,229	2,227	2,226	2,228	2,132	2,231	2,191	2,221
Wholesale trade	5,555	5,740	5,777	5,796	5,796	5,809	5,830	5,843	5,841	5,864	5,872	5,829	5,849	5,872	5,874
Durable goods	3,276	3,409	3,432	3,442	3,451	3,460	3,470	3,482	3,480	3,485	3,488	3,454	3,483	3,488	3,489
Nondurable goods	2,279	2,331	2,345	2,354	2,345	2,349	2,360	2,361	2,361	2,379	2,384	2,375	2,366	2,384	2,385
Retail trade	16,545	17,360	17,489	17,543	17,589	17,622	17,734	17,795	17,828	17,851	17,911	17,944	17,992	18,026	18,089
General merchandise stores	2,267	2,320	2,326	2,329	2,326	2,317	2,326	2,333	2,330	2,342	2,344	2,350	2,354	2,360	2,371
Food stores	2,637	2,779	2,813	2,828	2,845	2,870	2,880	2,891	2,901	2,910	2,917	2,932	2,936	2,950	2,961
Automotive dealers and service stations	1,799	1,882	1,910	1,916	1,918	1,922	1,929	1,938	1,939	1,940	1,944	1,945	1,950	1,961	1,972
Eating and drinking places	5,398	5,715	5,761	5,772	5,780	5,801	5,831	5,854	5,866	5,859	5,889	5,918	5,931	5,921	[illegible]
Finance, insurance, and real estate	5,689	5,953	6,014	6,038	6,070	6,086	6,123	6,157	6,184	6,229	6,261	6,295	6,334	6,365	[illegible]
Finance	2,854	2,979	3,011	3,024	3,039	3,053	3,066	3,082	3,085	3,120	3,137	3,159	3,176	3,193	[illegible]
Insurance	1,757	1,830	1,846	1,852	1,862	1,869	1,878	1,889	1,900	1,910	1,918	1,927	1,945	1,952	[illegible]
Real estate	1,078	1,144	1,157	1,162	1,169	1,174	1,179	1,186	1,189	1,199	1,206	1,209	1,213	1,220	[illegible]
Services	20,797	21,974	22,212	22,313	22,415	22,601	22,585	22,636	22,707	22,826	22,934	23,072	23,176	23,242	[illegible]
Business services	4,057	4,452	4,542	4,587	4,604	4,631	4,660	4,667	4,696	4,760	4,755	4,782	4,825	4,845	[illegible]
Health services	6,122	6,310	6,360	6,375	6,401	6,424	6,447	6,471	6,487	6,511	6,543	6,571	6,601	6,604	[illegible]
Government	16,024	16,415	16,536	16,575	16,580	16,629	16,637	16,681	16,699	16,711	16,720	16,682	16,597	16,620	[illegible]
Federal	2,807	2,875	2,890	2,895	2,904	2,913	2,918	2,918	2,923	2,914	2,899	2,875	2,866	2,876	2,911
State	3,734	3,848	3,878	3,895	3,901	3,904	3,916	3,924	3,927	3,938	3,936	3,927	3,921	3,917	[illegible]
Local	9,482	9,692	9,758	9,785	9,788	9,812	9,803	9,839	9,849	9,859	9,885	9,880	9,810	9,827	[illegible]

^{p} = preliminary

NOTE: See notes on the data for a description of the most recent benchmark revision.

14. Average weekly hours of production or nonsupervisory workers on private nonagricultural payrolls by industry, monthly data seasonally adjusted

Industry	Annual average		1985				1986								
	1984	1985	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.^{p}	Sept.^{p}
PRIVATE SECTOR	35.2	34.9	34.9	34.9	34.8	34.9	35.0	34.9	34.9	34.8	34.8	34.7	34.7	34.8	34.7
CONSTRUCTION	37.8	37.7	-	-	-	-	-	-	-	-	-	-	-	-	-
MANUFACTURING	40.7	40.5	40.7	40.7	40.7	40.9	40.8	40.7	40.7	40.7	40.7	40.8	40.6	40.8	40.8
Overtime hours	3.4	3.3	3.3	3.4	3.4	3.6	3.5	3.4	3.4	3.4	3.4	3.3	3.4	3.5	3.5
Durable goods	41.4	41.2	41.3	41.3	41.3	41.6	41.5	41.4	41.4	41.3	41.2	41.2	41.1	41.4	41.5
Overtime hours	3.6	3.5	3.5	3.5	3.6	3.7	3.6	3.5	3.6	3.6	3.4	3.5	3.5	3.5	3.6
Lumber and wood products	39.8	39.9	40.1	40.2	39.9	40.2	40.4	40.0	40.2	40.3	40.3	39.9	40.1	40.2	40.3
Furniture and fixtures	39.7	39.4	39.4	39.5	39.4	39.9	40.0	39.7	39.4	39.1	39.4	39.4	39.4	39.9	40.1
Stone, clay, and glass products	42.0	41.9	42.0	42.1	41.8	41.8	42.7	41.9	41.9	42.4	42.3	42.2	42.2	42.5	42.5
Primary metal industries	41.7	41.5	41.5	41.8	41.9	42.1	41.9	42.1	41.9	41.3	41.7	41.6	41.3	41.9	42.2
Blast furnaces and basic steel products	40.7	41.1	41.1	41.6	41.9	41.9	41.7	41.8	41.7	40.5	41.5	41.1	41.2	41.7	42.6
Fabricated metal products	41.4	41.3	41.5	41.5	41.5	41.6	41.5	41.5	41.4	41.2	41.1	41.1	41.1	41.3	41.5
Machinery except electrical	41.9	41.5	41.6	41.5	41.6	41.7	41.6	41.6	41.6	41.8	41.8	41.7	41.4	41.6	41.8
Electrical and electronic equipment	41.0	40.6	40.5	40.6	40.9	41.1	41.0	40.9	41.0	41.1	41.0	41.0	41.1	41.2	41.2
Transportation equipment	42.7	42.6	42.9	42.8	42.7	43.0	42.8	42.7	42.7	42.1	41.9	42.2	42.1	42.8	42.3
Motor vehicles and equipment	43.8	43.5	43.6	43.7	43.6	44.0	43.6	43.4	43.3	41.9	41.8	42.4	42.4	43.0	42.4
Instruments and related products	41.3	41.0	40.9	40.9	41.0	41.6	41.1	41.2	41.3	41.3	40.9	41.0	40.8	40.9	40.7
Miscellaneous manufacturing	39.4	39.4	-	-	-	-	-	-	-	-	-	-	-	-	-
Nondurable goods	39.7	39.6	39.8	39.8	39.8	40.0	39.9	39.7	39.8	39.9	39.9	39.8	39.8	39.9	39.9
Overtime hours	3.1	3.1	3.1	3.2	3.2	3.4	3.3	3.2	3.2	3.3	3.4	3.2	3.4	3.4	3.3
Food and kindred products	39.8	40.0	40.1	40.2	40.0	40.1	40.1	39.8	39.9	40.2	40.2	40.0	40.0	40.2	39.9
Tobacco manufactures	38.9	37.2	-	-	-	-	-	-	-	-	-	-	-	-	-
Textile mill products	39.9	39.7	40.5	40.7	40.8	41.0	40.8	40.6	40.7	41.3	41.1	40.8	40.9	41.4	41.4
Apparel and other textile products	36.4	36.4	36.6	36.6	36.8	36.8	36.7	36.3	36.5	36.9	36.5	36.5	36.6	36.4	36.5
Paper and allied products	43.1	43.1	43.1	43.2	43.3	43.5	43.6	43.5	43.5	43.0	43.2	43.1	43.2	43.4	43.2
Printing and publishing	37.9	37.8	37.9	37.9	37.9	38.1	38.0	38.0	38.0	38.0	38.0	37.8	37.9	37.9	38.0
Chemicals and allied products	41.9	41.9	41.7	41.8	41.9	42.0	41.9	41.8	41.9	41.9	42.0	41.9	41.9	42.0	41.8
Petroleum and coal products	43.7	43.0	43.3	44.2	43.2	43.6	43.5	43.7	43.8	43.6	43.4	44.0	43.5	44.4	43.7
Leather and leather products	36.8	37.2	-	-	-	-	-	-	-	-	-	-	-	-	-
TRANSPORTATION AND PUBLIC UTILITIES	39.4	39.5	39.5	39.5	39.4	39.5	39.4	39.5	39.6	39.2	39.2	39.1	39.2	39.0	38.9
WHOLESALE TRADE	38.5	38.4	38.4	38.4	38.4	38.4	38.5	38.4	38.5	38.5	38.4	38.3	38.3	38.3	38.3
RETAIL TRADE	29.8	29.4	29.4	29.3	29.3	29.2	29.3	29.3	29.3	29.2	29.2	29.1	29.2	29.3	29.2
SERVICES	32.6	32.5	32.4	32.5	32.4	32.5	32.6	32.6	32.5	32.5	32.5	32.4	32.4	32.4	32.4

- Data not available.

p = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark adjustment.

15. Average hourly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1985				1986								
	1984	1985	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.^{p}	Sept.^{p}
PRIVATE SECTOR	$8.32	$8.57	$8.67	$8.64	$8.66	$8.71	$8.72	$8.74	$8.73	$8.72	$8.72	$8.71	$8.69	$8.69	$8.81
Seasonally adjusted	-	-	8.62	8.63	8.65	8.70	8.69	8.71	8.73	8.72	8.73	8.74	8.73	8.75	8.77
MINING	11.63	11.98	12.05	12.00	12.07	12.27	12.24	12.32	12.35	12.43	12.44	12.50	12.46	12.45	12.49
CONSTRUCTION	12.13	12.31	12.46	12.42	12.28	12.47	12.34	12.35	12.22	12.29	12.33	12.31	12.31	12.40	12.55
MANUFACTURING	9.19	9.53	9.57	9.56	9.63	9.74	9.70	9.70	9.72	9.70	9.71	9.70	9.74	9.67	9.75
Durable goods	9.74	10.10	10.15	10.15	10.22	10.34	10.27	10.29	10.30	10.28	10.28	10.26	10.27	10.22	10.30
Lumber and wood products	8.03	8.22	8.33	8.30	8.29	8.35	8.30	8.36	8.33	8.32	8.37	8.43	8.36	8.40	8.44
Furniture and fixtures	6.84	7.17	7.27	7.29	7.32	7.38	7.36	7.31	7.35	7.36	7.39	7.46	7.44	7.46	7.52
Stone, clay, and glass products	9.57	9.84	9.91	9.87	9.91	9.95	9.96	9.94	9.93	10.00	10.04	10.04	10.06	10.07	10.10
Primary metal industries	11.47	11.68	11.69	11.81	11.77	11.84	11.81	11.96	11.99	12.00	12.02	11.94	12.06	11.86	11.96
Blast furnaces and basic steel products	12.98	13.34	13.43	13.32	13.43	13.44	13.48	13.81	13.80	13.82	13.86	13.88	14.08	13.91	14.09
Fabricated metal products	9.40	9.70	9.74	9.71	9.78	9.91	9.85	9.85	9.86	9.84	9.85	9.88	9.84	9.81	9.88
Machinery, except electrical	9.96	10.29	10.38	10.41	10.48	10.56	10.50	10.53	10.58	10.55	10.55	10.55	10.57	10.56	10.60
Electrical and electronic equipment	9.04	9.47	9.54	9.55	9.61	9.68	9.60	9.60	9.62	9.62	9.64	9.61	9.68	9.67	9.74
Transportation equipment	12.20	12.72	12.78	12.78	12.85	13.06	12.91	12.87	12.90	12.83	12.79	12.78	12.78	12.74	12.88
Motor vehicles and equipment	12.73	13.42	13.48	13.44	13.52	13.81	13.66	13.59	13.66	13.54	13.47	13.41	13.40	13.34	13.54
Instruments and related products	8.84	9.16	9.25	9.24	9.27	9.39	9.32	9.39	9.41	9.41	9.40	9.41	9.47	9.53	9.57
Miscellaneous manufacturing	7.05	7.30	7.33	7.32	7.37	7.46	7.48	7.50	7.51	7.50	7.54	7.54	7.59	7.52	7.56
Nondurable goods	8.38	8.71	8.73	8.72	8.79	8.87	8.86	8.86	8.88	8.86	8.90	8.91	8.99	8.93	8.98
Food and kindred products	8.39	8.57	8.53	8.51	8.61	8.71	8.72	8.71	8.74	8.75	8.78	8.74	8.75	8.64	8.68
Tobacco manufactures	11.22	11.94	11.34	11.31	11.97	11.78	11.89	12.38	12.76	12.84	13.38	13.88	13.48	13.41	12.51
Textile mill products	6.46	6.71	6.75	6.76	6.79	6.83	6.85	6.83	6.86	6.87	6.88	6.87	6.90	6.98	7.04
Apparel and other textile products	5.55	5.73	5.75	5.74	5.75	5.80	5.82	5.79	5.80	5.81	5.78	5.79	5.76	5.79	5.87
Paper and allied products	10.41	10.82	10.91	10.91	10.97	11.07	11.02	10.99	11.03	11.05	11.12	11.15	11.31	11.18	11.17
Printing and publishing	9.41	9.71	9.81	9.78	9.83	9.92	9.85	9.86	9.90	9.87	9.91	9.88	9.96	10.00	10.10
Chemicals and allied products	11.07	11.56	11.65	11.70	11.80	11.85	11.86	11.81	11.78	11.82	11.89	11.94	12.04	11.98	12.03
Petroleum and coal products	13.44	14.06	14.09	13.99	14.07	14.24	14.26	14.21	14.22	14.16	14.02	14.14	14.16	14.08	14.50
Rubber and miscellaneous plastics products	8.29	8.54	8.56	8.54	8.63	8.73	8.69	8.69	8.72	8.68	8.75	8.75	8.82	8.81	8.81
Leather and leather products	5.71	5.82	5.83	5.77	5.83	5.83	5.86	5.83	5.86	5.89	5.88	5.88	5.89	5.89	5.94
TRANSPORTATION AND PUBLIC UTILITIES	11.12	11.40	11.54	11.48	11.59	11.61	11.59	11.64	11.62	11.55	11.54	11.57	11.61	11.58	11.67
WHOLESALE TRADE	8.89	9.16	9.22	9.16	9.23	9.33	9.28	9.36	9.33	9.29	9.29	9.32	9.30	9.31	9.35
RETAIL TRADE	5.85	5.94	5.98	5.95	5.97	5.99	6.03	6.04	6.03	6.01	6.00	5.99	5.97	5.95	6.04
FINANCE, INSURANCE, AND REAL ESTATE	7.63	7.94	8.04	8.01	8.06	8.15	8.14	8.28	8.30	8.29	8.31	8.37	8.30	8.34	8.41
SERVICES	7.59	7.89	7.99	7.99	8.05	8.12	8.12	8.17	8.18	8.12	8.10	8.10	8.04	8.04	8.20

- Data not available.

^{p} = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

16. Average weekly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1985				1986								
	1984	1985	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.[p]	Sept.[p]
PRIVATE SECTOR															
Current dollars	$292.86	$299.09	$303.45	$301.54	$301.37	$306.59	$302.58	$300.86	$302.93	$301.71	$302.58	$303.86	$304.15	$305.02	$307.47
Seasonally adjusted	-	-	300.84	301.19	301.02	303.63	303.80	303.86	304.68	303.46	303.80	303.28	302.80	304.50	304.32
Constant (1977) dollars	172.78	170.42	171.83	170.36	169.59	172.05	169.32	168.82	171.05	170.94	170.85	170.78	170.97	171.17	-
MINING	503.58	519.93	526.59	518.40	521.42	537.43	543.46	522.37	522.41	522.06	519.89	525.00	518.34	527.89	533.32
CONSTRUCTION	458.51	464.09	479.71	475.69	450.88	480.14	458.05	434.72	444.81	462.10	467.31	465.72	471.47	474.82	485.89
MANUFACTURING															
Current dollars	374.03	385.97	380.46	390.05	393.87	406.16	394.79	390.91	395.60	392.85	394.23	395.76	391.56	393.57	399.75
Constant (1977) dollars	220.67	219.93	221.10	220.37	221.65	227.92	220.82	219.49	223.39	222.56	222.60	222.34	220.10	220.86	-
Durable goods	403.24	416.12	420.21	419.20	424.13	438.45	425.16	421.89	426.42	423.54	423.54	424.76	417.99	421.08	428.40
Lumber and wood products	320.40	327.98	338.20	335.32	327.46	335.67	329.51	329.55	333.20	334.46	338.88	342.26	334.40	341.04	345.20
Furniture and fixtures	271.55	282.50	288.35	291.60	291.34	303.32	289.98	284.36	288.12	286.30	288.21	294.67	287.93	298.40	304.56
Stone, clay, and glass products	401.94	412.30	421.18	419.48	414.24	414.82	414.34	403.56	412.10	425.00	426.71	429.71	427.56	432.00	435.31
Primary metal industries	478.30	484.72	486.30	490.65	491.98	504.38	483.66	503.52	504.78	499.20	501.23	499.09	495.67	492.19	505.91
Blast furnaces and basic steel products	528.29	548.27	553.32	544.79	557.35	564.48	556.72	578.64	576.84	569.38	578.58	577.41	582.91	575.87	590.23
Fabricated metal products	389.16	400.61	405.18	403.94	408.02	422.17	407.79	403.85	409.03	403.44	404.84	409.04	398.52	403.19	411.01
Machinery, except electrical	417.32	427.04	431.81	430.97	436.06	452.80	437.85	437.00	442.24	437.83	437.83	439.94	431.28	435.07	443.08
Electrical and electronic equipment	370.64	384.48	387.32	387.73	398.89	408.50	384.56	389.76	395.38	392.50	390.31	394.01	391.07	395.50	402.25
Transportation equipment	520.94	541.87	544.43	545.71	551.27	577.25	555.13	545.69	552.12	542.71	537.18	540.59	530.37	533.81	540.96
Motor vehicles and equipment	557.57	583.77	585.03	585.98	588.12	625.59	585.58	583.01	582.84	574.10	567.09	572.81	580.12	567.81	571.39
Instruments and related products	385.09	375.56	380.16	376.07	382.85	400.01	383.06	384.99	388.57	385.81	382.59	385.81	382.59	386.92	391.41
Miscellaneous manufacturing	277.77	287.62	293.20	295.00	298.27	304.44	297.70	294.75	298.65	297.75	297.08	298.58	294.49	295.54	299.39
Nondurable goods	332.69	344.92	349.20	347.83	351.60	359.24	352.63	347.31	352.54	351.66	354.22	355.51	356.00	357.20	360.10
Food and kindred products	333.92	342.80	348.02	343.80	346.12	354.50	347.83	339.69	344.36	346.50	352.08	350.47	350.00	350.78	352.41
Tobacco manufactures	436.46	444.17	434.32	444.48	435.71	448.82	448.25	453.11	478.50	488.94	504.43	523.94	483.93	485.44	490.38
Textile mill products	257.75	266.39	275.40	276.48	279.75	283.45	276.80	274.57	278.52	278.82	282.08	283.04	278.07	290.37	293.57
Apparel and other textile products	202.02	208.57	210.45	211.23	212.75	215.18	213.01	207.28	211.70	211.48	210.87	213.86	209.09	211.34	214.28
Paper and allied products	446.67	466.34	473.49	472.40	477.20	480.40	479.37	472.57	477.60	474.05	479.27	480.57	488.33	482.98	495.90
Printing and publishing	356.64	367.04	374.74	371.64	375.51	384.90	371.36	370.74	377.19	374.07	374.80	370.50	374.50	380.00	386.83
Chemicals and allied products	463.83	484.36	486.97	486.72	495.60	503.63	495.75	492.48	494.76	495.26	499.38	502.67	502.07	499.57	502.65
Petroleum and coal products	587.33	604.50	621.37	619.76	610.64	622.29	616.00	612.45	621.41	615.96	606.66	622.16	618.79	625.15	643.80
Rubber and miscellaneous plastics products	345.69	350.99	351.82	350.99	356.42	366.66	359.77	356.29	360.14	356.75	360.50	361.38	357.21	362.97	364.73
Leather and leather products	210.13	216.50	219.21	216.96	219.21	220.96	217.41	209.88	212.72	213.61	215.80	221.68	217.83	215.57	218.81
TRANSPORTATION AND PUBLIC UTILITIES	436.13	450.30	456.14	453.46	457.81	460.92	452.01	456.19	457.83	460.45	450.08	455.86	457.40	455.09	456.30
WHOLESALE TRADE	342.27	351.74	354.97	351.74	355.36	360.14	355.42	355.68	357.34	355.61	356.74	358.82	358.05	357.50	359.04
RETAIL TRADE	174.33	174.64	175.81	173.74	173.73	178.50	173.06	172.74	174.27	173.89	174.80	176.71	178.59	178.80	176.37
FINANCE, INSURANCE, AND REAL ESTATE	278.50	289.02	293.46	290.76	291.77	299.11	296.30	304.70	304.61	301.76	301.65	308.34	302.95	306.08	306.97
SERVICES	247.43	256.43	258.88	258.68	260.02	263.80	263.09	264.71	265.03	263.09	262.44	264.06	263.71	263.71	265.68

- Data not available.
[p] = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

17. The Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Not seasonally adjusted				Seasonally adjusted					
	Sept. 1985	July 1986	Aug. 1986[p]	Sept. 1986[p]	Sept. 1985	May 1986	June 1986	July 1986	Aug. 1986	Sept. 1986[p]
PRIVATE SECTOR (in current dollars)	166.7	168.5	168.4	170.0	166.4	168.7	169.2	168.9	169.2	169.7
Mining[1]	179.4	181.7	180.8	181.4	-	-	-	-	-	-
Construction	152.5	150.3	151.4	153.3	150.7	151.0	151.4	150.8	151.4	151.5
Manufacturing	169.3	172.8	172.2	172.8	169.5	172.5	172.5	172.7	173.0	173.0
Transportation and public utilities	168.6	169.3	169.2	170.8	167.9	170.1	170.7	170.3	169.7	170.1
Wholesale trade[1]	170.2	171.4	171.6	172.5	-	-	-	-	-	-
Retail trade	157.0	157.4	157.1	158.9	156.8	157.2	157.8	157.7	158.2	158.8
Finance, insurance, and real estate[1]	174.0	179.1	179.9	181.2	-	-	-	-	-	-
Services	170.5	172.4	172.5	175.6	169.8	173.4	174.3	173.4	174.3	174.9
PRIVATE SECTOR (in constant dollars)	94.4	94.7	94.5	-	94.4	95.4	95.2	95.1	95.1	-

[1] This series is not seasonally adjusted because the seasonal component is small relative to the trend-cycle, irregular components, or both, and consequently cannot be separated with sufficient precision.

- Data not available.

[p] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

18. Indexes of diffusion: Industries in which employment increased, data seasonally adjusted

(In percent)

Time span and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Over 1-month span												
1984	67.8	72.7	67.6	67.6	62.4	65.4	62.2	55.9	50.5	63.0	53.5	57.0
1985	52.4	47.8	53.8	49.2	51.6	47.0	56.2	56.8	50.8	61.9	57.0	59.5
1986	50.7	53.5	45.1	54.1	49.2	46.2	54.6	55.7	51.4	–	–	–
Over 3-month span												
1984	76.5	75.1	75.9	71.4	71.6	68.1	63.2	58.1	58.8	53.5	58.1	53.0
1985	51.1	49.7	46.2	46.2	45.1	51.4	49.7	51.1	55.1	55.9	61.4	60.5
1986	58.1	54.3	51.1	49.7	48.4	44.9	48.6	52.7	–	–	–	–
Over 6-month span												
1984	78.1	76.5	77.0	75.1	69.2	65.1	63.2	59.2	58.6	53.2	49.7	54.9
1985	49.2	47.8	43.0	45.9	44.3	44.3	48.9	50.8	54.1	57.0	57.0	55.9
1986	53.8	53.8	47.6	45.9	46.8	47.8	–	–	–	–	–	–
Over 12-month span												
1984	81.1	78.1	72.2	72.2	68.9	67.8	65.7	62.7	59.7	54.6	51.4	48.6
1985	46.2	45.7	46.8	43.8	44.9	47.3	47.6	48.9	47.3	49.5	48.9	48.6
1986	50.3	50.8	50.5	–	–	–	–	–	–	–	–	–

– Data not available.

NOTE: Figures are the percent of industries with employment rising. (Half of the unchanged components are counted as rising.) Data are centered within the spans. Data for the most recent months shown in each span are preliminary. See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

19. Annual data: Employment status of the noninstitutional population

(Numbers in thousands)

Employment status	1977	1978	1979	1980	1981	1982	1983	1984	1985
Noninstitutional population	160,689	163,541	166,460	169,349	171,775	173,939	175,891	178,080	179,912
Labor force									
Total (number)	100,665	103,882	106,559	108,544	110,315	111,872	113,226	115,241	117,167
Percent of population	62.6	63.5	64.0	64.1	64.2	64.3	64.4	64.7	65.1
Employed									
Total (number)	93,673	97,679	100,421	100,907	102,042	101,194	102,510	106,702	108,856
Percent of population	58.3	59.7	60.3	59.6	59.4	58.2	58.3	59.9	60.5
Resident Armed Forces	1,656	1,631	1,597	1,604	1,645	1,668	1,676	1,697	1,706
Civilian									
Total	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005	107,150
Agriculture	3,283	3,387	3,347	3,364	3,368	3,401	3,383	3,321	3,179
Nonagricultural industries	88,734	92,661	95,477	95,938	97,030	96,125	97,450	101,685	103,971
Unemployed									
Total (number)	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539	8,312
Percent of labor force	6.9	6.0	5.8	7.0	7.5	9.5	9.5	7.4	7.1
Not in labor force (number)	60,025	59,659	59,900	60,806	61,460	62,067	62,665	62,839	62,744

20. Annual data: Employment levels by industry

(Numbers in thousands)

Industry	1977	1978	1979	1980	1981	1982	1983	1984	1985
Total employment	82,471	86,697	89,823	90,406	91,156	89,566	90,200	94,496	97,614
Private sector	67,344	71,026	73,876	74,166	75,126	73,729	74,330	78,472	81,199
Goods-producing	24,346	25,585	26,461	25,658	25,497	23,813	23,334	24,727	24,930
Mining	813	851	958	1,027	1,139	1,128	952	966	930
Construction	3,851	4,229	4,463	4,346	4,188	3,905	3,948	4,383	4,687
Manufacturing	19,682	20,505	21,040	20,285	20,170	18,781	18,434	19,378	19,314
Service-producing	58,125	61,113	63,363	64,748	65,659	65,753	66,866	69,769	72,684
Transportation and public utilities	4,713	4,923	5,136	5,146	5,165	5,082	4,954	5,159	5,242
Wholesale trade	4,708	4,969	5,204	5,275	5,358	5,278	5,268	5,555	5,740
Retail trade	13,808	14,573	14,989	15,035	15,189	15,179	15,613	16,545	17,360
Finance, insurance, and real estate	4,467	4,724	4,975	5,160	5,298	5,341	5,468	5,689	5,953
Services	15,303	16,252	17,112	17,890	18,619	19,036	19,694	20,797	21,974
Government	15,127	15,672	15,947	16,241	16,031	15,837	15,869	16,024	16,415
Federal	2,727	2,753	2,773	2,866	2,772	2,739	2,774	2,807	2,875
State	3,377	3,474	3,541	3,610	3,640	3,640	3,662	3,734	3,848
Local	9,023	9,446	9,633	9,765	9,619	9,458	9,434	9,482	9,692

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

21. Annual data: Average hours and earnings of production or nonsupervisory workers on nonagricultural payrolls, by industry

Industry	1977	1978	1979	1980	1981	1982	1983	1984	1985
Private sector									
Average weekly hours	36.0	35.8	35.7	35.3	35.2	34.8	35.0	35.2	34.9
Average hourly earnings (in dollars)	5.25	5.69	6.16	6.66	7.25	7.68	8.02	8.32	8.57
Average weekly earnings (in dollars)	189.00	203.70	219.91	235.10	255.20	267.26	280.70	292.86	299.09
Mining									
Average weekly hours	43.4	43.4	43.0	43.3	43.7	42.7	42.5	43.3	43.4
Average hourly earnings (in dollars)	6.94	7.67	8.49	9.17	10.04	10.77	11.28	11.63	11.98
Average weekly earnings (in dollars)	301.20	332.88	365.07	397.06	438.75	459.88	479.40	503.58	519.93
Construction									
Average weekly hours	36.5	36.8	37.0	37.0	36.9	36.7	37.1	37.8	37.7
Average hourly earnings (in dollars)	8.10	8.66	9.27	9.94	10.82	11.63	11.94	12.13	12.31
Average weekly earnings (in dollars)	295.65	318.69	342.99	367.78	399.26	426.82	442.97	458.51	464.09
Manufacturing									
Average weekly hours	40.3	40.4	40.2	39.7	39.8	38.9	40.1	40.7	40.5
Average hourly earnings (in dollars)	5.68	6.17	6.70	7.27	7.99	8.49	8.83	9.19	9.53
Average weekly earnings (in dollars)	228.90	249.27	269.34	288.62	318.00	330.26	354.08	374.03	385.97
Transportation and public utilities									
Average weekly hours	39.9	40.0	39.9	39.6	39.4	39.0	39.0	39.4	39.5
Average hourly earnings (in dollars)	6.99	7.57	8.16	8.87	9.70	10.32	10.79	11.12	11.40
Average weekly earnings (in dollars)	278.90	302.80	325.58	351.25	382.18	402.48	420.81	438.13	450.30
Wholesale trade									
Average weekly hours	38.8	38.8	38.8	38.5	38.5	38.3	38.5	38.5	38.4
Average hourly earnings (in dollars)	5.39	5.88	6.39	6.96	7.56	8.09	8.55	8.89	9.16
Average weekly earnings (in dollars)	209.13	228.14	247.93	267.96	291.06	309.85	329.18	342.27	351.74
Retail trade									
Average weekly hours	31.6	31.0	30.6	30.2	30.1	29.9	29.8	29.8	29.4
Average hourly earnings (in dollars)	3.85	4.20	4.53	4.88	5.25	5.48	5.74	5.85	5.94
Average weekly earnings (in dollars)	121.66	130.20	138.62	147.38	158.03	163.85	171.05	174.33	174.64
Finance, insurance, and real estate									
Average weekly hours	36.4	36.4	36.2	36.2	36.3	36.2	36.2	36.5	36.4
Average hourly earnings (in dollars)	4.54	4.89	5.27	5.79	6.31	6.78	7.29	7.63	7.94
Average weekly earnings (in dollars)	165.26	178.00	190.77	209.60	229.05	245.44	263.90	278.50	289.02
Services									
Average weekly hours	33.0	32.8	32.7	32.6	32.6	32.6	32.7	32.6	32.5
Average hourly earnings (in dollars)	4.65	4.99	5.36	5.85	6.41	6.92	7.31	7.59	7.89
Average weekly earnings (in dollars)	153.45	163.67	175.27	190.71	208.97	225.59	239.04	247.43	256.43

22. Employment Cost Index, compensation,[1] by occupation and industry group

(June 1981 = 100)

Series	1984			1985				1986		Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3 months ended	12 months ended
										June 1986	
Civilian workers [2]	120.8	122.4	123.9	125.5	126.4	128.4	129.2	130.6	131.5	0.7	4.0
Workers, by occupational group:											
White-collar workers	122.1	124.0	125.5	127.3	128.3	130.7	131.6	133.1	134.2	.8	4.6
Blue-collar workers	118.6	119.6	120.9	122.2	123.1	124.4	124.9	126.2	126.8	.5	3.0
Service occupations	122.1	124.6	126.8	127.8	128.0	130.9	131.8	133.1	133.7	.5	4.5
Workers, by industry division:											
Manufacturing	119.1	120.4	122.0	123.9	124.6	125.5	126.0	127.7	128.7	.8	3.3
Nonmanufacturing	121.6	123.3	124.8	126.2	127.2	129.7	130.6	131.9	132.8	.7	4.4
Services	125.5	128.6	130.9	131.9	132.6	136.4	137.1	138.8	139.4	.4	5.1
Public administration [3]	123.7	126.9	128.6	130.1	130.3	134.2	134.8	136.8	138.0	.9	5.9
Private industry workers	120.1	121.1	122.7	124.2	125.2	126.8	127.5	128.9	129.9	.8	3.8
Workers, by occupational group:											
White-collar workers	121.4	122.4	123.9	125.8	127.1	128.8	129.8	131.3	132.5	.9	4.2
Blue-collar workers	118.4	119.3	120.6	121.9	122.8	124.0	124.4	125.7	126.3	.5	2.9
Service occupations	121.2	123.2	125.7	126.3	126.5	128.8	129.5	130.9	131.1	.2	3.6
Workers, by industry division:											
Manufacturing	119.1	120.4	122.0	123.9	124.6	125.5	126.0	127.7	128.7	.8	3.3
Nonmanufacturing	120.7	121.6	123.1	124.4	125.6	127.6	128.4	129.7	130.6	.7	4.0
State and local government workers	124.4	128.8	130.1	131.7	132.0	136.5	137.5	138.9	139.7	.6	5.8
Workers, by occupational group:											
White-collar workers	125.0	129.7	131.1	132.5	132.9	137.6	138.6	140.0	140.5	.4	5.7
Blue-collar workers	122.3	125.0	125.9	128.1	128.5	131.9	132.7	134.7	136.3	1.2	6.1
Workers, by industry division:											
Services	125.0	129.9	131.3	132.8	133.2	137.9	139.1	140.4	140.8	.3	5.7
Schools	124.7	130.6	132.0	133.4	133.7	139.1	140.3	141.5	141.7	.1	6.0
Elementary and secondary	125.7	132.1	133.5	134.4	134.6	140.9	142.0	143.0	143.2	.1	6.4
Hospitals and other services[4]	125.7	127.9	129.2	131.1	131.5	134.1	135.2	136.8	137.9	.8	4.9
Public administration[3]	123.7	126.9	128.6	130.1	130.3	134.2	134.8	136.8	138.0	.9	5.9

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[1] Cost (cents-per-hour worked) measured in the Employment Cost Index consists of wages, salaries, and employer cost of employee benefits.

[2] Consist of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[3] Consists of legislative, judicial, administrative, and regulatory activities.

[4] Includes, for example, library, social, and health services.

23. Employment Cost Index, wages and salaries, by occupation and industry group

(June 1981 = 100)

Series	1984			1985				1986		Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3 months ended June 1986	12 months ended June 1986
Civilian workers [1]	118.8	120.3	121.7	123.1	124.2	126.3	127.0	128.3	129.3	0.8	4.1
Workers, by occupational group:											
White-collar workers	120.4	122.2	123.5	125.2	126.4	128.8	129.8	131.2	132.4	.9	4.7
Blue-collar workers	116.1	117.0	118.2	119.3	120.5	122.0	122.3	123.4	124.1	.6	3.0
Service occupations	119.8	122.3	124.3	124.8	125.3	128.0	128.6	129.8	130.0	.2	3.8
Workers, by industry division											
Manufacturing	116.8	118.0	119.5	121.0	122.3	123.2	123.9	125.3	126.5	1.0	3.4
Nonmanufacturing	119.7	121.3	122.6	123.9	125.0	127.6	128.4	129.6	130.4	.6	4.3
Services	123.8	127.2	128.9	129.7	130.5	134.2	134.8	136.4	137.0	.4	5.0
Public administration [2]	121.3	124.4	125.7	127.0	127.2	131.4	132.0	133.8	134.6	.6	5.8
Private industry workers	118.2	119.2	120.6	122.0	123.3	124.9	125.6	126.8	127.9	.9	3.7
Workers, by occupational group:											
White-collar workers	119.9	120.9	122.3	124.0	125.5	127.3	128.3	129.6	131.1	1.2	4.5
Professional specialty and technical occupations	123.8	125.2	127.3	127.7	128.7	131.2	131.5	132.7	134.0	1.0	4.1
Executive, administrative, and managerial occupations	119.2	121.0	122.2	123.6	126.5	127.7	128.4	130.5	132.1	1.2	4.4
Sales occupations	111.9	110.5	111.6	116.3	117.4	119.3	122.5	122.4	124.3	1.6	5.9
Administrative support occupations, including clerical	120.7	122.0	122.9	124.7	125.6	127.1	127.9	129.6	130.8	.9	4.1
Blue-collar workers	115.9	116.7	118.0	119.1	120.3	121.7	122.0	123.1	123.7	.5	2.8
Precision production, craft, and repair occupations	117.3	118.0	119.4	120.8	122.0	123.7	123.8	125.3	125.7	.3	3.0
Machine operators, assemblers, and inspectors	115.8	116.6	117.9	118.9	120.1	121.1	121.6	122.6	123.6	.8	2.9
Transportation and material moving occupations	112.7	113.4	114.0	114.5	115.7	117.7	117.8	118.0	118.9	.8	2.8
Handlers, equipment cleaners, helpers, and laborers	114.1	114.7	115.9	116.7	118.5	118.6	119.8	120.0	120.3	.3	1.5
Service occupations	119.3	121.2	123.7	123.8	124.4	126.3	126.6	128.0	128.0	.0	2.9
Workers, by industry division:											
Manufacturing	116.8	118.0	119.5	121.0	122.3	123.2	123.9	125.3	126.5	1.0	3.4
Durables	116.6	117.7	119.1	120.6	122.0	122.7	123.4	124.8	125.8	.8	3.1
Nondurables	117.1	118.6	120.2	121.6	122.6	124.0	124.6	126.1	127.9	1.4	4.3
Nonmanufacturing	119.0	119.9	121.2	122.6	123.9	125.9	126.6	127.7	128.7	.8	3.9
Construction	114.0	114.3	114.4	115.5	116.6	117.3	117.9	118.3	119.8	1.3	2.7
Transportation and public utilities	119.3	119.9	120.7	121.7	122.8	124.6	125.2	126.3	126.6	.2	3.1
Wholesale and retail trade	116.0	116.5	118.1	118.8	121.1	122.7	123.7	124.5	125.8	1.0	3.9
Wholesale trade	120.0	120.7	122.9	123.7	126.8	127.7	128.3	129.7	131.2	1.2	3.5
Retail trade	114.4	114.9	116.2	116.9	118.9	120.8	121.9	122.5	123.7	1.0	4.0
Finance, insurance, and real estate	116.9	115.3	115.8	122.0	121.7	124.1	126.5	126.6	128.0	1.1	5.2
Services	124.7	127.1	128.5	128.9	131.0	133.9	134.1	136.2	136.9	.5	4.5
State and local government workers	122.0	126.1	127.1	128.4	128.7	133.2	134.2	135.5	136.0	.4	5.7
Workers, by occupational group:											
White-collar workers	122.5	127.1	128.0	129.3	129.6	134.3	135.3	136.6	137.0	.3	5.7
Blue-collar workers	119.6	121.9	122.5	124.2	124.5	127.9	128.4	130.4	131.9	1.2	5.9
Workers, by industry division											
Services	122.5	127.2	128.1	129.4	129.7	134.5	135.6	136.8	137.1	.2	5.7
Schools	122.3	127.8	128.7	129.9	130.2	135.8	137.0	138.0	138.2	.1	6.1
Elementary and secondary	123.0	129.3	130.2	130.8	131.1	137.5	138.5	139.4	139.4	.0	6.3
Hospitals and other services [3]	123.1	125.1	125.9	127.7	128.0	130.2	130.9	132.4	133.3	.7	4.1
Public administration [2]	121.3	124.4	125.7	127.0	127.2	131.4	132.0	133.8	134.6	.6	5.8

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[1] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[2] Consists of legislative, judicial, administrative, and regulatory activities.

[3] Includes, for example, library, social and health services.

24. Employment Cost Index, private nonfarm workers, by bargaining status, region, and area size

(June 1981 = 100)

Series	1984			1985				1986		Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3 months ended	12 months ended
										June 1986	
COMPENSATION											
Workers, by bargaining status[1]											
Union	121.7	122.6	123.9	124.8	125.5	126.5	127.1	128.4	128.7	0.2	2.5
Manufacturing	120.5	121.6	123.2	124.2	124.2	125.0	125.5	127.0	126.9	-.1	2.2
Nonmanufacturing	122.8	123.6	124.5	125.3	126.6	127.8	128.6	129.7	130.4	.5	3.0
Nonunion	119.2	120.3	121.9	123.8	125.0	126.6	127.5	129.0	130.2	.9	4.2
Manufacturing	117.9	119.3	120.8	123.6	124.8	125.7	126.3	128.1	129.7	1.2	3.9
Nonmanufacturing	119.8	120.7	122.4	123.9	125.1	127.3	128.1	129.5	130.4	.7	4.2
Workers, by region[1]											
Northeast	120.7	122.4	123.8	125.1	126.4	128.8	129.9	131.6	133.3	1.3	5.5
South	120.7	120.7	122.2	124.2	125.2	126.5	127.2	128.7	129.6	.7	3.5
Midwest (formerly North Central)	117.9	118.7	120.6	122.0	122.7	124.2	124.6	125.9	126.2	.2	2.9
West	122.2	122.5	124.9	126.8	127.9	129.1	129.8	130.8	131.6	.6	2.9
Workers, by area size[1]											
Metropolitan areas	120.6	121.5	123.2	124.7	125.7	127.3	128.1	129.5	130.5	.8	3.8
Other areas	117.4	119.0	119.8	121.4	122.5	123.9	123.9	125.5	126.4	.7	3.2
WAGES AND SALARIES											
Workers, by bargaining status[1]											
Union	119.0	119.8	120.9	121.7	123.0	124.1	124.7	125.6	126.1	.4	2.5
Manufacturing	117.1	118.1	119.5	120.4	121.7	122.8	123.3	124.2	124.6	.3	2.4
Nonmanufacturing	120.7	121.3	122.1	122.8	124.1	125.3	125.9	126.9	127.4	.4	2.7
Nonunion	117.8	118.8	120.4	122.1	123.4	125.2	125.9	127.3	128.5	.9	4.1
Manufacturing	116.5	117.9	119.5	121.5	122.8	123.7	124.4	126.1	127.7	1.3	4.0
Nonmanufacturing	118.3	119.2	120.7	122.3	123.6	125.9	126.6	127.8	128.9	.9	4.3
Workers, by region[1]											
Northeast	118.9	120.5	121.9	123.0	124.6	126.8	128.1	129.2	131.3	1.6	5.4
South	119.0	119.0	120.2	122.3	123.4	124.8	125.4	126.8	127.8	.8	3.6
Midwest (formerly North Central)	116.0	117.8	118.7	119.8	121.1	122.5	122.9	124.2	124.4	.2	2.7
West	119.6	120.0	122.5	124.0	125.1	126.6	127.1	128.1	128.9	.6	3.0
Workers, by area size[1]											
Metropolitan areas	118.6	119.5	121.0	122.4	123.8	125.5	126.3	127.4	128.5	.9	3.8
Other areas	116.0	117.5	118.3	119.6	120.6	121.9	122.0	123.6	124.5	.7	3.2

[1] The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the *Monthly Labor Review* Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

25. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		Quarterly average							
	1984	1985	1984		1985				1986	
			III	IV	I	II	III	IV	I	II
Specified adjustments:										
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:										
First year of contract	3.6	2.6	2.7	3.7	3.6	3.5	2.0	2.0	0.4	0.7
Annual rate over life of contract	2.8	2.7	3.1	2.0	2.7	3.4	3.0	1.4	1.3	1.6
Wage adjustments, settlements covering 1,000 workers or more:										
First year of contract	2.4	2.3	2.1	2.3	3.3	2.5	2.0	2.1	1.0	1.3
Annual rate over life of contract	2.4	2.7	2.6	1.5	3.2	2.8	3.1	1.9	1.6	2.0
Effective adjustments:										
Total effective wage adjustment [3]	3.7	3.3	1.2	.7	.7	.8	1.2	.5	.6	.7
From settlements reached in period	.8	.7	.2	.3	.1	.2	.2	.1	.0	.2
Deferred from settlements reached in earlier periods	2.0	1.8	.7	.2	.6	.5	.5	.2	.4	.6
From cost-of-living-adjustments clauses	.9	.7	.3	.2	.1	.1	.4	.1	.2	.0

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[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases, and no changes in compensation or wages.

[3] Because of rounding total may not equal sum of parts.

p = preliminary.

26. Average specified compensation and wage adjustments, major collective bargaining settlements in private industry situations covering 1,000 workers or more during 4-quarter periods (in percent)

Measure	Average for four quarters ending–							
	1984		1985				1986	
	III	IV	I	II	III	IV	I	II
Specified total compensation adjustments, settlements covering 5,000 workers or more, all industries:								
First year of contract	4.2	3.6	3.4	3.4	3.1	2.6	2.3	1.5
Annual rate over life of contract	3.2	2.8	2.6	2.7	2.7	2.7	2.6	2.0
Specified wage adjustments, settlements covering 1,000 workers or more:								
All industries								
First year of contract	3.2	2.4	2.4	2.4	2.4	2.3	2.0	1.7
Contracts with COLA clauses	4.5	2.9	2.5	2.3	1.9	1.6	1.6	1.6
Contracts without COLA clauses	2.3	2.1	2.4	2.4	2.7	2.7	2.2	1.7
Annual rate over life of contract	2.8	2.4	2.3	2.4	2.5	2.7	2.5	2.3
Contracts with COLA clauses	2.8	1.8	1.3	1.5	1.8	2.5	2.5	2.5
Contracts without COLA clauses	2.8	2.7	2.8	2.8	3.0	2.8	2.5	2.2
Manufacturing								
First year of contract	2.6	2.3	2.1	2.0	1.5	.8	.9	.1
Contracts with COLA clauses	1.5	2.1	2.0	1.9	1.5	.8	.8	.7
Contracts without COLA clauses	3.7	2.9	2.5	2.2	1.5	.9	.9	-.4
Annual rate over life of contract	2.8	1.5	1.4	1.5	1.6	1.8	1.8	1.4
Contracts with COLA clauses	1.6	1.0	.9	1.0	1.4	2.1	2.1	2.0
Contracts without COLA clauses	3.6	3.3	3.2	3.0	2.4	1.6	1.5	.9
Nonmanufacturing								
First year of contract	3.3	2.5	2.6	2.7	3.2	3.3	2.8	2.7
Contracts with COLA clauses	5.4	5.5	5.1	4.3	4.0	3.6	3.5	3.2
Contracts without COLA clauses	2.1	2.0	2.4	2.5	3.0	3.3	2.7	2.6
Annual rate over life of contract	2.8	2.9	2.8	2.9	3.3	3.3	3.0	2.9
Contracts with COLA clauses	3.1	4.8	4.0	3.6	3.9	3.6	3.6	3.3
Contracts without COLA clauses	2.6	2.6	2.7	2.8	3.2	3.3	2.9	2.8
Construction								
First year of contract	.9	.5	.9	1.1	1.0	1.5	1.7	2.4
Contracts with COLA clauses	4.0	4.0	4.6	9.2	(1)	(1)	(1)	.7
Contracts without COLA clauses	.9	.4	.8	1.0	(1)	(1)	(1)	2.5
Annual rate over life of contract	1.4	1.0	1.4	1.7	1.7	2.1	2.2	2.6
Contracts with COLA clauses	1.4	1.4	1.7	4.6	(1)	(1)	(1)	1.1
Contracts without COLA clauses	1.4	1.0	1.4	1.7	(1)	(1)	(1)	2.6

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[1] Data do not meet publication standards.

p = preliminary.

27. Average effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more during 4-quarter periods (in percent)

Effective wage adjustment	Average for four quarters ending–						
	1984	1985				1986	
	IV	I	II	III	IV	I	II^p
For all workers:[1]							
Total	3.7	3.6	3.5	3.5	3.3	3.1	2.9
From settlements reached in period	.8	.7	.9	.9	.7	.6	.5
Deferred from settlements reached in earlier period	2.0	2.2	1.9	1.8	1.8	1.7	1.8
From cost-of-living-adjustments clauses	.9	.7	.7	.8	.7	.8	.7
For workers receiving changes:							
Total	4.4	4.5	4.2	4.3	4.1	4.0	3.8
From settlements reached in period	3.0	2.9	2.9	2.8	3.4	2.9	2.5
Deferred from settlements reached in earlier period	4.0	4.2	3.9	3.7	3.7	3.5	3.4
From cost-of-living-adjustments clauses	2.7	2.3	2.3	2.8	2.2	2.5	2.1

[1] Because of rounding total may not equal sum of parts.

p = preliminary.

28. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, State and local government collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		First 6 months 1986^p
	1984	1985	
Specified adjustments:			
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:			
First year of contract	5.2	4.2	6.7
Annual rate over life of contract	5.4	5.1	6.4
Wage adjustments, settlements covering 1,000 workers or more:			
First year of contract	4.8	4.6	6.1
Annual rate over life of contract	5.1	5.4	6.0
Effective adjustments:			
Total effective wage adjustment [3]	5.0	5.7	1.8
From settlements reached in period	1.9	4.1	0.6
Deferred from settlements reached in earlier periods	3.1	1.6	1.2
From cost-of-living-adjustment clauses	(4)	(4)	(4)

[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases, and no changes in compensation or wages.

[3] Because of rounding total may not equal sum of parts.

[4] Less than 0.05 percent.

p = preliminary.

29. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1985				1986^p								
	1984	1985	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Number of stoppages:															
Beginning in period	62	54	11	6	3	2	4	3	2	4	6	11	13	10	5
In effect during period	68	61	20	20	13	9	7	7	8	8	10	15	24	22	16
Workers involved:															
Beginning in period (in thousands)	376.0	323.9	69.5	76.6	25.2	9.2	7.6	24.0	11.2	6.1	29.6	199.0	46.7	113.3	32.4
In effect during period (in thousands)	391.0	584.1	93.9	119.3	47.0	38.0	12.0	28.4	38.6	17.6	41.2	205.9	68.3	144.8	84.0
Days idle:															
Number (in thousands)	8,499.0	7,079.0	963.8	1,429.8	586.2	981.9	170.0	309.5	387.5	297.3	303.6	3,684.3	894.5	1,612.1	1,191.7
Percent of estimated working time[1]	.04	.03	.04	.06	.04	.03	.01	.02	.02	.02	.02	.07	.04	.07	.06

[1] Agricultural and government employees are included in the total employed and total working time; private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time worked is found in "'Total economy' measure of strike idleness," *Monthly Labor Review*, October 1968, pp. 54-56.

p = preliminary

30. Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity or service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967=100, unless otherwise indicated)

Series	Annual average		1985				1986								
	1984	1985	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS:															
All items	311.1	322.2	324.5	325.5	326.6	327.4	328.4	327.5	326.0	325.3	326.3	327.9	328.0	328.6	330.2
All items (1957-59=100)	361.9	374.7	377.4	378.5	379.9	380.8	381.9	380.8	379.1	378.3	379.5	381.4	381.4	382.1	384.1
Food and beverages	295.1	302.0	302.1	302.5	303.6	305.6	307.9	307.7	307.8	308.5	309.4	309.5	312.2	314.6	315.1
Food	302.9	309.8	309.9	309.8	311.0	313.2	315.6	315.3	315.4	316.1	317.0	317.1	320.1	322.7	323.2
Food at home	292.6	296.8	295.6	295.3	296.6	299.3	302.5	301.5	301.2	301.5	302.1	301.6	305.5	308.9	309.0
Cereals and bakery products	305.3	317.0	319.2	318.9	319.9	321.9	322.0	322.5	322.7	322.5	323.8	326.1	326.3	328.2	328.5
Meats, poultry, fish, and eggs	266.6	263.4	260.6	261.1	266.1	269.9	271.5	268.4	267.7	264.2	263.4	265.1	274.9	283.0	284.7
Dairy products	253.2	256.0	256.0	257.1	257.1	256.9	257.2	257.3	256.8	256.8	257.1	257.2	258.4	258.3	258.5
Fruits and vegetables	317.4	325.7	319.9	317.1	314.3	323.9	334.4	320.7	319.2	329.5	336.5	327.8	330.3	332.1	329.1
Other foods at home	352.2	361.1	362.6	363.0	362.2	361.3	365.7	375.1	375.7	376.1	374.6	374.1	373.7	374.0	373.7
Sugar and sweets	389.1	398.8	401.1	402.6	401.4	402.2	405.1	408.6	408.4	411.4	411.2	411.5	412.4	413.1	413.7
Fats and oils	288.0	294.4	294.8	291.2	292.1	290.3	292.1	291.4	290.2	288.5	287.2	287.0	287.3	287.8	285.6
Nonalcoholic beverages	443.0	451.7	452.8	454.1	451.7	448.8	459.7	485.3	488.0	487.4	481.9	480.0	478.3	476.9	475.7
Other prepared foods	284.9	294.2	296.3	296.8	296.8	297.3	298.0	299.5	299.3	300.2	301.4	301.7	301.8	303.2	303.8
Food away from home	333.4	346.6	349.9	350.3	351.3	352.1	353.1	354.2	355.5	357.0	358.8	360.2	360.8	361.8	363.3
Alcoholic beverages	222.1	229.5	229.3	236.4	236.2	236.2	237.5	238.3	238.8	239.5	239.4	240.1	240.4	240.1	240.4
Housing	336.5	349.9	353.8	354.4	355.0	355.8	356.8	356.5	357.0	358.0	358.5	361.2	361.5	362.4	363.7
Shelter	361.7	382.0	386.9	389.1	391.3	392.3	393.8	394.8	397.0	400.1	400.9	401.6	403.5	405.2	407.6
Renters' costs (12/82=100)	108.6	115.4	117.0	117.9	118.4	118.3	118.8	119.0	119.6	120.9	121.1	121.6	122.5	122.9	123.6
Rent, residential	249.3	264.6	267.7	269.9	271.7	272.4	273.4	273.7	275.0	277.9	278.4	279.4	281.2	281.7	283.2
Other renters' costs	373.4	398.4	410.7	412.5	408.7	398.1	401.1	404.1	405.5	410.8	411.3	415.2	420.1	425.7	429.1
Homeowners' costs (12/82=100)	107.3	113.1	114.6	115.1	115.8	116.3	116.7	117.0	117.9	118.7	118.9	119.0	119.4	119.9	120.7
Owners' equivalent rent (12/82=100)	107.3	113.2	114.6	115.1	115.9	116.3	116.7	117.0	117.9	118.7	118.9	119.0	119.4	119.9	120.7
Household insurance (12/82=100)	107.5	112.4	113.7	114.6	114.5	115.0	115.7	117.4	118.0	118.3	118.8	118.9	119.9	119.9	120.2
Maintenance and repairs	359.2	368.9	368.7	368.5	372.7	373.7	379.1	379.6	367.5	367.6	367.1	368.6	369.2	376.4	376.2
Maintenance and repair services	409.7	421.1	421.9	422.2	426.4	426.2	432.6	432.8	422.4	424.6	425.5	427.4	430.1	434.2	437.0
Maintenance and repair commodities	262.7	269.6	268.6	268.0	271.5	273.3	277.1	277.8	266.1	264.5	262.9	260.7	262.7	271.3	268.7
Fuel and other utilities	367.3	393.6	400.5	395.6	392.1	393.3	394.6	390.0	385.5	381.8	382.5	393.8	389.4	389.5	388.3
Fuels	485.5	488.1	496.8	488.4	481.5	483.6	484.7	476.3	467.6	459.6	460.6	477.0	469.2	469.0	467.2
Fuel oil, coal, and bottled gas	641.8	619.5	601.7	615.3	641.6	657.3	650.3	591.2	549.9	518.3	496.8	486.6	459.4	447.3	453.5
Gas (piped) and electricity	445.2	452.7	466.5	453.9	440.5	439.9	442.6	444.5	442.3	439.2	444.6	486.0	462.3	464.5	461.1
Other utilities and public services	230.2	240.7	244.6	244.7	245.9	245.8	247.3	247.9	249.0	251.3	251.5	255.2	255.6	255.9	255.6
Household furnishings and operations	242.5	247.2	247.1	248.4	248.9	248.8	248.8	249.0	249.8	249.6	249.9	250.2	250.5	250.5	251.5
Housefurnishings	199.1	200.1	199.0	200.3	200.8	200.1	199.8	199.7	201.0	200.4	200.8	200.8	201.2	200.9	202.2
Housekeeping supplies	303.2	313.6	313.9	315.7	316.4	317.7	318.3	318.6	317.9	318.5	318.3	319.6	319.5	319.8	320.1
Housekeeping services	327.5	338.9	341.5	342.2	342.7	343.2	343.9	344.5	345.1	345.4	345.8	346.1	346.6	347.4	347.8
Apparel and upkeep	200.2	206.0	209.6	211.1	211.2	209.0	205.0	204.1	206.3	207.3	206.4	204.5	203.2	207.0	212.1
Apparel commodities	187.0	191.6	195.3	196.7	196.8	194.2	189.5	188.5	190.8	191.7	190.7	188.4	187.0	191.2	198.6
Men's and boys' apparel	192.4	197.9	201.5	203.2	203.6	202.0	198.6	198.8	198.3	199.7	200.2	198.1	195.8	197.8	203.2
Women's and girls' apparel	163.6	169.5	176.1	177.9	176.5	172.6	164.4	163.4	167.6	168.0	164.9	161.3	159.8	167.2	175.7
Infants' and toddlers' apparel	287.0	299.7	302.0	302.1	307.0	304.1	313.9	311.6	313.1	316.6	318.5	319.7	307.5	310.6	309.7
Footwear	209.5	212.1	210.9	212.3	215.5	213.1	209.1	207.9	210.1	211.4	211.5	210.0	209.1	209.6	212.0
Other apparel commodities	216.4	215.5	215.2	214.9	214.9	214.6	215.5	216.1	214.6	215.3	215.4	215.8	218.1	221.6	221.1
Apparel services	305.0	320.9	324.1	325.7	326.3	326.9	329.8	330.7	331.5	332.9	333.6	334.3	334.6	334.7	336.7
Transportation	311.7	319.9	319.7	320.9	323.2	324.0	323.9	319.2	309.6	303.3	305.7	308.6	304.7	301.3	302.2
Private transportation	306.6	314.2	313.6	314.7	317.0	317.8	317.3	312.2	302.1	295.3	297.8	300.8	296.5	292.8	293.7
New vehicles	208.0	214.9	214.2	215.9	218.2	219.2	219.7	220.2	220.1	221.0	222.8	224.0	224.5	224.5	224.2
New cars	208.5	215.2	214.5	216.2	218.4	219.4	219.9	220.4	220.3	221.2	223.0	224.2	224.7	224.7	224.5
Used cars	375.7	379.7	374.3	375.3	376.4	375.6	374.1	370.7	367.2	364.8	363.6	362.5	360.3	358.0	359.5
Motor fuel	370.7	373.8	377.7	374.6	376.7	377.5	373.3	361.5	308.5	279.5	289.3	290.4	280.2	265.9	271.1
Gasoline	370.2	373.3	377.4	374.2	376.1	376.8	372.5	360.8	307.7	278.6	288.7	290.1	279.8	265.3	270.6
Maintenance and repair	341.5	351.4	353.5	355.7	355.8	357.5	357.9	358.9	359.3	360.6	361.3	362.1	363.4	364.3	365.0
Other private transportation	273.3	287.6	285.8	289.6	293.9	295.2	297.7	299.2	301.5	301.6	301.3	303.0	304.5	304.5	302.3
Other private transportation commodities	201.5	202.6	203.4	202.8	201.6	202.1	203.4	202.9	203.6	202.2	202.4	201.5	201.6	201.8	200.3
Other private transportation services	295.0	312.8	310.4	315.4	321.2	322.7	325.5	327.6	330.3	330.9	330.4	332.8	334.6	334.6	332.3
Public transportation	385.2	402.8	408.0	411.5	412.8	412.9	419.6	422.2	421.2	422.2	423.7	425.4	426.0	426.0	426.5
Medical care	379.5	403.1	403.3	410.5	413.0	414.7	418.2	422.3	425.8	426.0	429.7	432.0	434.8	437.5	439.7
Medical care commodities	239.7	256.7	260.2	261.3	262.7	262.9	264.5	267.4	269.4	271.3	272.3	273.3	275.4	276.0	276.7
Medical care services	410.3	435.1	440.5	443.0	445.8	448.0	451.9	456.2	460.1	462.3	464.2	466.8	469.6	473.0	475.7
Professional services	346.1	367.3	371.7	373.2	375.5	377.1	378.9	381.6	385.0	386.9	388.3	390.3	391.7	393.3	396.1
Other medical care services	486.0	517.0	523.9	527.4	530.8	533.6	540.3	546.4	550.8	553.5	555.9	559.2	564.2	569.4	571.9
Entertainment	255.1	265.0	266.8	268.4	269.0	268.3	270.8	272.0	271.9	272.3	272.9	273.9	274.4	274.7	275.3
Entertainment commodities	253.3	260.6	262.5	264.0	264.0	262.5	264.7	265.2	265.0	264.8	265.3	266.1	265.8	266.1	265.9
Entertainment services	258.3	271.8	273.3	275.2	276.6	277.1	279.9	282.1	282.2	283.5	284.2	285.5	287.0	287.3	289.2
Other goods and services	307.7	326.6	333.3	334.9	335.3	336.5	339.1	340.3	341.1	341.8	342.1	342.6	344.9	346.4	353.3
Tobacco products	310.0	328.5	332.8	334.4	334.7	337.4	342.7	344.7	345.6	346.5	346.5	347.1	354.3	356.2	356.6
Personal care	271.4	281.9	284.1	285.0	285.4	286.3	288.1	289.1	290.3	290.5	290.9	291.0	291.1	292.3	292.0
Toilet goods and personal care appliances	269.6	278.5	280.6	281.4	281.1	282.5	285.3	286.0	287.3	287.7	287.9	287.0	287.1	289.1	288.2
Personal care services	274.1	286.0	288.2	289.2	290.2	290.6	291.8	293.0	294.0	294.1	294.7	295.7	295.8	296.2	296.5
Personal and educational expenses	365.7	397.1	412.5	414.7	415.4	415.5	416.8	417.7	417.9	418.9	419.5	420.4	421.2	422.9	445.2
School books and supplies	322.8	350.8	362.1	364.5	364.7	364.7	371.0	373.8	374.3	374.4	374.5	375.7	375.9	376.9	389.4
Personal and educational services	375.6	407.7	423.9	426.2	426.9	427.0	427.6	428.1	428.3	429.5	430.2	431.0	431.9	433.7	457.8

See footnotes at end of table.

30. Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity or service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967 = 100, unless otherwise indicated)

Series	Annual average		1985				1986								
	1984	1985	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
All items	311.1	322.2	324.5	325.5	326.6	327.4	328.4	327.5	326.0	325.3	326.3	327.9	328.0	328.6	330.2
Commodities	280.7	286.7	287.1	287.9	289.2	289.9	290.1	287.4	283.7	281.2	282.1	282.8	281.9	281.9	283.5
Food and beverages	295.1	302.0	302.1	302.5	303.6	305.6	307.9	307.7	307.8	308.5	309.4	309.5	312.2	314.6	315.1
Commodities less food and beverages	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nondurables less food and beverages	275.7	282.1	284.6	285.3	286.8	286.8	284.9	278.6	268.9	262.0	263.3	264.7	259.8	258.1	261.5
Apparel commodities	187.0	191.6	195.3	196.7	196.8	194.2	189.5	188.5	190.8	191.7	190.7	188.4	187.0	191.2	196.6
Nondurables less food, beverages, and apparel	325.8	333.3	335.3	335.6	337.8	339.1	338.7	329.5	313.6	302.6	306.2	308.4	301.7	296.9	298.5
Durables	266.5	270.7	268.7	270.2	271.5	271.4	271.4	270.5	268.7	269.2	269.6	269.9	269.6	269.0	268.3
Services	363.0	381.5	386.5	387.7	388.7	389.5	391.7	393.3	394.9	396.8	397.9	401.0	402.3	403.7	405.5
Rent of shelter	107.7	113.9	115.4	116.1	116.7	117.0	117.4	117.7	118.5	119.4	119.7	119.9	120.5	120.9	121.7
Household services less rent of shelter	108.1	111.2	113.5	112.1	110.8	110.8	111.4	111.8	111.6	111.6	112.3	115.2	114.9	115.3	114.9
Transportation services	321.1	337.0	337.1	341.1	344.7	346.1	349.0	351.0	352.4	353.2	353.4	355.3	357.1	357.3	358.2
Medical care services	410.3	436.1	440.5	443.0	445.8	448.0	451.9	456.2	460.1	462.3	464.2	466.8	469.8	473.0	475.7
Other services	296.0	314.1	319.7	321.4	322.5	322.9	324.8	326.1	326.6	327.6	329.2	329.2	330.1	330.8	337.9
Special indexes:															
All items less food	311.3	323.3	326.2	327.4	328.5	328.9	329.5	328.5	326.6	325.7	326.7	328.6	328.0	328.1	330.0
All items less shelter	295.1	303.9	305.7	306.3	307.2	307.9	308.8	307.4	305.2	303.6	304.7	306.5	306.1	306.4	307.9
All items less homeowners' costs	108.3	109.7	110.4	110.7	111.1	111.3	111.6	111.2	110.5	110.1	110.4	111.1	111.0	111.2	111.7
All items less medical care	307.3	317.7	319.9	320.8	321.9	322.6	323.4	322.2	320.5	319.7	320.6	322.2	322.1	322.6	324.2
Commodities less food	267.0	272.5	273.1	274.4	275.7	275.7	274.7	270.9	265.2	261.2	262.1	263.0	260.2	259.0	261.1
Nondurables less food	270.8	277.2	279.6	280.7	282.0	282.0	280.4	274.5	265.6	259.2	260.5	261.8	257.3	255.6	258.9
Nondurables less food and apparel	311.9	319.2	321.0	322.0	324.0	325.1	324.9	316.8	302.7	292.9	295.2	298.1	292.2	287.9	290.2
Nondurables	286.6	293.2	294.6	295.1	296.4	297.4	297.7	294.3	289.5	286.3	287.4	288.2	287.1	287.4	289.4
Services less rent of shelter	108.5	113.5	115.0	115.1	115.2	115.4	116.2	116.8	117.1	117.4	117.8	119.2	119.5	119.8	120.2
Services less medical care	355.6	373.3	378.3	379.3	380.1	380.8	382.7	384.0	385.4	387.2	388.3	391.3	392.5	393.6	395.4
Energy	423.6	426.5	432.6	427.1	425.1	426.5	424.7	408.9	381.3	361.8	367.6	380.6	366.5	358.6	360.6
All items less energy	302.9	314.8	316.8	318.4	319.8	320.5	321.8	322.3	323.3	324.4	325.0	325.5	326.9	328.3	330.0
All items less food and energy	301.2	314.4	316.9	318.9	320.4	320.7	321.6	322.3	323.6	324.8	325.3	325.9	326.9	327.9	329.9
Commodities less food and energy	253.1	259.7	260.2	262.0	262.7	262.2	261.8	261.6	262.0	262.1	262.2	262.0	262.0	262.9	264.5
Energy commodities	409.8	409.9	411.2	410.1	415.2	417.9	413.2	386.5	343.0	313.3	319.3	327.1	306.6	292.4	297.7
Services less energy	356.4	375.9	380.2	382.5	384.8	385.8	387.9	389.4	391.5	393.8	394.5	395.9	397.7	399.0	401.4
Purchasing power of the consumer dollar:															
1967 = $1.00	32.1	31.0	30.8	30.7	30.6	30.5	30.5	30.5	30.7	30.7	30.6	30.5	30.5	30.4	30.3
1957-59 = $1.00	27.6	26.7	26.5	26.4	26.3	26.3	26.2	26.3	26.4	26.4	26.4	26.2	26.2	26.2	26.0
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS:															
All items	307.6	318.5	320.5	321.3	322.6	323.4	324.3	323.2	321.4	320.4	321.4	323.0	322.9	323.4	324.9
All items (1957-59 = 100)	357.7	370.4	372.7	373.7	375.1	376.1	377.1	375.8	373.7	372.6	373.7	375.6	375.5	376.1	377.8
Food and beverages	295.2	301.8	301.8	302.2	303.4	305.4	307.7	307.5	307.6	308.3	309.0	309.3	312.0	314.5	315.0
Food	302.7	309.3	309.3	309.3	310.6	312.8	315.1	314.9	315.0	315.6	316.4	316.6	319.5	322.3	322.8
Food at home	291.2	295.3	294.0	293.7	295.2	297.9	300.9	300.1	299.7	299.9	300.4	300.0	303.9	307.3	307.5
Cereals and bakery products	303.7	315.4	317.6	317.3	318.2	320.4	320.4	320.9	321.1	320.9	322.1	324.5	324.6	326.7	326.8
Meats, poultry, fish, and eggs	266.0	262.7	259.9	260.4	265.4	269.2	270.7	267.7	267.2	263.5	262.6	264.2	274.0	282.2	284.0
Dairy products	252.2	256.9	256.8	255.9	255.9	255.7	256.0	256.0	255.5	255.5	255.8	255.9	257.0	256.9	257.1
Fruits and vegetables	312.5	320.3	313.6	311.2	309.4	319.3	[illegible]	316.0	314.6	325.0	331.6	323.5	325.6	327.2	324.2
Other foods at home	352.7	361.5	362.9	363.4	362.5	361.6	366.1	375.2	375.6	376.0	374.3	373.9	373.4	373.9	373.5
Sugar and sweets	388.6	398.3	400.8	402.2	400.9	401.8	404.7	408.1	407.8	410.9	410.6	410.9	411.9	412.6	413.0
Fats and oils	287.5	293.9	294.1	290.6	291.8	289.6	291.6	290.8	289.7	287.8	286.6	286.4	286.6	287.1	285.1
Nonalcoholic beverages	444.4	453.2	454.1	455.6	453.1	450.4	461.0	485.5	487.4	487.0	481.2	479.5	477.6	476.9	475.5
Other prepared foods	286.4	295.7	297.7	298.3	298.3	298.7	299.4	300.9	300.7	301.6	302.7	303.0	303.1	304.5	305.2
Food away from home	336.7	349.7	353.0	353.4	354.4	355.2	356.2	357.3	358.6	360.2	362.0	363.5	364.2	365.2	366.6
Alcoholic beverages	225.3	232.6	232.6	239.1	238.8	239.1	240.1	240.9	241.4	242.3	242.2	242.9	243.4	243.0	243.4
Housing	329.2	343.3	347.2	347.5	348.3	349.1	350.1	349.7	350.1	351.1	351.6	354.3	354.5	355.4	356.6
Shelter	350.0	370.4	375.0	377.1	379.3	380.4	381.8	382.9	385.0	386.1	388.8	389.4	391.5	392.9	395.2
Renters' costs (12/84 = 100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rent, residential	248.6	263.7	268.8	268.9	270.7	271.5	272.5	272.8	274.1	277.0	277.5	278.5	280.3	280.8	282.2
Other renters' costs	372.4	397.9	409.8	412.6	408.0	397.5	400.8	403.5	405.4	411.6	411.3	415.5	420.4	426.1	428.9
Homeowners' costs (12/84 = 100)	-	103.1	104.3	104.8	105.5	105.9	106.3	106.6	107.4	108.1	108.3	108.4	108.8	109.3	110.0
Owners' equivalent rent (12/84 = 100)	-	103.0	104.3	104.8	105.5	105.9	106.3	106.6	107.3	108.1	108.3	108.4	108.8	109.2	110.0
Household insurance (12/84 = 100)	-	103.2	104.3	105.2	105.2	105.7	106.3	107.8	108.2	108.5	109.0	109.1	110.1	110.1	110.4
Maintenance and repairs	356.3	364.1	364.4	364.6	367.7	368.5	373.2	374.0	364.7	364.6	363.8	363.2	366.7	371.5	370.6
Maintenance and repair services	403.5	415.0	416.8	417.4	420.9	420.1	426.2	426.5	416.6	419.2	420.0	422.6	425.2	428.6	430.7
Maintenance and repair commodities	257.2	261.1	260.5	260.5	262.7	264.2	267.2	268.1	261.1	259.4	258.0	255.7	259.0	263.5	261.1
Fuel and other utilities	388.6	394.7	401.9	396.3	393.2	394.3	395.6	390.9	386.3	382.6	383.0	394.9	390.3	390.6	389.1
Fuels	485.0	487.5	496.7	487.2	481.0	483.1	484.1	475.7	467.1	459.1	459.7	477.3	469.1	469.3	467.1
Fuel oil, coal, and bottled gas	644.3	622.0	604.3	618.1	644.3	659.9	652.7	593.6	552.8	521.5	499.9	489.9	462.9	450.7	456.6
Gas (piped) and electricity	444.1	451.6	465.9	452.0	439.5	438.8	441.4	443.2	441.2	438.0	443.0	465.7	461.4	464.1	460.3
Other utilities and public services	231.2	241.6	245.6	245.7	246.8	246.7	248.3	248.8	249.9	252.1	252.2	255.8	256.3	256.6	256.2
Household furnishings and operations	239.1	243.4	243.2	244.5	245.1	245.2	245.1	245.3	246.0	246.0	246.1	246.2	246.5	246.6	247.5
Housefurnishings	197.0	197.6	196.5	197.7	198.3	197.8	197.3	197.2	198.5	198.1	198.4	198.2	198.4	198.3	199.4
Housekeeping supplies	300.2	310.7	311.0	312.7	313.5	315.0	315.8	316.4	315.5	316.3	315.7	316.8	317.1	317.3	317.9
Housekeeping services	328.0	340.2	342.9	343.9	344.5	345.0	345.6	346.3	346.6	347.1	347.4	347.8	348.4	349.1	349.5
Apparel and upkeep	199.1	205.0	208.7	210.2	210.2	206.1	204.1	203.1	205.2	206.1	205.1	203.0	201.8	205.9	211.0

See footnotes at end of table.

30. Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity or service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967 = 100, unless otherwise indicated)

Series	Annual average		1985				1986								
	1984	1985	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Apparel commodities	186.6	191.3	195.1	196.6	196.5	194.1	189.4	188.2	190.4	191.2	190.1	187.7	186.3	190.8	196.2
Men's and boys' apparel	192.9	198.2	201.8	203.5	203.7	202.2	198.8	198.8	198.0	199.3	200.0	198.0	195.4	197.1	202.3
Women's and girls' apparel	165.0	171.3	178.2	180.0	178.3	174.5	166.1	165.2	169.0	169.3	165.9	162.0	160.8	169.3	178.1
Infants' and toddlers' apparel	297.6	311.7	314.9	314.8	320.7	317.3	332.7	328.6	329.6	331.3	334.3	335.6	323.7	326.6	326.2
Footwear	210.0	212.5	211.0	212.6	215.9	213.6	209.9	208.4	210.7	212.1	212.0	210.6	209.6	209.9	212.0
Other apparel commodities	204.5	203.1	202.5	202.4	202.5	202.4	203.5	204.2	203.5	204.1	203.8	204.5	206.5	209.5	209.0
Apparel services	302.9	318.5	321.6	323.2	323.6	324.4	327.2	328.1	329.0	330.2	330.9	331.9	332.2	332.3	334.2
Transportation	313.9	321.6	321.1	322.2	324.6	325.3	325.1	320.1	310.3	303.5	305.9	308.7	304.6	300.9	301.8
Private transportation	310.1	317.4	316.6	317.6	320.1	320.8	320.2	314.8	304.5	297.4	299.9	302.8	298.3	294.4	295.3
New vehicles	207.3	214.2	213.5	215.3	217.5	218.6	219.0	219.4	219.4	220.2	222.0	223.2	223.7	223.6	223.3
New cars	207.9	214.5	213.8	215.5	217.8	216.8	219.2	219.7	219.5	220.4	222.3	223.4	223.9	223.9	223.7
Used cars	375.7	379.7	374.3	375.3	376.4	375.6	374.1	370.7	367.2	364.8	363.6	362.5	360.3	358.0	359.5
Motor fuel	372.2	375.4	379.5	376.3	378.7	379.6	375.3	353.0	309.6	280.1	280.3	300.6	280.9	266.7	271.9
Gasoline	371.8	375.0	379.2	375.8	378.1	378.9	374.6	352.3	308.8	279.1	280.6	300.3	280.5	266.1	271.4
Maintenance and repair	342.2	352.6	354.5	356.9	357.2	359.0	359.4	360.4	360.9	362.2	362.8	363.6	365.0	365.7	366.6
Other private transportation	274.2	287.7	285.2	289.2	293.7	294.7	296.9	296.4	300.6	300.4	299.8	301.2	302.4	302.2	299.7
Other private transportation commodities	203.9	204.7	205.6	205.0	203.7	204.3	205.6	205.4	206.0	204.6	204.9	203.9	203.8	204.0	202.7
Other private transportation services	295.4	312.3	308.9	314.1	320.2	321.3	323.7	325.7	328.3	328.5	327.7	329.6	331.2	330.9	328.1
Public transportation	376.8	391.7	396.8	390.3	400.1	400.2	408.6	412.6	412.0	413.0	413.8	415.1	418.0	418.4	418.8
Medical care	377.7	401.2	406.3	408.5	410.9	412.6	416.0	420.0	423.5	425.7	427.3	429.6	432.4	435.0	437.1
Medical care commodities	239.7	256.3	259.8	260.9	262.2	262.3	264.1	267.0	268.8	270.7	271.7	272.5	274.6	275.2	275.8
Medical care services	407.9	432.7	438.1	440.6	443.2	445.4	449.2	453.5	457.3	459.5	461.3	464.0	466.9	470.1	472.6
Professional services	346.5	367.7	372.1	373.7	375.8	377.6	379.3	382.2	385.6	387.4	388.8	390.8	392.3	394.0	396.6
Other medical care services	484.7	513.9	520.7	524.4	527.5	530.4	536.9	543.0	547.3	550.0	552.3	556.8	560.7	565.8	569.1
Entertainment	251.2	260.1	261.6	263.0	263.7	263.0	265.4	266.5	266.5	266.9	267.3	[illegible]	[illegible]	269.2	270.0
Entertainment commodities	247.7	254.2	256.0	257.1	257.2	255.7	257.8	258.3	258.3	258.4	258.7	259.8	259.6	259.8	259.8
Entertainment services	258.5	271.6	272.6	274.6	276.3	276.8	280.0	282.0	282.1	283.0	283.6	284.8	286.5	286.7	288.9
Other goods and services	304.9	322.7	328.7	330.1	330.5	331.9	334.9	336.1	337.0	337.6	338.0	338.4	341.2	342.6	347.5
Tobacco products	309.7	328.1	332.4	334.0	334.3	337.1	342.4	344.4	345.2	346.0	346.0	346.7	354.0	355.9	356.5
Personal care	269.4	279.6	281.8	282.7	283.1	284.0	285.9	286.8	288.0	288.2	288.6	288.6	288.8	289.9	289.5
Toilet goods and personal care appliances	270.3	279.0	281.1	282.0	281.9	283.3	285.9	286.7	288.1	288.4	288.6	287.6	287.8	289.7	288.7
Personal care services	268.8	280.5	282.8	283.7	284.8	285.2	286.4	287.4	288.4	288.4	289.0	290.0	290.2	290.5	290.8
Personal and educational expenses	368.2	399.3	414.5	416.5	417.3	417.4	418.9	419.9	420.1	421.2	422.0	422.9	423.8	425.1	446.1
School books and supplies	327.5	355.7	366.9	369.2	369.3	369.4	375.6	378.4	379.0	379.1	379.1	380.2	380.5	381.4	393.9
Personal and educational services	378.2	410.1	426.1	428.1	428.9	429.1	429.7	430.3	430.5	431.8	432.8	433.6	434.6	436.0	458.7
All items	307.6	318.5	320.5	321.3	322.6	323.4	324.3	323.2	321.4	320.4	321.4	323.0	322.9	323.4	324.9
Commodities	280.4	286.5	286.8	287.6	288.9	289.7	289.8	287.0	283.1	280.4	281.3	282.0	281.1	281.1	282.6
Food and beverages	295.2	301.8	301.8	302.2	303.4	305.4	307.7	307.5	307.6	308.3	309.0	309.3	312.0	314.5	315.0
Commodities less food and beverages	269.3		-	-	-	-	-	-	-	-	-	-	-	-	-
Nondurables less food and beverages	277.5	283.8	286.5	287.0	286.5	286.7	286.9	280.1	269.6	262.0	263.6	265.2	260.1	258.1	261.5
Apparel commodities	186.6	191.3	195.1	196.6	196.5	194.1	189.4	188.2	190.4	191.2	[illegible]	187.7	186.3	190.8	196.2
Nondurables less food, beverages, and apparel	327.0	334.2	336.4	336.5	338.8	340.1	339.6	330.1	313.2	301.6	304.5	308.0	301.0	295.9	298.4
Durables	261.1	265.2	263.1	264.5	265.7	265.7	265.6	264.6	263.7	263.3	263.5	263.6	263.2	262.6	263.0
Services	358.0	377.3	382.0	383.0	384.2	385.1	387.2	388.8	390.5	392.2	393.2	396.4	397.7	399.0	400.4
Rent of shelter (12/84 = 100)	-	103.2	104.5	105.1	105.8	106.1	106.4	106.7	107.4	108.3	108.5	108.7	109.2	109.6	110.3
Household services less rent of shelter (12/84 = 100)	-	102.6	104.8	103.3	102.1	102.0	102.6	103.0	102.8	102.7	103.4	106.4	106.0	106.4	106.0
Transportation services	317.2	332.2	331.4	335.5	339.3	340.5	343.3	345.4	347.0	347.5	347.3	348.9	350.6	350.7	349.2
Medical care services	407.9	432.7	438.1	440.6	443.2	445.4	449.2	453.5	457.3	459.5	461.3	464.0	466.9	470.1	472.6
Other services	292.9	310.1	315.0	316.7	317.8	318.3	320.4	321.6	322.1	322.9	323.6	324.6	325.6	326.0	332.2
Special indexes:															
All items less food	307.5	319.4	321.9	322.9	324.2	324.6	325.1	323.8	321.5	320.2	321.2	323.2	322.3	322.2	323.9
All items less shelter	295.1	303.4	304.8	305.4	306.4	307.2	307.9	306.4	303.8	302.1	303.0	304.8	304.3	304.6	305.9
All items less homeowners' costs (12/84 = 100)	-	101.8	102.4	102.6	103.0	103.2	103.5	103.0	102.3	101.8	102.1	102.7	102.6	102.7	103.2
All items less medical care	304.0	314.3	316.1	316.9	318.1	318.9	319.6	318.3	316.2	315.2	316.1	317.7	317.4	317.8	319.3
Commodities less food	267.1	272.8	273.4	274.5	275.9	275.9	275.0	270.9	264.9	260.7	261.6	262.6	259.6	258.3	260.3
Nondurables less food	272.6	279.0	281.5	282.4	283.8	283.9	282.3	276.1	266.4	259.4	260.9	262.4	257.7	255.8	259.1
Nondurables less food and apparel	313.2	320.3	322.3	323.1	325.0	326.3	325.9	317.5	302.6	292.2	294.9	298.0	291.8	287.3	289.6
Nondurables	287.4	293.9	295.2	295.7	297.1	298.2	298.4	295.0	289.8	286.3	287.5	288.4	287.2	287.5	289.5
Services less rent of shelter (12/84 = 100)	-	102.6	103.8	103.9	103.9	104.2	104.9	105.5	105.7	105.9	106.2	107.6	107.8	108.1	108.3
Services less medical care	350.5	369.0	373.6	374.5	375.5	376.2	378.2	379.5	381.0	382.7	383.6	386.8	387.9	389.0	390.3
Energy	423.3	426.3	432.5	426.6	425.4	426.8	424.7	408.1	379.0	358.4	364.6	378.1	363.1	354.8	356.9
All items less energy	298.3	309.9	311.5	313.0	314.5	315.3	316.5	316.9	317.8	318.8	319.2	319.7	321.1	322.4	323.9
All items less food and energy	295.8	308.7	310.7	312.7	314.2	314.6	315.4	316.1	317.2	318.3	318.6	319.1	320.1	321.0	322.7
Commodities less food and energy	250.5	256.8	257.2	258.8	259.5	259.2	258.8	258.5	258.7	258.8	258.8	258.5	258.5	259.3	260.9
Energy commodities	410.5	410.9	412.6	411.2	416.3	418.9	414.1	387.3	343.3	312.9	319.8	328.1	307.2	292.9	298.2
Services less energy	350.8	371.1	374.9	377.3	379.8	380.8	382.9	384.5	386.5	388.8	389.4	390.8	392.6	393.7	395.7
Purchasing power of the consumer dollar:															
1967 = $1.00	32.5	31.4	31.2	31.1	31.0	30.9	30.8	30.9	31.1	31.2	31.1	31.0	31.0	30.9	30.8
1957-59 = $1.00	28.0	27.0	26.8	26.8	26.7	26.6	26.5	26.6	26.8	26.8	26.8	26.6	26.6	26.6	26.5

- Data not available.

31. Consumer Price Index: U.S. city average and available local area data: all items

(1967=100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1985		1986					1985		1986				
			Sept.	Oct.	May	June	July	Aug.	Sept.	Sept.	Oct.	May	June	July	Aug.	Sept.
U.S. city average		-	324.5	325.5	326.3	327.9	328.0	328.6	330.2	320.5	321.3	321.4	323.0	322.8	323.4	324.9
Chicago, Ill.-Northwestern Ind.	M	-	326.3	322.6	324.2	330.4	331.1	331.4	333.9	312.1	308.9	309.6	315.6	316.0	316.2	318.3
Detroit, Mich.	M	-	320.5	319.7	321.7	321.0	318.4	323.2	321.1	310.3	309.7	311.0	310.2	307.5	312.8	310.5
Los Angeles-Long Beach, Anaheim, Calif.	M	-	323.8	326.1	329.4	331.3	330.8	330.9	334.6	317.7	320.0	322.7	324.5	323.8	323.5	326.8
New York, N.Y.-Northeastern N.J.	M	-	316.9	317.4	320.6	322.8	325.1	325.9	326.6	308.3	308.9	312.3	314.4	316.5	317.2	317.5
Philadelphia, Pa.-N.J.	M	-	316.5	317.4	318.9	321.7	323.0	323.1	325.8	319.1	320.3	320.6	323.5	324.6	324.4	326.7
Anchorage, Alaska (10/67 = 100)	1	10/67	284.5	-	288.9	-	286.3	-	286.2	277.3	-	281.8	-	278.4	-	277.9
Baltimore, Md.	1	-	327.5	-	329.1	-	330.2	-	334.0	326.3	-	326.8	-	327.9	-	330.9
Boston, Mass.	1	-	321.3	-	322.6	-	323.6	-	328.2	319.3	-	319.3	-	320.8	-	325.2
Cincinnati, Ohio-Ky.-Ind.	1	-	329.8	-	332.0	-	332.4	-	333.0	322.8	-	324.8	-	324.9	-	324.7
Denver-Boulder, Colo.	1	-	358.0	-	356.3	-	356.4	-	362.9	353.3	-	350.3	-	352.4	-	357.2
Miami, Fla. (11/77 = 100)	1	11/77	173.5	-	173.0	-	171.2	-	174.3	174.5	-	173.4	-	171.6	-	174.5
Milwaukee, Wis.	1	-	332.4	-	332.0	-	331.3	-	332.9	351.4	-	350.6	-	350.1	-	351.7
Northeast, Pa.	1	-	308.8	-	309.2	-	309.0	-	311.3	306.3	-	308.1	-	307.8	-	310.2
Portland, Oreg.-Wash.	1	-	314.9	-	314.6	-	314.7	-	318.0	305.4	-	303.2	-	303.4	-	306.3
St. Louis, Mo.-Ill.	1	-	321.6	-	318.6	-	325.6	-	325.7	318.5	-	314.2	-	320.6	-	320.7
San Diego, Calif.	1	-	377.3	-	382.8	-	383.1	-	385.9	340.3	-	345.2	-	345.0	-	347.4
Seattle-Everett, Wash.	1	-	321.8	-	323.5	-	323.7	-	326.3	308.9	-	309.4	-	310.1	-	312.3
Washington, D.C.-Md.-Va.	1	-	323.6	-	329.6	-	329.3	-	332.3	327.4	-	330.2	-	330.2	-	334.6
Atlanta, Ga.	2	-	-	333.0	-	338.5	-	338.9	-	-	330.0	-	335.5	-	336.4	-
Buffalo, N.Y.	2	-	-	309.3	-	306.9	-	307.5	-	-	295.3	-	294.0	-	292.5	-
Cleveland, Ohio	2	-	-	348.6	-	350.6	-	352.7	-	-	327.0	-	328.2	-	329.9	-
Dallas-Ft. Worth, Tex.	2	-	-	343.9	-	344.7	-	346.2	-	-	337.5	-	337.4	-	338.1	-
Honolulu, Hawaii	2	-	-	295.6	-	299.2	-	301.5	-	-	302.7	-	306.5	-	308.3	-
Houston, Tex.	2	-	-	337.6	-	333.3	-	332.9	-	-	335.0	-	330.9	-	330.5	-
Kansas City, Mo.-Kansas	2	-	-	323.1	-	322.9	-	323.9	-	-	312.9	-	311.4	-	311.9	-
Minneapolis-St. Paul, Minn.-Wis.	2	-	-	340.6	-	342.1	-	340.3	-	-	336.0	-	336.2	-	334.5	-
Pittsburgh, Pa.	2	-	-	328.4	-	329.8	-	330.1	-	-	309.9	-	308.3	-	309.2	-
San Francisco-Oakland, Calif.	2	-	-	336.7	-	344.0	-	345.5	-	-	331.0	-	338.1	-	339.0	-
Region[3]																
Northeast	2	12/77	-	172.5	-	174.2	-	175.0	-	-	170.3	-	171.6	-	172.2	-
North Central	2	12/77	-	174.9	-	176.1	-	176.2	-	-	171.4	-	172.2	-	172.2	-
South	2	12/77	-	175.7	-	176.3	-	176.4	-	-	175.3	-	175.2	-	175.3	-
West	2	12/77	-	176.9	-	178.7	-	179.0	-	-	174.8	-	176.3	-	176.4	-
Population size class[3]																
A-1	2	12/77	-	172.9	-	175.7	-	176.6	-	-	168.7	-	171.0	-	171.8	-
A-2	2	12/77	-	177.6	-	178.9	-	179.1	-	-	174.6	-	175.2	-	175.3	-
B	2	12/77	-	176.3	-	177.0	-	176.6	-	-	173.6	-	174.1	-	173.5	-
C	2	12/77	-	173.8	-	174.7	-	175.0	-	-	174.1	-	174.8	-	174.8	-
D	2	12/77	-	173.8	-	173.4	-	173.8	-	-	174.9	-	174.2	-	174.5	-
Region/population size class cross classification[3]																
Class A:																
Northeast	2	12/77	-	169.5	-	171.8	-	173.1	-	-	166.1	-	167.7	-	168.8	-
North Central	2	12/77	-	178.2	-	180.3	-	180.7	-	-	173.1	-	174.7	-	175.0	-
South	2	12/77	-	175.6	-	176.8	-	176.7	-	-	175.7	-	176.1	-	176.1	-
West	2	11/77	-	179.1	-	181.8	-	182.0	-	-	174.6	-	177.1	-	176.9	-
Class B:																
Northeast	2	12/77	-	174.9	-	175.2	-	174.7	-	-	171.8	-	172.2	-	171.8	-
North Central	2	12/77	-	173.4	-	174.1	-	172.5	-	-	169.5	-	169.7	-	168.1	-
South	2	12/77	-	177.4	-	178.5	-	178.6	-	-	173.9	-	174.6	-	174.6	-
West	2	12/77	-	177.9	-	178.3	-	178.1	-	-	178.4	-	178.7	-	178.3	-

See footnotes at end of table.

31. Continued— Consumer Price Index: U.S. city average and available local area data: all items

(1967 = 100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1985		1986					1985		1986				
			Sept.	Oct.	May	June	July	Aug.	Sept.		Oct.	May	June	July	Aug.	Sept.
Class C:																
Northeast	2	12/77	-	161.7	-	163.4	-	162.8	-	-	166.5	-	167.8	-	167.2	-
North Central	2	12/77	-	170.1	-	170.7	-	171.2	-	-	168.9	-	167.2	-	167.7	-
South	2	12/77	-	174.3	-	174.5	-	174.8	-	-	175.7	-	175.2	-	175.3	-
West	2	12/77	-	169.7	-	171.6	-	173.0	-	-	168.3	-	169.9	-	171.1	-
Class D:																
Northeast	2	12/77	-	175.6	-	176.1	-	176.8	-	-	175.3	-	175.5	-	176.2	-
North Central	2	12/77	-	171.6	-	171.3	-	171.4	-	-	173.1	-	172.6	-	172.4	-
South	2	12/77	-	174.8	-	173.9	-	174.3	-	-	176.2	-	174.6	-	175.0	-
West	2	12/77	-	174.5	-	174.1	-	174.9	-	-	176.0	-	175.4	-	176.3	-

[1] Area is generally the Standard Metropolitan Statistical Area (SMSA), exclusive of farms. L.A.-Long Beach, Anaheim, Calif. is a combination of two SMSA's, and N.Y., N.Y.-Northeastern N.J. and Chicago, Ill.-Northwestern Ind. are the more extensive Standard Consolidated Areas. Area definitions are those established by the Office of Management and Budget in 1973, except for Denver-Boulder, Colo. which does not include Douglas County. Definitions do not include revisions made since 1973.

[2] Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated:

M - Every month.
1 - January, March, May, July, September, and November.
2 - February, April, June, August, October, and December.

[3] Regions are defined as the four Census regions.

The population size classes are aggregations of areas which have urban population as defined:

A-1 - More than 4,000,000.
A-2 - 1,250,000 to 4,000,000.
B - 385,000 to 1,250,000
C - 75,000 to 385,000.
D - Less than 75,000.

Population size class A is the aggregation of population size classes A-1 and A-2.

- Data not available.

NOTE: Local area CPI indexes are byproducts of the national CPI program. Because each local index is a small subset of the national index, it has a smaller sample size and is, therefore, subject to substantially more sampling and other measurement error than the national index. As a result, local area indexes show greater volatility than the national index, although their long-term trends are quite similar. Therefore, the Bureau of Labor Statistics strongly urges users to consider adopting the national average CPI for use in escalator clauses.

32. Annual data: Consumer Price Index all items and major groups

Series	1977	1978	1979	1980	1981	1982	1983	1984	1985
Consumer Price Index for All Urban Consumers:									
All items:									
Index	181.5	195.4	217.4	246.8	272.4	289.1	298.4	311.1	322.2
Percent change	6.5	7.7	11.3	13.5	10.4	6.1	3.2	4.3	3.6
Food and beverages:									
Index	188.0	206.3	228.5	248.0	267.3	278.2	284.4	295.1	302.0
Percent change	6.0	9.7	10.8	8.5	7.8	4.1	2.2	3.8	2.3
Housing									
Index	186.5	202.8	227.6	263.3	293.5	314.7	323.1	336.5	349.9
Percent change	6.8	8.7	12.2	15.7	11.5	7.2	2.7	4.1	4.0
Apparel and upkeep:									
Index	154.2	159.6	166.6	178.4	186.9	191.8	196.5	200.2	206.0
Percent change	4.5	3.5	4.4	7.1	4.8	2.6	2.5	1.9	2.9
Transportation:									
Index	177.2	185.5	212.0	249.7	280.0	291.5	298.4	311.7	319.9
Percent change	7.1	4.7	14.3	17.8	12.1	4.1	2.4	4.5	2.6
Medical care:									
Index	202.4	219.4	239.7	265.9	294.5	328.7	357.3	379.5	403.1
Percent change	9.6	8.4	9.3	10.9	10.8	11.6	8.7	6.2	6.2
Entertainment:									
Index	167.7	176.6	188.5	205.3	221.4	235.8	246.0	255.1	265.0
Percent change	4.9	5.3	6.7	8.9	7.8	6.5	4.3	3.7	3.9
Other goods and services:									
Index	172.2	183.3	196.7	214.5	235.7	259.9	288.3	307.7	326.6
Percent change	5.8	6.4	7.3	9.0	9.9	10.3	10.9	6.7	6.1
Consumer Price Index for Urban Wage Earners and Clerical Workers:									
All items:									
Index	181.5	195.3	217.7	247.0	272.3	288.6	297.4	307.6	318.5
Percent change	6.5	7.6	11.5	13.5	10.2	6.0	3.0	3.4	3.5

33. Producer Price Indexes, by stage of processing

(1967 = 100)

Grouping	Annual average		1985			1986							
	1984	1985	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
Finished goods	291.1	293.7	294.7	296.4	297.2	295.0	291.9	289.0	287.2	288.9	288.9	288.0	289.3
Finished consumer goods	290.3	291.8	292.3	294.4	295.4	293.8	288.4	283.4	281.9	284.1	284.1	282.7	283.1
Finished consumer foods	273.3	271.2	268.2	271.8	275.0	275.0	272.0	271.6	271.9	274.8	275.1	280.7	283.6
Finished consumer goods excluding foods	294.1	297.3	299.4	300.7	300.7	298.3	291.8	284.6	282.2	284.0	283.8	278.8	278.0
Nondurable goods less food	337.3	339.3	340.3	342.6	343.2	330.6	320.0	315.4	309.8	313.0	312.6	303.4	302.0
Durable goods	236.8	241.5	244.9	245.0	244.3	243.5	243.9	243.7	245.7	245.5	245.8	246.3	246.2
Capital equipment	294.0	300.5	303.5	303.8	303.7	303.9	304.3	304.3	305.6	305.7	305.8	306.4	306.3
Intermediate materials, supplies, and components	320.0	318.7	317.8	318.1	318.9	317.4	313.5	309.5	307.1	306.7	307.1	306.0	304.5
Materials and components for manufacturing	301.8	299.5	298.0	297.7	297.9	297.1	295.5	296.4	295.5	295.4	295.3	295.8	296.0
Materials for food manufacturing	271.1	258.8	252.3	254.0	254.3	252.8	249.2	246.7	244.8	248.7	247.8	251.6	256.7
Materials for nondurable manufacturing	290.5	285.9	283.3	282.8	283.1	283.8	282.4	282.5	279.3	278.2	278.0	278.2	277.2
Materials for durable manufacturing	325.1	320.2	318.6	317.5	317.6	313.4	313.1	313.6	313.7	313.2	313.3	313.3	313.4
Components for manufacturing	287.5	291.5	292.3	292.3	292.4	293.1	293.6	293.7	294.1	294.1	294.2	294.6	294.9
Materials and components for construction	310.3	315.2	315.5	315.0	315.7	316.2	316.5	317.0	318.3	318.3	317.7	318.0	317.6
Processed fuels and lubricants	566.2	548.9	542.6	560.5	557.2	540.8	500.8	453.4	428.5	424.2	429.3	401.6	385.2
Containers	302.3	311.2	310.4	309.8	310.6	311.2	310.9	312.3	312.8	313.6	313.6	314.2	316.4
Supplies	283.4	284.2	285.1	285.6	285.7	286.6	286.4	286.8	287.2	287.1	287.3	287.4	287.1
Crude materials for further processing	330.8	306.1	297.8	304.7	304.3	301.0	289.0	281.1	273.7	279.4	274.9	278.0	275.5
Foodstuffs and feedstuffs	259.5	236.0	224.6	236.6	236.8	231.7	227.2	224.4	220.3	229.9	226.1	233.6	236.3
Nonfood materials[1]	484.5	459.2	455.3	451.6	450.0	450.6	422.7	403.9	389.4	385.9	380.7	374.1	380.0
Special groupings													
Finished goods, excluding foods	294.8	299.0	301.3	302.4	302.4	300.7	296.3	291.2	289.9	291.2	291.1	287.8	287.2
Finished energy goods	750.3	720.9	718.5	729.5	733.8	700.9	629.3	554.1	517.2	534.1	531.5	467.8	450.1
Finished goods less energy	265.1	269.2	270.5	271.6	272.2	272.7	272.2	272.1	273.1	274.0	274.2	276.4	277.2
Finished consumer goods less energy	257.8	261.3	262.1	263.4	264.3	264.8	264.0	263.9	264.9	266.1	266.2	269.0	270.0
Finished goods less food and energy	262.3	268.7	271.6	271.8	271.4	272.1	272.5	272.5	273.9	274.0	274.1	275.0	275.0
Finished consumer goods less food and energy	245.9	252.1	254.9	255.0	254.6	255.5	256.0	256.0	257.3	257.5	257.6	258.6	258.6
Consumer nondurable goods less food and energy	239.0	246.2	248.3	248.5	248.3	250.5	251.1	251.2	252.0	252.3	252.3	253.8	253.8
Intermediate materials less foods and feeds	325.0	325.0	324.1	324.5	325.3	323.6	318.7	316.5	313.0	312.4	312.8	310.5	309.9
Intermediate foods and feeds	253.1	232.8	228.6	231.4	232.7	232.6	228.9	227.8	227.0	229.3	229.0	230.3	232.4
Intermediate energy goods	545.0	528.3	522.2	529.3	536.2	520.0	482.0	437.0	413.3	409.1	413.9	387.1	380.8
Intermediate goods less energy	303.8	304.0	303.4	303.2	303.5	303.4	303.0	303.3	303.1	303.0	302.9	303.4	303.5
Intermediate materials less foods and energy	303.6	305.2	304.6	304.2	304.5	304.3	304.2	304.5	304.3	304.0	303.9	304.2	304.2
Crude energy materials	785.2	748.1	743.1	737.1	735.6	732.8	662.9	614.5	577.0	570.6	554.2	538.7	524.5
Crude materials less energy	255.5	233.2	224.7	233.2	233.0	229.8	226.5	224.7	221.9	229.2	226.5	232.0	231.1
Crude nonfood materials less energy	266.1	249.7	246.5	244.6	242.9	245.8	246.5	247.9	249.1	249.3	250.0	249.2	236.1

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[1] Crude nonfood materials except fuel.

34. Producer Price Indexes, by durability of product

(1967 = 100)

Grouping	Annual average		1985			1986								
	1984	1985	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Total durable goods	293.6	297.3	298.8	298.5	298.5	296.1	298.4	298.6	299.7	299.6	298.6	300.0	300.1	299.2
Total nondurable goods	323.3	317.2	314.3	317.6	318.8	318.8	308.4	300.7	296.0	297.9	297.4	294.9	294.0	295.6
Total manufactures	302.9	304.3	304.4	305.4	306.0	304.8	301.1	297.3	296.1	296.7	297.0	295.4	295.6	296.2
Durable	293.9	298.1	298.7	298.5	298.5	299.0	299.3	299.4	300.5	300.4	300.5	300.9	300.9	300.1
Nondurable	312.3	310.5	309.2	311.4	312.5	310.6	302.9	294.9	291.2	292.6	290.1	289.2	289.7	292.0
Total raw or slightly processed goods	348.6	327.9	320.6	325.2	327.6	326.0	316.3	310.3	303.0	306.2	302.6	304.3	299.7	299.2
Durable	266.7	252.2	248.1	245.2	244.3	248.2	251.2	252.4	253.1	252.1	250.9	248.9	252.4	253.2
Nondurable	351.4	332.4	324.9	331.2	332.7	330.6	320.2	313.6	305.8	309.3	305.5	307.4	302.3	301.7

35. Annual data: Producer Price indexes, by stage of processing

(1967 = 100)

Index	1977	1978	1979	1980	1981	1982	1983	1984	1985
Finished goods:									
Total	181.7	195.9	217.7	247.0	269.8	280.7	285.2	291.1	293.7
Consumer goods	180.7	194.9	217.9	248.9	271.3	281.0	284.6	290.3	291.8
Capital equipment	184.6	199.2	216.5	239.8	264.3	279.4	287.2	294.0	300.5
Intermediate materials, supplies, and components:									
Total	201.5	215.6	243.2	280.3	306.0	310.4	312.3	320.0	318.7
Materials and components for manufacturing	195.4	208.7	234.4	265.7	286.1	289.8	293.4	301.8	299.5
Materials and components for construction	203.4	224.7	247.4	268.3	287.6	293.7	301.8	310.3	315.2
Processed fuels and lubricants	262.5	295.3	364.8	503.0	595.4	591.7	564.8	566.2	548.9
Containers	188.3	202.8	226.8	254.5	276.1	285.6	286.6	302.3	311.2
Supplies	188.7	198.5	218.2	244.5	263.8	272.1	277.1	283.4	284.2
Crude materials for further processing:									
Total	209.2	234.4	274.3	304.6	329.0	319.5	323.6	330.8	306.1
Foodstuffs and feedstuffs	192.1	216.2	247.9	259.2	257.4	247.8	252.2	259.5	235.0
Nonfood materials except fuel	212.2	233.1	284.5	346.1	413.7	376.8	372.2	380.5	355.3
Fuel	372.1	426.8	507.6	615.0	751.2	886.1	931.5	931.3	909.6

36. U.S. export price indexes by Standard International Trade Classification

(June 1977 = 100, unless otherwise indicated)

Category	1974 SITC	1983	1984				1985				1986	
		Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
ALL COMMODITIES (6/83 = 100)		99.5	100.2	101.5	99.3	98.1	97.5	97.5	96.5	96.7	97.0	96.7
Food (3/83 = 100)	0	108.8	106.2	109.6	103.5	96.5	95.8	94.0	90.2	93.6	90.5	89.5
Meat (3/83 = 100)	01	101.2	108.9	106.7	105.6	104.4	103.9	104.7	108.1	112.2	111.5	114.7
Fish (3/83 = 100)	03	100.4	99.8	96.7	96.0	96.7	101.0	103.6	102.6	101.8	102.2	106.2
Grain and grain preparations (3/80 = 100)	04	105.6	102.7	107.4	101.2	92.9	92.4	90.3	82.6	87.1	82.1	79.1
Vegetables and fruit (3/83 = 100)	05	116.1	116.2	126.8	125.5	114.6	119.4	120.1	126.8	118.8	115.2	125.7
Feedstuffs for animals (3/83 = 100)	08	117.4	106.9	98.8	83.5	82.4	72.8	68.6	75.7	83.4	88.5	85.5
Misc. food products (3/83 = 100)	09	101.7	104.9	110.6	109.5	108.4	110.6	109.2	108.1	107.7	106.0	104.7
Beverages and tobacco (6/83 = 100)	1	101.5	101.6	101.9	102.8	101.3	99.9	100.1	99.7	98.6	95.6	96.5
Beverages (9/83 = 100)	11	103.3	102.3	102.9	103.3	103.7	104.0	105.3	101.8	100.9	101.9	103.0
Tobacco and tobacco products (6/83 = 100)	12	101.4	101.6	101.8	102.7	101.1	99.5	99.6	99.5	98.4	95.1	95.9
Crude materials (6/83 = 100)	2	112.2	112.5	118.3	105.2	101.4	97.5	98.8	93.3	92.5	95.8	96.8
Raw hides and skins (6/80 = 100)	21	135.2	145.6	154.7	153.7	133.6	121.0	126.2	129.0	139.9	138.9	148.9
Oilseeds and oleaginous fruit (9/77 = 100)	22	96.8	93.9	104.3	79.9	74.8	71.0	71.2	64.2	63.9	66.9	65.8
Crude rubber (including synthetic and reclaimed) (9/83 = 100)	23	102.2	103.3	106.0	104.1	104.0	106.4	108.3	107.1	106.0	106.0	106.1
Wood	24	129.8	131.1	129.4	123.8	125.4	126.7	125.7	124.5	126.1	126.7	128.7
Pulp and waste paper (6/83 = 100)	25	106.0	112.5	122.1	120.8	114.2	100.5	98.1	93.8	92.7	98.8	109.7
Textile fibers	26	123.1	120.5	125.6	109.4	106.7	102.4	105.8	103.6	97.7	101.6	98.6
Crude fertilizers and minerals	27	144.8	146.6	147.7	163.0	163.2	165.6	167.9	169.4	165.5	166.0	166.1
Metalliferous ores and metal scrap	28	96.7	100.2	98.5	93.2	92.4	89.2	82.0	80.1	78.7	83.4	80.5
Mineral fuels	3	99.2	99.1	99.7	99.7	99.7	100.1	99.2	97.6	98.6	91.9	86.2
Animal and vegetables oils, fats, and waxes	4	122.0	129.8	164.5	145.7	147.9	142.0	144.5	114.5	101.4	90.8	84.4
Fixed vegetable oils and fats (6/83 = 100)	42	129.3	133.2	176.4	159.0	156.7	152.9	164.8	128.6	108.7	95.4	95.3
Chemicals (3/83 = 100)	5	98.6	101.4	99.7	98.3	97.7	97.0	96.8	97.1	96.6	96.5	95.4
Organic chemicals (12/83 = 100)	51	100.0	100.2	101.0	97.4	94.7	93.8	96.5	97.1	95.4	93.5	89.3
Fertilizers, manufactured (3/83 = 100)	56	96.8	108.3	96.9	97.4	94.8	92.5	87.9	89.6	90.0	88.6	84.0
Intermediate manufactured products (9/81 = 100)	-	100.0	101.0	101.3	102.0	100.4	99.4	99.2	99.2	99.1	100.3	101.2
Leather and furskins (9/79 = 100)	6	75.8	83.5	81.2	80.8	79.0	82.5	79.2	75.9	76.5	77.8	82.5
Rubber manufactures	61	145.0	146.7	147.5	148.9	148.5	150.2	149.0	148.3	148.7	151.0	150.0
Paper and paperboard products (6/78 = 100)	62	145.5	150.2	154.7	160.0	159.5	155.0	151.8	149.6	148.2	152.2	158.7
Iron and steel (3/82 = 100)	64	96.3	95.9	96.1	96.8	98.5	95.5	95.3	95.9	98.2	98.4	99.4
Nonferrous metals (9/81 = 100)	-	93.8	94.2	92.9	90.4	82.5	79.7	79.6	79.8	78.2	80.2	79.1
Metal manufactures, n.e.s. (3/82 = 100)	-	102.1	103.1	104.5	105.1	105.0	105.4	105.2	105.4	104.4	105.3	105.5
Machinery and transport equipment, excluding military and commercial aircraft (12/78 = 100)	67	137.0	138.5	139.4	140.1	141.5	142.3	142.9	143.1	143.3	144.0	144.1
Power generating machinery and equipment (12/78 = 100)	68	154.4	158.4	156.9	160.6	167.5	165.3	167.4	167.1	167.5	169.1	169.2
Machinery specialized for particular industries (9/78 = 100)	69	151.1	152.3	152.8	153.7	153.4	155.0	155.7	156.0	156.2	155.5	154.7
Metalworking machinery (6/78 = 100)	7	148.7	150.8	151.2	151.7	151.9	153.4	155.1	156.3	158.4	159.0	158.9
General industrial machines and parts n.e.s. 9/78 = 100)	71	145.9	148.6	149.0	149.3	150.2	152.4	152.0	152.4	152.2	152.3	153.3
Office machines and automatic data processing equipment	72	102.5	101.4	101.5	99.8	101.4	100.9	100.0	99.9	99.4	99.9	99.2
Telecommunications, sound recording and reproducing equipment	73	132.1	133.0	132.3	134.4	134.3	133.3	133.3	134.1	134.5	136.5	137.0
Electrical machinery and equipment	74	109.8	110.2	112.6	113.8	114.6	114.9	116.1	115.3	113.8	115.1	114.1
Road vehicles and parts (3/80 = 100)	75	128.8	130.2	131.2	131.0	131.8	133.1	133.9	133.8	135.0	135.5	136.4
Other transport equipment, excl. military and commercial aviation	76	179.3	183.1	187.7	189.6	191.7	195.5	196.6	199.3	200.7	203.3	205.6
Other manufactured articles	77	100.2	100.6	100.4	100.7	99.3	99.5	100.4	100.3	100.3	102.6	103.4
Apparel (9/83 = 100)	78	100.8	101.9	102.1	103.9	103.4	104.7	104.7	105.0	105.3	-	-
Professional, scientific, and controlling instruments and apparatus	79	171.5	171.8	172.0	175.8	171.7	175.5	178.3	178.7	178.8	182.2	183.8
Photographic apparatus and supplies, optical goods, watches and clocks (12/77 = 100)	8	132.0	132.0	131.3	132.7	130.3	128.0	129.1	127.5	128.5	131.6	132.9
Miscellaneous manufactured articles, n.e.s.	84	98.2	98.5	97.9	95.2	94.1	92.4	93.1	93.1	92.4	95.6	95.6
Gold, non-monetary (6/83 = 100)	971	96.2	95.8	93.5	81.7	79.5	69.1	75.4	77.4	77.5	81.8	82.2

- Data not available.

37. U.S. import price indexes by Standard International Trade Classification

(June 1977=100, unless otherwise indicated)

Category	1974 SITC	1984			1985				1986	
		June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
ALL COMMODITIES (9/82=100)		98.3	96.7	95.7	93.5	93.0	92.9	94.2	88.5	83.2
Food (9/77=100)	0	103.5	102.0	98.1	96.5	96.8	94.9	102.8	113.4	104.7
Meat	01	133.8	135.4	132.3	130.4	118.2	120.6	131.2	122.7	118.5
Dairy products and eggs (6/81=100)	02	99.8	98.9	98.4	98.3	97.9	99.1	100.5	106.7	107.1
Fish	03	134.2	134.2	133.9	132.9	129.4	129.7	132.7	139.3	144.8
Bakery goods, pasta products, grain and grain preparations (9/77=100)	04	134.8	132.9	132.8	131.8	132.3	136.3	141.9	146.9	149.3
Fruits and vegetables	05	135.8	135.4	117.2	127.1	129.4	120.2	131.3	119.4	119.4
Sugar, sugar preparations, and honey (3/82=100)	06	120.3	119.0	118.5	118.4	122.6	123.1	111.9	124.6	121.6
Coffee, tea, cocoa	07	62.4	60.3	58.4	57.0	58.0	54.4	64.6	65.9	69.2
Beverages and tobacco	1	156.3	157.1	156.5	156.2	157.1	158.0	162.1	163.2	165.5
Beverages	11	153.6	153.5	152.8	154.2	154.3	156.0	159.1	161.8	163.9
Crude materials	2	102.6	100.6	98.9	94.0	93.6	91.5	91.2	94.2	95.3
Crude rubber (inc. synthetic & reclaimed) (3/84=100)	23	93.7	90.7	83.8	77.6	76.4	68.9	73.2	78.8	75.5
Wood (9/81=100)	24	103.2	99.6	104.0	100.7	106.9	101.6	99.4	104.3	106.3
Pulp and waste paper (12/81=100)	25	96.1	96.3	93.2	84.0	80.4	76.8	75.8	74.9	79.9
Crude fertilizers and crude minerals (12/83=100)	27	98.2	98.0	98.6	100.3	101.7	102.7	102.1	101.5	100.0
Metalliferous ores and metal scrap (3/84=100)	28	102.8	100.1	95.6	90.4	87.6	89.5	90.1	94.5	95.6
Crude vegetable and animal materials, n.e.s.	29	100.8	101.1	106.4	104.3	104.9	102.5	102.5	103.6	104.4
Fuels and related products (6/82=100)	3	83.0	86.9	85.2	82.9	80.9	79.8	79.1	55.3	37.4
Petroleum and petroleum products (6/82=100)	33	88.1	87.0	85.2	83.8	81.6	80.3	80.1	54.7	36.1
Fats and oils (9/83=100)	4	141.8	124.4	114.9	89.9	76.7	57.6	50.6	41.4	39.3
Vegetable oils (9/83=100)	42	143.1	125.3	115.3	89.5	75.9	56.2	48.9	39.3	37.4
Chemicals (9/82=100)	5	100.6	98.8	97.1	95.7	94.9	94.5	94.2	94.6	93.3
Medicinal and pharmaceutical products (3/84=100)	54	98.5	96.4	94.6	91.6	95.1	95.3	96.7	102.9	104.9
Manufactured fertilizers (3/84=100)	56	101.7	98.5	92.9	94.2	82.0	80.8	78.5	79.2	79.7
Chemical materials and products, n.e.s. (9/84=100)	59	-	100.0	97.5	96.1	95.6	96.9	97.8	99.9	100.2
Intermediate manufactured products (12/77=100)	6	139.6	137.2	136.8	133.1	132.4	133.6	133.4	134.0	135.6
Leather and furskins	61	145.3	144.0	140.4	135.3	133.3	137.0	141.3	141.6	143.0
Rubber manufactures, n.e.s.	62	140.8	139.6	140.5	139.5	138.6	137.3	138.1	136.5	137.7
Cork and wood manufactures	63	131.0	126.4	126.1	121.3	121.2	123.4	124.0	130.8	134.3
Paper and paperboard products	64	150.4	156.1	157.5	157.6	157.2	157.8	156.5	157.1	157.1
Textiles	65	130.1	131.6	132.9	130.4	127.5	126.5	128.1	131.2	132.9
Nonmetallic mineral manufactures, n.e.s.	66	166.6	156.6	159.4	154.3	151.8	157.6	162.3	164.2	169.6
Iron and steel (9/78=100)	67	123.8	124.7	123.7	121.0	120.1	119.1	118.3	117.3	118.1
Nonferrous metals (12/81=100)	68	96.3	90.2	87.3	81.9	82.3	83.7	80.4	79.4	78.9
Metal manufactures, n.e.s.	69	120.5	119.3	119.3	117.4	117.8	119.5	121.6	124.4	127.8
Machinery and transport equipment (6/81=100)	7	104.1	102.6	102.9	101.6	102.6	103.5	107.2	111.5	115.3
Machinery specialized for particular industries (9/78=100)	72	100.0	98.8	98.0	96.2	97.0	101.4	104.9	112.1	115.4
Metalworking machinery (3/80=100)	73	93.8	92.1	89.9	86.3	90.5	94.2	98.1	105.0	107.7
General industrial machinery and parts, n.e.s. (6/81=100)	74	94.4	92.4	91.3	89.2	91.1	94.3	98.0	103.8	109.0
Office machines and automatic data processing equipment (3/80=100)	75	96.7	94.1	92.2	89.6	89.4	90.3	93.7	96.9	100.8
Telecommunications, sound recording and reproducing apparatus (3/80=100)	76	94.8	93.6	91.3	90.0	88.8	88.3	88.6	89.4	91.6
Electrical machinery and equipment (12/81=100)	77	91.2	87.0	86.4	82.1	83.9	81.4	83.1	84.5	87.4
Road vehicles and parts (6/81=100)	78	110.4	109.8	111.3	111.5	112.1	112.7	117.8	123.4	127.1
Misc. manufactured articles (3/80=100)	8	101.5	99.7	100.0	97.0	98.0	99.6	100.8	103.3	104.8
Plumbing, heating, and lighting fixtures (6/80=100)	81	112.0	110.7	111.6	113.9	114.1	117.8	115.0	120.1	123.5
Furniture and parts (6/80=100)	82	140.8	138.4	142.5	137.4	136.7	142.1	142.7	147.0	142.2
Clothing (9/77=100)	84	132.5	135.4	138.5	136.7	133.9	134.5	134.5	133.4	135.3
Footwear	85	140.8	138.4	142.5	137.4	136.7	142.1	142.7	147.0	142.2
Professional, scientific, and controlling instruments and apparatus (12/79=100)	87	97.8	95.6	92.9	89.2	92.3	98.8	102.4	106.4	112.5
Photographic apparatus and supplies, optical goods, watches, and clocks (3/80=100)	88	92.8	91.2	91.3	88.9	89.5	91.1	94.5	99.3	103.7
Misc. manufactured articles, n.e.s. (6/82=100)	89	104.0	98.3	98.3	91.2	95.2	96.4	97.9	102.1	103.4
Gold, non-monetary (6/82=100)	971	-	-	-	-	-	-	-	-	-

- Data not available.

38. U.S. export price indexes by end-use category

(September 1983 = 100 unless otherwise indicated)

Category	Percentage of 1980 trade value	1984			1985				1986	
		June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
Foods, feeds, and beverages	10.284	98.5	98.8	93.0	81.5	80.9	76.2	77.5	75.5	7
Raw materials	30.696	102.5	100.5	99.1	97.6	97.2	96.5	95.9	96.0	9
Raw materials, nondurable	21.327	104.4	102.8	101.4	98.6	98.5	98.7	97.9	97.5	9
Raw materials, durable	9.368	97.7	95.0	93.3	92.8	91.6	91.1	91.0	92.5	9
Capital goods (12/82=100)	30.186	103.9	104.6	105.8	106.2	106.6	108.6	108.8	107.4	10
Automotive vehicles, parts and engines (12/82=100)	7.483	105.3	105.3	105.7	106.7	108.0	108.1	109.2	109.5	11
Consumer goods	7.467	100.9	101.3	100.8	100.9	101.1	101.9	101.4	103.7	10
Durables	3.965	99.6	99.4	99.3	99.1	99.2	100.4	99.5	101.8	10
Nondurables	3.501	102.1	103.0	102.3	102.7	103.0	103.3	103.3	105.5	10

39. U.S. import price indexes by end-use category

(December 1982=100)

Category	Percentage of 1980 trade value	1984			1985				1986	
		June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
Foods, feeds, and beverages	7.477	107.2	105.8	101.8	102.1	100.4	99.0	106.0	115.8	108.2
Petroleum and petroleum products, excl. natural gas	31.108	88.5	87.5	85.7	84.4	82.1	80.9	80.5	56.4	38.7
Raw materials, excluding petroleum	19.205	104.3	102.5	101.1	98.3	95.8	95.4	93.9	94.5	94.0
Raw materials, nondurable	9.391	102.1	101.7	100.7	95.0	93.9	93.5	91.8	91.1	89.7
Raw materials, durable	9.814	106.7	103.3	101.6	97.7	97.8	97.4	96.2	98.1	98.7
Capital goods	13.164	99.8	98.0	97.8	94.8	96.3	97.6	100.0	102.8	106.8
Automotive vehicles, parts and engines	11.750	104.9	104.0	105.2	105.4	105.9	108.4	111.4	115.8	119.0
Consumer goods	14.250	101.9	100.6	101.1	99.5	99.4	101.0	102.4	104.5	106.6
Durable	5.507	101.4	98.8	98.5	97.0	97.0	98.9	100.7	103.4	106.8
Nondurable	8.743	102.5	103.0	104.6	103.0	102.5	103.9	104.7	106.0	106.6

40. U.S. export price indexes by Standard Industrial Classification [1]

Industry group	1984			1985				1986	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
Manufacturing:									
Food and kindred products (6/83=100)	112.7	105.6	103.3	99.5	99.5	98.7	98.1	97.0	95.0
Lumber and wood products, except furniture (6/83=100)	100.1	97.0	97.9	99.9	98.5	98.3	101.2	101.5	101.2
Furniture and fixtures (9/83=100)	103.1	103.5	104.9	105.2	108.5	107.1	108.4	109.2	109.7
Paper and allied products (3/81=100)	104.3	106.2	103.6	97.1	94.7	93.2	92.1	95.7	101.6
Chemicals and allied products (12/84=100)	102.3	101.3	100.7	100.3	99.6	96.7	98.2	98.9	98.3
Petroleum and coal products (12/83=100)	102.1	100.7	100.4	101.3	102.7	102.0	96.1	93.5	93.1
Primary metal products (3/82=100)	104.0	100.0	95.8	91.2	92.7	93.6	93.6	96.4	98.6
Machinery, except electrical (9/78=100)	137.9	138.0	139.9	140.4	140.5	140.6	140.5	140.6	140.3
Electrical machinery (12/80=100)	109.5	110.7	111.1	111.3	112.4	111.9	111.2	112.8	112.2
Transportation equipment (12/78=100)	157.2	157.8	158.9	160.5	161.9	162.8	164.3	165.2	166.9
Scientific instruments; optical goods; clocks (6/77=100)	153.2	156.0	153.0	154.9	156.6	156.2	156.7	159.7	161.2

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[1] SIC - based classification.

41. U.S. import price indexes by Standard Industrial Classification [1]

Industry group	1984			1985				1986	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
Manufacturing:									
Food and kindred products (6/77 = 100)	126.6	124.1	122.6	118.8	115.0	114.2	115.1	117.7	115.6
Textile mill products (9/82 = 100)	103.8	104.3	104.7	102.8	101.0	100.4	101.8	104.7	106.4
Apparel and related products (6/77 = 100)	129.6	133.9	136.2	135.6	133.0	133.9	134.4	133.4	135.1
Lumber and wood products, except furniture (6/77 = 100)	121.1	117.3	120.0	116.3	120.6	117.5	115.6	122.1	124.8
Furniture and fixtures (6/80 = 100)	96.9	96.2	95.6	93.9	96.1	97.7	98.2	101.2	103.5
Paper and allied products (6/77 = 100)	141.9	146.0	145.5	141.5	139.8	138.7	137.4	137.6	139.4
Chemicals and allied products (9/82 = 100)	101.9	99.8	96.2	95.3	93.9	93.3	95.8	98.6	102.1
Rubber and miscellaneous plastic products (12/80 = 100)	98.5	97.8	98.0	96.9	96.7	96.6	97.5	100.9	100.6
Leather and leather products	143.7	141.6	144.2	139.1	138.9	142.3	144.0	145.8	144.6
Primary metal products (6/81 = 100)	91.9	88.3	86.6	82.2	83.0	83.4	81.9	82.0	82.4
Fabricated metal products (12/84 = 100)	–	–	100.0	99.0	99.1	101.0	102.6	104.9	106.5
Machinery, except electrical (3/80 = 100)	97.1	95.5	94.1	91.6	93.4	96.6	100.0	105.5	108.9
Electrical machinery (9/84 = 100)	–	100.0	96.6	95.1	95.8	94.5	95.8	97.0	100.2
Transportation equipment (6/81 = 100)	111.8	110.7	112.9	113.1	114.2	114.8	119.6	123.9	128.0
Scientific instruments; optical goods; clocks (12/79 = 100)	96.5	94.4	93.2	90.7	91.7	94.6	96.8	103.9	109.5
Miscellaneous manufactured commodities (9/82 = 100)	99.1	95.8	96.4	95.1	95.1	96.6	98.7	99.9	101.7

[1] SIC - based classification.

– Data not available.

42. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

(1977 = 100)

Item	Annual average	Quarterly indexes									
	1984	1983	1984				1985				1986	
		IV	I	II	III	IV	I	II	III	IV	I	II
Business:												
Output per hour of all persons	105.3	103.8	104.9	105.6	105.5	105.5	105.7	106.4	107.3	106.4	107.3	107.2
Compensation per hour	168.1	163.6	165.9	167.1	169.0	170.6	172.3	174.5	176.4	178.0	179.1	180.4
Real compensation per hour	98.1	98.0	98.1	97.9	98.1	98.2	98.4	98.7	99.1	99.0	99.2	100.3
Unit labor costs	159.7	157.7	158.2	158.3	160.2	161.7	163.1	164.0	164.4	167.3	167.0	168.2
Unit nonlabor payments	156.3	150.6	154.1	156.7	157.0	157.7	158.3	160.0	161.4	159.6	162.2	161.9
Implicit price deflator	158.5	155.2	156.7	157.7	159.0	160.3	161.4	162.6	163.4	164.6	165.3	166.0
Nonfarm business:												
Output per hour of all persons	104.3	103.3	103.9	104.6	104.4	104.3	104.4	104.9	105.4	104.5	105.6	105.5
Compensation per hour	167.9	163.4	165.6	166.9	168.7	170.4	172.1	174.0	175.4	177.0	178.3	179.3
Real compensation per hour	98.0	97.9	97.9	97.8	98.0	98.1	98.2	98.4	98.5	98.4	98.8	99.7
Unit labor costs	161.0	158.2	159.4	159.5	161.5	163.3	164.8	165.9	166.3	169.3	168.8	170.0
Unit nonlabor payments	156.1	152.3	153.2	156.4	157.2	157.9	158.9	160.8	163.0	160.3	163.9	163.5
Implicit price deflator	159.3	156.2	157.2	158.4	160.0	161.4	162.7	164.1	165.2	166.2	167.1	167.7
Nonfinancial corporations:												
Output per hour of all employees	105.6	104.5	105.3	105.9	105.5	105.8	108.0	106.5	107.8	107.0	106.9	106.3
Compensation per hour	165.9	161.7	163.6	164.8	166.6	168.3	169.9	171.6	173.1	174.5	175.4	176.0
Real compensation per hour	96.8	96.8	96.8	96.6	96.7	96.8	97.0	97.0	97.2	97.0	97.1	97.9
Total unit costs	161.5	159.0	159.4	160.1	162.6	163.8	164.9	165.8	165.0	167.2	168.3	169.4
Unit labor costs	157.0	154.8	155.4	155.7	157.9	159.1	160.3	161.1	160.5	163.0	164.0	165.6
Unit nonlabor costs	174.6	171.4	171.1	173.1	176.4	177.5	178.5	179.8	178.3	179.8	181.1	180.9
Unit profits	133.4	128.6	134.4	136.5	130.3	130.5	129.3	130.2	141.7	131.2	131.7	128.4
Unit nonlabor payments	160.1	158.4	158.3	161.0	160.3	161.0	161.3	162.5	165.5	162.6	163.8	162.5
Implicit price deflator	158.1	155.3	156.4	157.5	158.7	159.8	160.6	161.6	162.2	162.9	164.0	164.5
Manufacturing:												
Output per hour of all persons	116.6	113.3	114.7	115.7	117.8	118.2	119.3	121.7	123.0	122.9	123.4	124.0
Compensation per hour	168.2	163.6	165.4	166.8	169.1	171.5	173.8	175.6	178.1	179.3	180.2	181.4
Real compensation per hour	98.1	97.9	97.8	97.8	98.2	98.7	99.2	99.3	100.0	99.7	99.8	100.9
Unit labor costs	144.2	144.3	144.1	144.2	143.5	145.1	145.7	144.3	144.8	145.8	146.1	146.2

43. Annual indexes of multifactor productivity and related measures, selected years

(1977=100)

Item	1960	1970	1973	1974	1976	1978	1979	1980	1981	1982	1983	1984
Private business												
Productivity:												
Output per hour of all persons	67.3	88.4	95.9	93.8	98.4	100.8	99.5	99.2	100.6	100.3	103.0	105.4
Output per unit of capital services	102.4	102.0	105.3	98.8	97.2	102.0	99.8	94.2	92.4	86.6	88.3	92.4
Multifactor productivity	78.2	92.9	99.1	95.6	98.0	101.2	99.7	97.4	97.7	95.2	97.6	100.6
Output	55.3	80.2	93.0	91.2	94.5	105.8	107.9	106.6	108.9	105.4	109.9	118.9
Inputs:												
Hours of all persons	82.2	90.3	96.9	97.2	96.1	105.0	108.4	107.5	108.2	105.2	106.7	112.8
Capital services	54.0	78.7	88.3	92.4	97.2	103.8	108.0	113.1	117.8	121.7	124.4	128.7
Combined units of labor and capital input	70.7	86.3	93.8	95.5	96.5	104.5	108.2	109.4	111.5	110.7	112.6	118.1
Capital per hour of all persons	65.7	86.7	91.1	95.0	101.2	98.8	99.7	105.3	108.8	115.7	116.7	114.1
Private nonfarm business												
Productivity:												
Output per hour of all persons	70.7	89.2	96.4	94.3	98.5	100.8	99.2	98.7	99.6	99.1	102.4	104.3
Output per unit of capital services	103.7	102.8	106.0	99.2	97.3	101.9	99.0	93.4	91.1	85.1	87.3	90.9
Multifactor productivity	80.9	93.7	99.6	96.0	98.1	101.2	99.1	96.9	96.7	94.1	97.0	99.6
Output	54.4	79.9	92.9	91.1	94.4	106.0	107.9	106.6	108.4	104.8	110.0	118.9
Inputs:												
Hours of all persons	77.0	89.6	96.3	96.6	95.8	105.1	108.8	108.0	108.8	105.7	107.4	114.0
Capital services	52.5	77.7	87.6	91.9	97.0	104.0	109.0	114.1	119.0	123.2	126.1	130.8
Combined units of labor and capital input	67.3	85.3	93.3	95.0	96.2	104.7	108.9	110.0	112.2	111.4	113.5	119.4
Capital per hour of all persons	68.2	86.8	91.0	95.1	101.3	98.9	100.1	105.6	109.4	116.5	117.4	114.7
Manufacturing												
Productivity:												
Output per hour of all persons	62.2	80.8	93.4	90.6	97.1	101.5	101.4	101.4	103.6	105.9	112.0	116.6
Output per unit of capital services	102.5	98.6	111.4	101.2	96.2	102.1	99.7	91.2	89.2	81.8	86.9	94.4
Multifactor productivity	71.9	85.2	97.9	93.3	96.8	101.7	101.0	96.7	99.8	99.2	105.1	110.7
Output	52.5	78.6	96.3	91.7	93.1	106.0	108.1	103.2	104.8	98.4	104.7	116.0
Inputs:												
Hours of all persons	84.4	97.3	103.1	101.2	95.9	104.4	106.5	101.7	101.1	92.9	93.5	99.5
Capital services	51.2	79.7	86.4	90.6	96.7	103.7	108.4	113.1	117.5	120.3	120.6	122.9
Combined units of labor and capital inputs	73.0	92.2	98.4	98.3	96.1	104.2	107.0	104.5	105.0	99.2	99.7	104.8
Capital per hour of all persons	60.7	82.0	83.8	89.5	100.9	99.4	101.7	111.2	116.2	129.4	129.0	123.6

44. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years

(1977=100)

Item	1960	1970	1973	1974	1976	1978	1979	1980	1981	1982	1983	1984	1985
Business:													
Output per hour of all persons	67.6	88.4	95.9	93.9	98.3	100.8	99.6	99.3	100.7	100.3	103.0	105.3	106.4
Compensation per hour	33.6	57.8	70.9	77.6	92.8	108.5	119.1	131.5	143.7	154.9	161.5	168.1	175.3
Real compensation per hour	68.9	90.2	96.7	95.4	98.7	100.8	99.4	96.7	95.7	97.3	98.2	98.1	98.8
Unit labor costs	49.7	65.4	73.9	82.7	94.3	107.6	119.5	132.5	142.7	154.5	156.8	159.7	164.8
Unit nonlabor payments	46.4	59.4	72.5	76.4	93.3	106.7	112.5	118.7	134.6	136.6	146.3	156.3	159.7
Implicit price deflator	48.5	63.2	73.4	80.5	94.0	107.3	117.0	127.6	139.8	148.1	153.0	158.5	163.0
Nonfarm business:													
Output per hour of all persons	71.0	89.3	96.4	94.3	98.5	100.8	99.3	98.8	99.8	99.2	102.4	104.3	104.8
Compensation per hour	35.3	58.2	71.2	78.0	92.6	108.6	118.9	131.3	143.6	154.8	161.5	167.9	174.6
Real compensation per hour	72.3	90.8	97.1	95.9	98.8	100.9	99.2	96.6	95.7	97.2	98.2	98.0	98.4
Unit labor costs	49.7	65.2	73.9	82.7	94.3	107.7	119.7	132.9	144.0	156.0	157.7	161.0	166.7
Unit nonlabor payments	46.3	60.0	69.3	74.0	93.0	105.6	110.5	118.5	133.5	136.5	148.1	156.1	160.6
Implicit price deflator	48.5	63.4	72.3	79.7	93.8	107.0	116.5	127.8	140.3	149.2	154.3	159.3	164.6
Nonfinancial corporations:													
Output per hour of all employees	73.4	91.1	97.5	94.6	98.4	100.6	99.8	99.1	99.6	100.4	103.5	105.6	106.8
Compensation per hour	36.9	59.2	71.6	78.2	92.9	108.4	118.7	131.1	143.3	154.3	159.9	165.9	172.3
Real compensation per hour	75.5	92.4	97.6	96.1	98.9	100.7	99.1	96.4	95.5	96.9	97.3	96.8	97.0
Unit labor costs	50.2	65.0	73.4	82.6	94.3	107.8	119.0	132.3	143.8	153.8	154.5	157.0	161.2
Unit nonlabor payments	51.5	60.1	68.9	73.1	93.8	104.4	108.4	118.6	137.8	142.1	152.1	160.1	163.0
Implicit price deflator	50.7	63.3	71.9	79.4	94.2	106.6	115.4	127.6	141.7	149.8	153.7	158.1	161.8
Manufacturing:													
Output per hour of all persons	62.2	80.8	93.4	90.6	97.1	101.5	101.4	101.4	103.6	105.9	112.0	116.6	121.7
Compensation per hour	36.5	57.4	68.8	76.2	92.1	108.2	118.6	132.4	145.2	157.5	162.4	168.2	176.7
Real compensation per hour	74.8	89.5	93.8	93.6	98.1	100.5	99.1	97.4	96.7	98.9	98.8	98.1	99.5
Unit labor costs	58.7	71.0	73.7	84.1	94.8	106.6	117.0	130.6	140.1	148.7	145.0	144.2	145.1
Unit nonlabor payments	60.0	64.1	70.7	67.7	93.5	101.9	98.9	97.8	111.8	114.0	128.5	136.9	134.4
Implicit price deflator	59.1	69.0	72.8	79.3	94.5	105.2	111.7	121.0	131.8	138.6	140.2	142.1	142.0

45. Unemployment rates in nine countries, quarterly data seasonally adjusted

Country	Annual average		1984	1985				1986	
	1984	1985	IV	I	II	III	IV	I	II
Total labor force basis									
United States	7.4	7.1	7.1	7.2	7.2	7.1	6.9	7.0	7.1
Canada	11.2	10.4	11.1	11.0	10.5	10.2	10.1	9.7	9.5
Australia	8.9	8.2	8.6	8.5	8.4	8.1	7.8	7.9	–
Japan	2.7	2.6	2.7	2.6	2.5	2.6	2.9	2.6	2.8
France	9.7	10.1	10.0	10.2	10.1	10.2	9.9	10.0	10.3
Germany	7.6	7.7	7.7	7.7	7.8	7.7	7.7	7.6	7.5
Great Britain	12.8	13.0	12.8	12.9	13.0	13.2	12.8	13.0	13.1
Italy [1], [2]	5.8	5.9	5.7	5.8	5.7	5.9	6.2	6.2	6.3
Sweden	3.1	2.8	3.0	3.0	2.9	2.7	2.7	2.8	2.6
Civilian labor force basis									
United States	7.5	7.2	7.2	7.3	7.3	7.2	7.0	7.1	7.2
Canada	11.3	10.5	11.1	11.1	10.6	10.2	10.1	9.7	9.6
Australia	9.0	8.3	8.6	8.6	8.5	8.2	7.9	8.0	–
Japan	2.6	2.6	2.7	2.6	2.6	2.7	2.9	2.7	2.8
France	9.9	10.4	10.3	10.5	10.4	10.4	10.1	10.3	10.5
Germany	7.8	7.9	7.8	7.9	7.9	7.9	7.8	7.8	7.6
Great Britain	12.9	13.1	13.0	13.1	13.2	13.4	13.0	13.1	13.3
Italy	5.9	6.0	5.8	5.9	5.8	6.0	6.3	6.3	6.5
Sweden	3.1	2.8	3.0	3.0	2.9	2.8	2.7	2.8	2.6

[1] Quarterly rates are for the first month of the quarter.

[2] Major changes in the Italian labor force survey, introduced in 1977, resulted in a large increase in persons enumerated as unemployed. However, many persons reported that they had not actively sought work in the past 30 days, and they have been provisionally excluded for comparability with U.S. concepts. Inclusion of such persons would more than double the Italian unemployment rate shown.

– Data not available.

NOTE: Quarterly figures for France, Germany, and Great Britain are calculated by applying annual adjustment factors to current published data and therefore should be viewed as less precise indicators of unemployment under U.S. concepts than the annual figures.

46. Annual data: Employment status of the civilian working-age population, ten countries

(Numbers in thousands)

Employment status and country	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Labor force										
United States	96,158	99,009	102,251	104,962	106,940	108,670	110,204	111,550	113,544	115,461
Canada	10,203	10,500	10,895	11,231	11,573	11,904	11,958	12,183	12,399	12,639
Australia	6,244	6,358	6,443	6,519	6,693	6,810	6,910	6,997	7,133	7,272
Japan	53,100	53,820	54,610	55,210	55,740	56,320	56,980	58,110	58,480	58,820
France	22,000	22,300	22,470	22,670	22,790	22,930	23,150	23,130	23,290	23,330
Germany	25,900	25,870	26,000	26,250	26,520	26,650	26,710	26,740	26,880	27,090
Great Britain	25,290	25,430	25,620	25,710	25,870	25,870	25,880	26,010	26,530	26,960
Italy	20,300	20,530	20,630	20,910	21,210	21,410	21,450	21,610	21,680	21,800
Netherlands	4,890	4,950	5,010	5,100	5,290	5,500	5,560	5,720	5,740	5,690
Sweden	4,149	4,168	4,203	4,262	4,312	4,326	4,350	4,369	4,385	4,418
Participation rate										
United States	61.6	62.3	63.2	63.7	63.8	63.9	64.0	64.0	64.4	64.8
Canada	61.1	61.6	62.7	63.4	64.1	64.8	64.1	64.4	64.8	65.2
Australia	62.7	62.7	62.0	61.7	62.2	62.0	61.8	61.5	61.5	61.8
Japan	62.4	62.5	62.8	62.7	62.6	62.6	62.7	63.1	62.7	62.3
France	57.3	57.6	57.5	57.5	57.2	57.1	57.1	56.8	56.6	56.4
Germany	53.8	53.4	53.3	53.3	53.2	52.9	52.7	52.5	52.6	53.2
Great Britain	63.2	63.2	63.3	63.2	63.2	62.2	61.9	61.9	62.7	63.6
Italy	47.8	48.0	47.7	47.8	48.0	48.0	47.4	47.2	47.3	47.2
Netherlands	49.1	49.0	48.8	49.0	50.0	51.3	51.2	52.1	52.0	51.2
Sweden	66.0	65.9	66.1	66.6	67.0	66.8	66.8	66.7	66.8	67.2
Employed										
United States	88,752	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005	107,150
Canada	9,477	9,651	9,987	10,395	10,708	11,006	10,644	10,734	11,000	11,311
Australia	5,946	6,000	6,038	6,111	6,284	6,416	6,415	6,300	6,490	6,670
Japan	52,020	52,720	53,370	54,040	54,600	55,060	55,620	56,550	56,870	57,260
France	21,010	21,180	21,260	21,300	21,320	21,200	21,230	21,170	20,980	20,910
Germany	25,010	24,970	25,130	25,470	25,750	25,560	25,130	24,750	24,790	24,960
Great Britain	23,810	23,840	24,040	24,360	24,100	23,190	22,820	22,680	23,100	23,420
Italy	19,600	19,800	19,870	20,100	20,380	20,490	20,430	20,470	20,390	20,490
Netherlands	4,630	4,700	4,750	4,830	4,960	4,990	4,930	4,890	4,880	4,890
Sweden	4,083	4,093	4,109	4,174	4,226	4,218	4,213	4,218	4,249	4,293
Employment-population ratio										
United States	56.8	57.9	59.3	59.9	59.2	59.0	57.8	57.9	59.5	60.1
Canada	56.7	56.6	57.5	58.7	59.3	59.9	57.0	56.7	57.4	58.4
Australia	59.7	59.2	58.1	57.9	58.4	58.4	57.3	55.4	56.0	56.6
Japan	61.1	61.2	61.3	61.4	61.3	61.2	61.2	61.4	61.0	60.6
France	54.8	54.7	54.4	54.0	53.5	52.8	52.3	51.8	51.0	50.5
Germany	52.0	51.6	51.5	51.7	51.7	50.8	49.6	48.8	48.5	49.0
Great Britain	59.5	59.3	59.4	59.8	58.9	55.8	54.6	54.0	54.6	55.2
Italy	46.1	46.3	45.9	45.9	46.1	45.9	45.2	44.7	44.5	44.4
Netherlands	46.5	46.5	46.3	46.4	46.9	46.5	45.4	44.5	44.2	44.0
Sweden	64.9	64.8	64.6	65.3	65.6	65.1	64.7	64.4	64.7	65.3
Unemployed										
United States	7,406	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539	8,312
Canada	726	849	908	836	865	898	1,314	1,448	1,399	1,328
Australia	298	358	405	408	409	394	495	697	642	602
Japan	1,080	1,100	1,240	1,170	1,140	1,260	1,360	1,560	1,610	1,560
France	990	1,120	1,210	1,370	1,470	1,730	1,920	1,960	2,310	2,420
Germany	890	900	870	780	770	1,090	1,580	1,990	2,090	2,130
Great Britain	1,480	1,590	1,580	1,350	1,770	2,680	3,060	3,330	3,430	3,540
Italy	700	740	760	810	830	920	1,020	1,140	1,290	1,310
Netherlands	260	250	260	270	330	510	630	830	860	800
Sweden	66	75	94	88	86	108	137	151	136	125
Unemployment rate										
United States	7.7	7.1	6.1	5.8	7.1	7.6	9.7	9.6	7.5	7.2
Canada	7.1	8.1	8.3	7.4	7.5	7.5	11.0	11.9	11.3	10.5
Australia	4.8	5.6	6.3	6.3	6.1	5.8	7.2	10.0	9.0	8.3
Japan	2.0	2.0	2.3	2.1	2.0	2.2	2.4	2.7	2.8	2.6
France	4.5	5.0	5.4	6.0	6.4	7.5	8.3	8.5	9.9	10.4
Germany	3.4	3.5	3.4	3.0	2.9	4.1	5.9	7.4	7.8	7.9
Great Britain	5.9	6.3	6.2	5.3	6.8	10.4	11.8	12.8	12.9	13.1
Italy	3.4	3.6	3.7	3.9	3.9	4.3	4.8	5.3	5.9	6.0
Netherlands	5.3	5.0	5.2	5.3	6.2	9.3	11.3	14.5	15.0	14.1
Sweden	1.6	1.8	2.2	2.1	2.0	2.5	3.1	3.5	3.1	2.8

47. Annual indexes of productivity and related measures, twelve countries

(1977 = 100)

Item and country	1960	1970	1973	1974	1976	1977	1979	1980	1981	1982	1983	1984	1985
Output per hour													
United States	62.2	80.8	93.4	90.6	97.1	100.0	101.4	101.4	103.6	105.9	112.9	118.5	121.8
Canada	50.3	78.8	91.3	93.4	96.2	100.0	104.2	101.9	104.0	101.0	107.6	111.5	115.1
Japan	23.2	64.8	83.1	86.5	94.3	100.0	114.8	122.7	127.2	135.0	142.3	152.2	159.9
Belgium	32.8	60.0	78.7	83.2	95.3	100.0	111.8	119.3	127.2	132.8	141.0	145.5	-
Denmark	37.2	65.5	83.2	86.0	96.2	100.0	106.5	112.3	114.2	114.6	117.3	118.3	118.4
France	36.4	69.6	82.2	85.2	95.0	100.0	110.3	112.0	116.4	123.5	129.3	135.0	140.2
Germany	40.3	71.2	84.0	87.4	96.5	100.0	106.2	108.6	111.0	112.6	119.0	124.7	131.9
Italy	36.5	72.7	90.9	95.3	96.9	100.0	110.5	116.9	121.0	123.4	126.6	135.0	139.1
Netherlands	32.4	64.3	81.5	88.1	95.8	100.0	112.3	113.9	116.9	119.4	126.1	139.3	-
Norway	54.6	81.7	94.6	97.7	99.7	100.0	107.1	109.3	109.7	112.6	119.2	122.3	125.0
Sweden	42.3	80.7	94.8	96.8	101.7	100.0	110.9	112.7	113.2	116.5	125.5	132.6	135.2
United Kingdom	53.8	77.6	92.9	95.2	99.1	100.0	102.2	101.2	107.9	112.7	121.2	126.2	129.7
Output													
United States	52.5	78.6	96.3	91.7	93.1	100.0	108.1	103.2	104.8	98.4	105.6	117.9	121.0
Canada	41.5	75.1	94.6	98.0	96.1	100.0	110.9	107.7	108.8	96.4	101.7	110.1	115.2
Japan	19.2	69.9	91.9	91.7	94.8	100.0	113.9	124.1	129.8	137.3	148.2	165.2	175.8
Belgium	41.7	78.1	95.8	99.6	99.5	100.0	104.2	107.2	105.9	109.1	110.7	112.8	-
Denmark	49.2	82.0	95.9	97.4	99.6	100.0	105.4	110.1	106.6	108.3	112.2	118.6	122.3
France	35.4	73.3	88.6	91.8	95.1	100.0	106.1	106.6	105.9	106.0	107.4	108.4	109.0
Germany	50.0	86.6	96.1	95.4	96.0	100.0	106.6	106.8	104.9	102.4	103.5	107.4	113.0
Italy	37.4	78.0	90.5	96.3	97.9	100.0	108.6	115.4	114.3	111.6	109.2	113.2	115.3
Netherlands	44.8	84.4	95.8	100.0	99.0	100.0	106.1	106.6	106.7	105.0	105.3	110.8	-
Norway	55.1	87.0	99.5	104.0	101.4	100.0	100.3	101.3	100.1	99.8	98.8	101.3	103.7
Sweden	52.6	92.5	100.3	105.7	106.1	100.0	103.6	104.0	100.6	100.1	105.2	112.4	114.6
United Kingdom	71.0	94.7	104.7	103.5	98.2	100.0	100.5	91.7	86.2	86.4	86.9	92.4	95.0
Total hours													
United States	84.4	97.3	103.1	101.2	95.9	100.0	106.5	101.7	101.1	92.9	93.5	99.5	99.3
Canada	82.6	97.7	103.6	105.0	102.0	100.0	106.4	105.7	104.6	95.4	94.6	98.7	100.1
Japan	82.7	107.9	110.7	106.1	100.6	100.0	99.3	101.2	102.0	101.7	104.2	108.5	110.0
Belgium	127.0	130.1	121.8	119.7	104.4	100.0	93.2	89.9	83.3	82.1	78.5	77.5	-
Denmark	132.4	126.1	115.2	113.2	101.4	100.0	99.0	98.1	93.4	94.5	95.7	100.2	103.3
France	97.2	105.3	107.8	107.8	101.2	100.0	96.2	95.2	91.0	85.9	83.0	80.3	77.8
Germany	123.8	121.7	114.4	109.2	101.6	100.0	98.5	98.1	94.6	91.0	87.0	86.2	85.7
Italy	102.3	107.4	99.6	101.0	99.0	100.0	98.2	98.7	94.5	90.4	86.2	83.9	82.9
Netherlands	138.4	131.2	117.6	113.5	103.3	100.0	94.4	93.6	91.2	88.0	83.5	79.5	-
Norway	101.0	106.4	105.1	106.5	101.7	100.0	93.6	92.6	91.3	88.6	82.9	82.8	83.0
Sweden	124.4	114.6	105.7	107.0	104.3	100.0	93.4	92.3	88.9	85.9	83.9	84.8	84.8
United Kingdom	131.9	122.1	112.7	106.7	99.0	100.0	96.3	90.7	79.9	76.7	73.3	73.2	73.3
Compensation per hour													
United States	36.5	57.3	68.8	76.2	92.1	100.0	118.6	132.4	145.2	157.5	163.2	169.1	176.6
Canada	27.1	46.5	59.2	66.5	89.9	100.0	118.3	130.6	151.5	167.1	179.3	182.1	191.4
Japan	8.9	33.9	55.1	72.3	90.7	100.0	113.4	120.7	129.8	136.6	140.7	144.8	148.3
Belgium	13.8	34.9	53.5	65.2	89.5	100.0	117.6	130.4	144.6	152.0	163.7	176.6	-
Denmark	12.6	36.3	56.1	67.9	90.4	100.0	123.1	135.9	149.6	162.9	174.3	183.9	195.5
France	15.1	36.6	52.3	62.0	88.9	100.0	129.3	147.5	170.3	200.8	226.2	246.5	262.7
Germany	18.8	48.0	67.5	76.9	91.3	100.0	116.1	125.6	134.5	141.0	148.4	155.3	164.7
Italy	8.3	26.1	43.7	54.5	84.2	100.0	134.7	160.2	197.1	237.3	276.4	303.0	334.0
Netherlands	12.5	39.0	60.5	71.9	91.9	100.0	117.0	123.6	129.1	137.5	144.7	152.8	-
Norway	15.8	37.9	54.5	63.6	88.8	100.0	116.0	128.0	142.8	156.0	173.5	188.3	205.2
Sweden	14.7	38.5	54.2	63.8	91.5	100.0	120.1	133.6	148.1	158.9	173.3	190.7	205.8
United Kingdom	14.8	30.8	44.8	56.9	88.4	100.0	137.7	165.8	188.9	206.4	222.4	237.2	257.0
Unit labor costs: National currency basis:													
United States	58.7	70.9	73.7	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.8	145.0
Canada	53.9	60.6	64.8	73.3	93.5	100.0	113.5	128.1	145.7	165.4	166.7	163.2	166.3
Japan	38.4	52.3	66.4	83.6	96.2	100.0	98.8	98.4	102.0	101.2	98.9	95.1	92.7
Belgium	42.0	58.1	68.0	78.3	93.9	100.0	105.2	109.3	113.6	114.4	116.1	121.4	-
Denmark	33.8	55.4	67.4	79.0	92.1	100.0	115.7	121.0	131.1	142.2	148.6	155.5	165.1
France	41.6	52.6	63.6	72.8	93.6	100.0	117.3	131.7	146.3	162.6	175.0	182.5	187.4
Germany	46.6	67.4	80.3	88.0	94.6	100.0	107.3	115.7	121.2	125.2	124.7	124.6	124.9
Italy	22.8	36.0	48.1	57.2	85.1	100.0	121.9	137.0	162.9	192.4	218.3	224.5	240.1
Netherlands	38.5	60.7	74.3	81.6	96.0	100.0	104.1	108.5	110.4	115.2	114.7	109.7	-
Norway	29.0	46.4	57.6	65.2	89.1	100.0	108.2	117.0	130.2	138.6	145.5	154.0	164.2
Sweden	34.8	47.7	57.2	64.6	90.0	100.0	108.3	118.6	130.9	136.3	136.1	143.8	152.2
United Kingdom	27.6	39.7	48.2	59.7	89.2	100.0	134.7	163.8	175.1	183.1	183.5	187.9	198.1
Unit labor costs: U.S. dollar basis:													
United States	58.7	70.9	73.7	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.8	145.0
Canada	59.0	61.7	68.8	79.7	100.7	100.0	103.0	116.4	129.1	142.3	143.7	133.9	129.4
Japan	28.5	39.1	65.6	76.8	86.9	100.0	121.3	116.8	123.8	108.8	111.5	107.2	104.2
Belgium	30.2	42.0	62.8	72.1	87.2	100.0	128.5	134.1	109.9	89.5	81.3	75.3	-
Denmark	29.5	44.4	67.2	77.9	91.5	100.0	132.0	129.0	110.3	102.3	97.5	90.1	93.5
France	41.7	46.8	70.4	74.5	96.3	100.0	135.5	153.4	132.2	121.5	112.9	102.7	102.6
Germany	25.9	42.9	70.4	79.1	87.3	100.0	135.9	147.9	124.9	119.7	113.4	101.6	98.6
Italy	32.5	50.6	73.1	77.6	90.5	100.0	129.5	141.4	126.3	125.4	126.8	112.8	111.1
Netherlands	25.1	41.2	65.6	74.6	89.1	100.0	127.4	134.2	108.9	105.8	98.6	83.9	-
Norway	21.7	34.5	53.4	62.8	86.9	100.0	113.8	126.2	120.6	114.2	106.1	100.4	101.7
Sweden	30.1	41.1	56.7	65.1	92.3	100.0	112.9	125.3	115.4	96.9	80.4	77.7	79.1
United Kingdom	44.4	54.4	67.7	80.1	92.3	100.0	163.9	218.3	203.1	183.5	159.4	143.9	147.3

- Data not available.

48. Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]								
	1976	1977	1978	1979	1980	1981	1982	1983	1984
PRIVATE SECTOR[3]									
Total cases	9.2	9.3	9.4	9.5	8.7	8.3	7.7	7.6	8.0
Lost workday cases	3.5	3.8	4.1	4.3	4.0	3.8	3.5	3.4	3.7
Lost workdays	60.5	61.6	63.5	67.7	65.2	61.7	58.7	58.5	63.4
Agriculture, forestry, and fishing[3]									
Total cases	11.0	11.5	11.6	11.7	11.9	12.3	11.8	11.9	12.0
Lost workday cases	4.7	5.1	5.4	5.7	5.8	5.9	5.9	6.1	6.1
Lost workdays	83.3	81.1	80.7	83.7	82.7	82.8	86.0	90.8	90.7
Mining									
Total cases	11.0	10.9	11.5	11.4	11.2	11.6	10.5	8.4	9.7
Lost workday cases	5.8	6.0	6.4	6.8	6.5	6.2	5.4	4.5	5.3
Lost workdays	114.4	128.8	143.2	150.5	163.6	146.4	137.3	125.1	160.2
Construction									
Total cases	15.3	15.5	16.0	16.2	15.7	15.1	14.6	14.8	15.5
Lost workday cases	5.5	5.9	6.4	6.8	6.5	6.3	6.0	6.3	6.9
Lost workdays	105.0	111.5	109.4	120.4	117.0	113.1	115.7	118.2	128.1
General building contractors:									
Total cases	14.5	15.0	15.9	16.3	15.5	15.1	14.1	14.4	15.4
Lost workday cases	5.2	5.7	6.3	6.8	6.5	6.1	5.9	6.2	6.9
Lost workdays	100.0	100.2	105.3	111.2	113.0	107.1	112.0	113.0	121.3
Heavy construction contractors:									
Total cases	16.3	16.0	16.6	16.6	16.3	14.9	15.1	15.4	14.9
Lost workday cases	5.5	5.7	6.2	6.7	6.3	6.0	5.8	6.2	6.4
Lost workdays	109.2	116.7	110.9	123.1	117.6	106.0	113.1	122.4	131.7
Special trade contractors:									
Total cases	15.3	15.6	15.8	16.0	15.5	15.2	14.7	14.8	15.8
Lost workday cases	5.6	6.1	6.6	6.9	6.7	6.6	6.2	6.4	7.1
Lost workdays	105.8	115.5	111.0	124.3	118.9	119.3	118.6	119.0	130.1
Manufacturing									
Total cases	13.2	13.1	13.2	13.3	12.2	11.5	10.2	10.0	10.6
Lost workday cases	4.8	5.1	5.6	5.9	5.4	5.1	4.4	4.3	4.7
Lost workdays	79.5	82.3	84.9	90.2	86.7	82.0	75.0	73.5	77.9
Durable goods									
Lumber and wood products:									
Total cases	22.1	22.3	22.8	20.7	18.6	17.6	16.9	18.3	19.6
Lost workday cases	9.7	10.4	11.1	10.8	9.5	9.0	8.3	9.2	9.9
Lost workdays	167.3	178.0	178.8	175.9	171.8	158.4	153.3	163.5	172.0
Furniture and fixtures:									
Total cases	16.9	17.2	17.5	17.6	16.0	15.1	13.9	14.1	15.3
Lost workday cases	6.0	6.0	6.9	7.1	6.6	6.2	5.5	5.7	6.4
Lost workdays	94.5	92.0	95.9	99.6	97.6	91.9	85.6	83.0	101.5
Stone, clay, and glass products:									
Total cases	16.1	16.9	16.8	16.8	15.0	14.1	13.0	13.1	13.6
Lost workday cases	6.4	6.9	7.8	8.0	7.1	6.9	6.1	6.0	6.6
Lost workdays	114.1	120.4	126.3	133.7	128.1	122.2	112.2	112.0	120.8
Primary metal industries:									
Total cases	16.6	16.2	17.0	17.3	15.2	14.4	12.4	12.4	13.3
Lost workday cases	6.3	6.8	7.5	8.1	7.1	6.7	5.4	5.4	6.1
Lost workdays	114.8	119.4	123.6	134.7	128.3	121.3	101.6	103.4	115.3
Fabricated metal products:									
Total cases	18.9	19.1	19.3	19.9	18.5	17.5	15.3	15.1	16.1
Lost workday cases	6.8	7.2	8.0	8.7	8.0	7.5	6.4	6.1	6.7
Lost workdays	109.8	109.0	112.4	124.2	118.4	109.9	102.5	96.5	104.9
Machinery, except electrical:									
Total cases	14.2	14.0	14.4	14.7	13.7	12.9	10.7	9.8	10.7
Lost workday cases	4.6	4.7	5.4	5.9	5.5	5.1	4.2	3.6	4.1
Lost workdays	70.6	69.9	75.1	83.6	81.3	74.9	66.0	58.1	65.8
Electric and electronic equipment:									
Total cases	8.5	8.6	8.7	8.6	8.0	7.4	6.5	6.3	6.8
Lost workday cases	2.8	3.0	3.3	3.4	3.3	3.1	2.7	2.6	2.8
Lost workdays	44.9	46.7	50.3	51.9	51.6	46.4	42.2	41.4	45.0
Transportation equipment:									
Total cases	12.4	11.8	11.5	11.6	10.6	9.8	9.2	8.4	9.3
Lost workday cases	4.7	5.0	5.1	5.5	4.9	4.6	4.0	3.6	4.2
Lost workdays	73.8	79.3	78.0	85.9	82.4	78.1	72.2	64.5	66.8
Instruments and related products:									
Total cases	7.2	7.0	6.9	7.2	6.8	6.5	5.6	5.2	5.4
Lost workday cases	2.4	2.4	2.6	2.8	2.7	2.7	2.3	2.1	2.2
Lost workdays	36.7	37.4	37.0	40.0	41.8	39.2	37.0	35.6	37.5
Miscellaneous manufacturing industries:									
Total cases	11.7	11.5	11.8	11.7	10.9	10.7	9.9	9.9	10.5
Lost workday cases	4.0	4.0	4.5	4.7	4.4	4.4	4.1	4.0	4.3
Lost workdays	59.4	56.7	66.4	67.7	67.9	68.3	69.9	66.3	70.2

See footnotes at end of table.

48. Continued— Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]								
	1976	1977	1978	1979	1980	1981	1982	1983	1984
Nondurable goods									
Food and kindred products:									
Total cases	19.3	19.5	19.4	19.9	18.7	17.8	16.7	16.5	16.7
Lost workday cases	8.0	8.5	8.9	9.5	9.0	8.6	8.0	7.9	8.1
Lost workdays	123.8	130.1	132.2	141.8	136.8	130.7	129.3	131.2	131.6
Tobacco manufacturing:									
Total cases	10.0	9.1	8.7	9.3	8.1	8.2	7.2	6.5	7.7
Lost workday cases	4.1	3.8	4.0	4.2	3.8	3.9	3.2	3.0	3.2
Lost workdays	62.5	66.7	58.6	64.8	45.8	56.8	44.6	42.8	51.7
Textile mill products:									
Total cases	10.5	10.2	10.2	9.7	9.1	8.8	7.6	7.4	8.0
Lost workday cases	2.7	2.9	3.4	3.4	3.3	3.2	2.8	2.8	3.0
Lost workdays	55.5	57.4	61.5	61.3	62.8	59.2	53.8	51.4	54.0
Apparel and other textile products:									
Total cases	6.7	6.7	6.5	6.5	6.4	6.3	6.0	6.4	6.7
Lost workday cases	1.9	2.0	2.2	2.2	2.2	2.2	2.1	2.4	2.5
Lost workdays	31.0	31.7	32.4	34.1	34.9	35.0	36.4	40.8	40.9
Paper and allied products:									
Total cases	13.7	13.6	13.5	13.5	12.7	11.8	10.6	10.0	10.4
Lost workday cases	4.7	5.0	5.7	6.0	5.8	5.4	4.9	4.5	4.7
Lost workdays	94.8	101.6	103.3	108.4	112.3	103.6	99.1	90.3	93.8
Printing and publishing:									
Total cases	6.8	6.8	7.0	7.1	6.9	6.7	6.6	6.6	6.5
Lost workday cases	2.6	2.7	2.9	3.1	3.1	3.0	2.8	2.9	2.9
Lost workdays	40.3	41.7	43.8	45.1	46.5	47.4	45.7	44.6	46.0
Chemicals and allied products:									
Total cases	8.2	8.0	7.8	7.7	6.8	6.6	5.7	5.5	5.3
Lost workday cases	3.1	3.1	3.3	3.5	3.1	3.0	2.5	2.5	2.4
Lost workdays	50.6	51.4	50.9	54.9	50.3	48.1	39.4	42.3	40.8
Petroleum and coal products:									
Total cases	7.9	8.1	7.9	7.7	7.2	6.7	5.3	5.5	5.1
Lost workday cases	3.2	3.3	3.4	3.6	3.5	2.9	2.5	2.4	2.4
Lost workdays	62.5	59.2	58.3	62.0	59.1	51.2	46.4	46.8	53.5
Rubber and miscellaneous plastics products:									
Total cases	16.8	16.8	17.1	17.1	15.5	14.8	12.7	13.0	13.6
Lost workday cases	7.1	7.6	8.1	8.2	7.4	7.2	6.0	6.2	6.4
Lost workdays	113.3	118.1	125.5	127.1	118.6	117.4	100.9	101.4	104.3
Leather and leather products:									
Total cases	11.6	11.5	11.7	11.5	11.7	11.5	9.9	10.0	10.5
Lost workday cases	4.1	4.4	4.7	4.9	5.0	5.1	4.5	4.4	4.7
Lost workdnys	69.0	68.9	72.5	76.2	82.7	82.6	86.5	87.3	94.4
Transportation and public utilities									
Total cases	9.8	9.7	10.1	10.0	9.4	9.0	8.5	8.2	8.8
Lost workday cases	5.0	5.3	5.7	5.9	5.5	5.3	4.9	4.7	5.2
Lost workdays	94.0	95.9	102.3	107.0	104.5	100.6	96.7	94.9	105.1
Wholesale and retail trade									
Total cases	7.5	7.7	7.9	8.0	7.4	7.3	7.2	7.2	7.4
Lost workday cases	2.8	2.9	3.2	3.4	3.2	3.1	3.1	3.1	3.3
Lost workdays	43.2	44.0	44.9	49.0	48.7	45.3	45.5	47.8	50.5
Wholesale trade:									
Total cases	8.1	8.5	8.9	8.8	8.2	7.7	7.1	7.0	7.2
Lost workday cases	3.3	3.6	3.9	4.1	3.9	3.6	3.4	3.2	3.5
Lost workdays	51.8	52.5	57.5	59.1	58.2	54.7	52.1	50.6	55.5
Retail trade:									
Total cases	7.2	7.4	7.5	7.7	7.1	7.1	7.2	7.3	7.5
Lost workday cases	2.6	2.7	2.8	3.1	2.9	2.9	2.9	3.0	3.2
Lost workdays	39.7	40.5	39.7	44.7	44.5	41.1	42.6	46.7	48.4
Finance, insurance, and real estate									
Total cases	2.0	2.0	2.1	2.1	2.0	1.9	2.0	2.0	1.9
Lost workday cases	.7	.8	.8	.9	.8	.8	.9	.9	.9
Lost workdays	11.6	10.4	12.5	13.3	12.2	11.6	13.2	12.8	13.6
Services									
Total cases	5.3	5.5	5.5	5.5	5.2	5.0	4.9	5.1	5.2
Lost workday cases	2.0	2.2	2.4	2.5	2.3	2.3	2.3	2.4	2.5
Lost workdays	38.4	35.4	36.2	38.1	35.8	35.9	35.8	37.0	41.1

---

[1] Total cases include fatalities.

[2] The incidence rates represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as: (N/EH) X 200,000, where:

N = number of injuries and illnesses or lost workdays.

EH = total hours worked by all employees during calendar year.

200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year.)

[3] Excludes farms with fewer than 11 employees since 1976.

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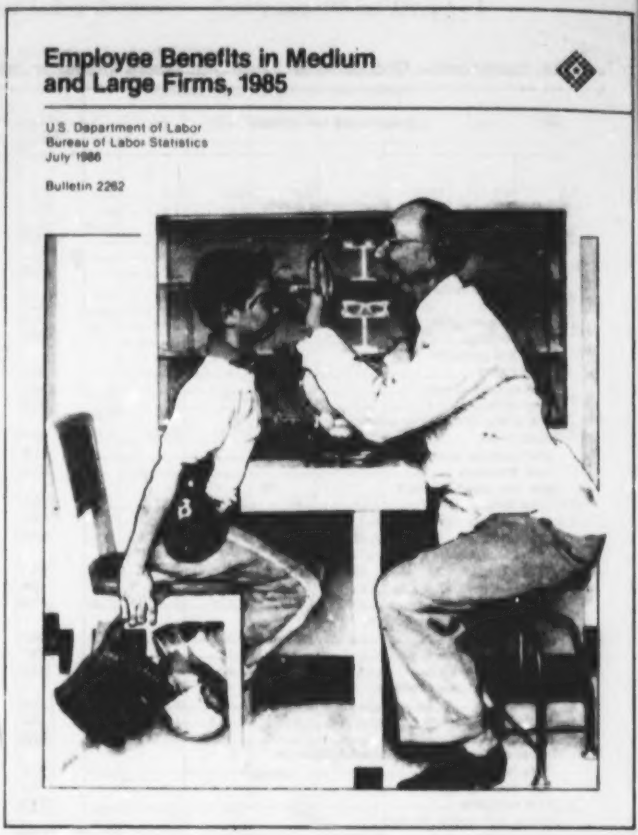
Employee Benefits in Medium and Large Firms, 1985

U.S. Department of Labor
Bureau of Labor Statistics
Bulletin 2262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U.S. Department of Labor
Bureau of Labor Statistics
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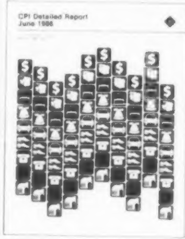

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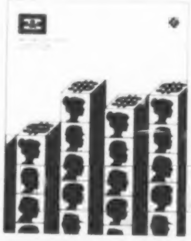

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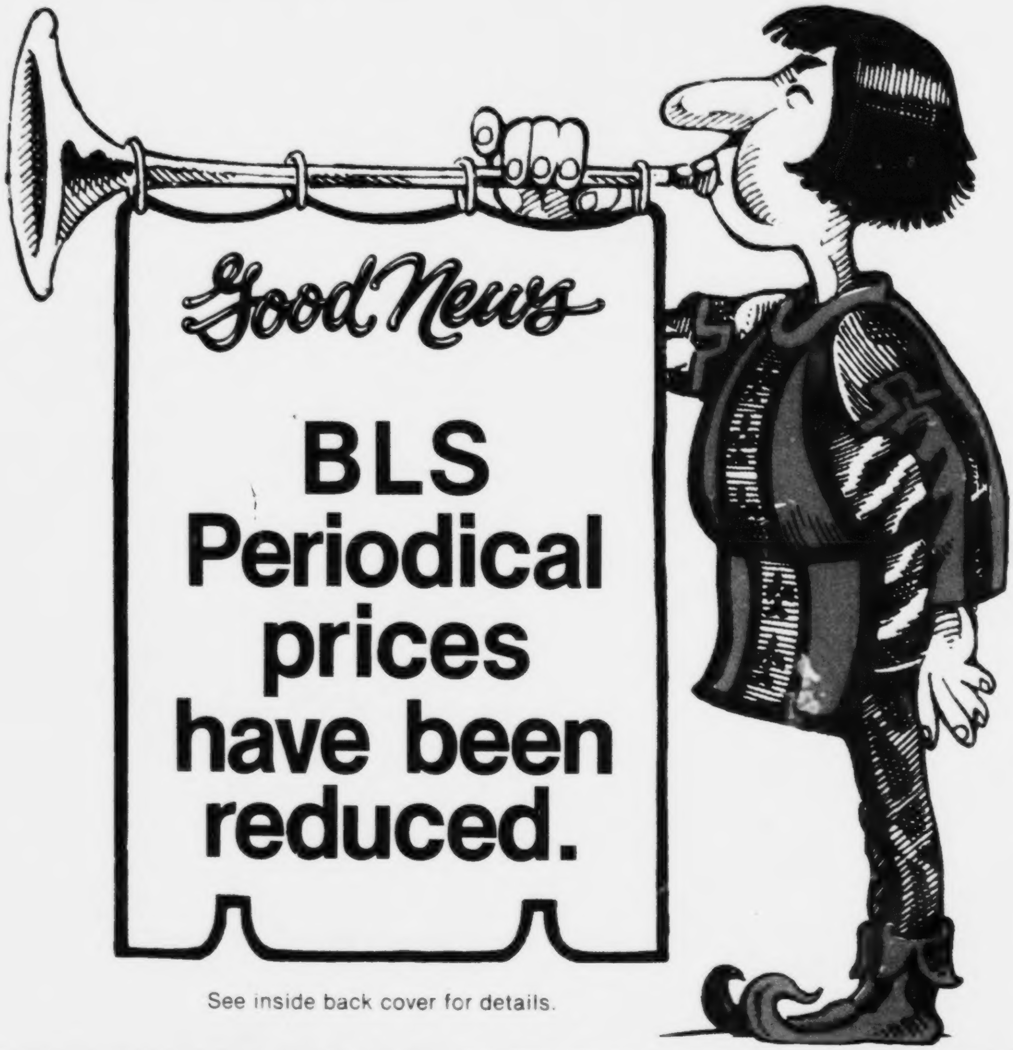
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109/12

MONTHLY LABOR REVIEW

U.S. Department of Labor
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December 1986

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comparing international productivity,
analysis of BLS economic projections

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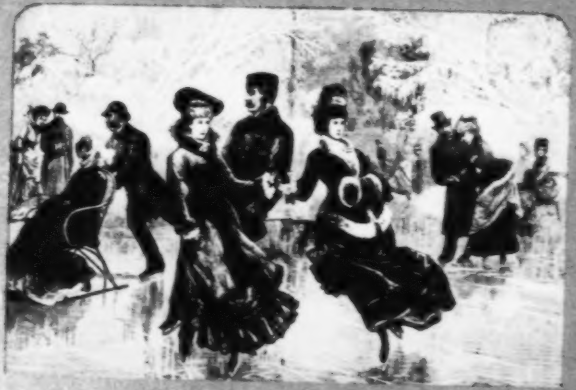

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MONTHLY LABOR REVIEW

DECEMBER 1986
VOLUME 109, NUMBER 12

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Labor Month In Review

JOB SAFETY REPORT. The Bureau of Labor Statistics reported results of its survey of work-related injuries and illnesses in 1985. The report shows that job-related injuries and illnesses occurred at virtually the same rate in 1985 as in the previous year. The injury and illness rate was 7.9 per 100 full-time workers in 1985, compared with 8.0 in 1984. While the number of injuries and illnesses rose from 5.4 million in 1984 to 5.5 million in 1985, the rate remained stable because of increases in the number of employees and hours of work.

In releasing the new data, Commissioner of Labor Statistics Janet L. Norwood called the survey both comprehensive and well-designed, but expressed concern about the completeness of the recordkeeping upon which the survey is based. Norwood reported that BLS has taken the following steps to address this problem:

- BLS has revised and clarified the recordkeeping guidelines to provide better explanations to employers and workers about reporting obligations under the law. Nearly 400,000 copies of revised guidelines have been distributed. The Bureau also has launched an extensive effort to increase understanding of the requirements through seminars and other training activities.
- BLS has scientifically selected a sample and is providing other technical assistance to the Occupational Safety and Health Administration for a special pilot survey involving on-site evaluation of the records in 100 establishments in each of two States. BLS will evaluate the results of the survey.
- BLS has asked the National Academy of Sciences' Committee on National Statistics to establish a panel of experts to review the entire safety and health statistics system. BLS has requested that the panel make recommendations on techniques to evaluate the accuracy of recordkeeping as well as methods to develop more comprehensive statistical estimates of occupational illnesses.

The BLS survey data show that in 1985 there were 3,750 work-related deaths in establishments with 11 or more employees—about the same number as that in 1984. Two-thirds of all fatalities occurred in construction, manufacturing, and transportation and public utilities industries. As in previous years, the leading cause of death was over-the-road motor vehicle accidents, accounting for nearly one-third of fatalities in 1985.

Occupational injuries. Occupational injuries occurred at a rate of 7.7 per 100 full-time workers during 1985. About 46 percent of the recorded injuries were serious enough to require injured workers to take time off from work or to be restricted in work activity beyond the day of injury. While the overall injury rate was about the same in 1985 as in 1984, there was a marked decrease in injury rates in mining industries—from 9.5 in 1984 to 8.3 in 1985. In contrast, the injury rate increased in service industries—from 5.0 in 1984 to 5.3 in 1985. Injury rates varied by establishment size in 1985, as they have in previous years. Injury rates for small and large private sector establishments continued to be lower than the rate for mid-size establishments.

Occupational illnesses. The number of occupational illnesses measured by the annual survey is the number of new illness cases occurring during a year, not the prevalence of existing illnesses.

During 1985, there were about 125,000 new cases of these occupational illnesses among workers in private industry. More than two-thirds of these new cases involved skin diseases or disorders associated with repeated trauma (for example, noise-induced hearing loss and conditions due to repeated motion, pressure, or vibration). Chronic and long-term latent illnesses, which are often difficult to recognize or relate to the workplace, are included in the estimate but may be understated.

The distribution of illnesses among industries remained consistent with patterns of previous years. About 72,000 illness cases, or about 58 percent of the total, occurred in manufacturing, more than double the ratio of manufacturing employment to private sector employment.

Background of the survey. The Annual Survey of Occupational Injuries and Illnesses is a Federal/State program in which reports are received and processed by State agencies participating with the Bureau of Labor Statistics. The 1985 survey, requiring mandatory response, involved a sample of 280,000 establishments. The estimates generated from the survey represent the work injury and illness experience of over 81 million workers in the private sector of the American economy.

Data are based on the records which employers maintain under the Occupational Safety and Health Act of 1970. Excluded from coverage under the Act are workplaces which are covered by other Federal safety and health laws. Therefore, data conforming to definitions of recordable occupational injuries and illnesses for coal, metal, and nonmetal mining and railroad activities were provided to the Bureau by the Mine Safety and Health Administration of the U.S. Department of Labor and the Federal Railroad Administration of the U.S. Department of Transportation.

Also excluded from the survey are the self-employed; farmers with fewer than 11 employees; private households; and employees in Federal, State, and local government agencies. In a separate reporting system, agencies of the Federal Government file work injury and illness reports with the Secretary of Labor.

The fatality data only represent units with 11 or more employees, while estimates for the other types of cases (injuries and illnesses) include establishments with fewer than 11 employees.

A relative standard error is calculated for each estimate generated from the Annual Survey of Occupational Injuries and Illnesses and will be published in a BLS bulletin that is in preparation. □

Problems encountered in measuring single- and multifactor productivity

Development of new data sources, better utilization of existing sources, and broader coverage are some of the ways in which BLS has improved its productivity measures; progress has been made, but inadequacies remain

JEROME A. MARK

The slowdown in productivity growth since the early 1970's in many countries has stimulated and renewed interest in the causes of productivity change. The observation that there has been a slowdown has generally centered on the traditional indicator of productivity—output per unit of labor input, or labor productivity.

Labor productivity—the relationship between output and labor input—has been the most prevalent measure of productivity for a variety of reasons. First, labor is involved in all aspects of production and generally has been the most important factor in the production process. Second, labor input is the most readily measurable of the various production factors.

Labor productivity measures are useful in that they provide quantitative indicators of the amount of change in labor expended to produce real goods and services of an enterprise, industry, or economy. Changes in output per hour, however, do not measure the specific contribution of labor or any other factor of production. Instead, they reflect the joint effects of many influences which affect the use of labor, including changes in technology, capital investment, utilization of capacity, economies of scale, energy substitution, organization of production, and managerial skills, as well as changes in the characteristics and efforts of the work force.

To provide insights into some of the factors influencing labor productivity changes, other measures of productivity have been developed which include additional inputs, such as capital services and intermediate items (purchased materials, fuels, and business services). The difference in the movements of these multifactor productivity measures and the output per hour measures provides a look at the effect of the substitution of other factors on labor productivity movements. The multifactor measures themselves reflect changes in the use of many factors of production per unit of output over time.

The problems in developing multifactor productivity measures are much more severe than those present in deriving the traditional single-factor productivity measures. All the difficulties of defining and measuring output and labor input in the labor productivity measures are present in the development of the multifactor measures. But the additional problems of defining and quantifying the other inputs, such as capital, energy, and other intermediate inputs, are vastly more complex. This article discusses some of the problems the Bureau of Labor Statistics has encountered in developing productivity measures and explains the approaches taken to solve them.

Derivation of output

The output indexes for the measures of labor and multifactor productivity for the private business economy and its major sectors are derived from data on real gross product published in the National Income and Product Accounts (hereafter, national accounts) by the Bureau of Economic

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Jerome A. Mark, Associate Commissioner for Productivity and Technology, Bureau of Labor Statistics, presented a paper on this subject at the International Productivity Symposium 2 in Munich, Germany, October 14–16, 1986. This article is based on that paper.

Analysis, U. S. Department of Commerce. Output measures for the detailed industries at the SIC (Standard Industrial Classification) two-, three-, and four-digit levels are prepared from basic data developed by various public and private agencies, using the greatest level of detail available.

Several major issues must be examined in the derivation of the output measures. These involve (1) selecting the appropriate output concept to be measured, (2) adjusting output so that it is consistent with available input measures, (3) obtaining quantity data on production, (4) developing appropriate weights for aggregating heterogeneous items into a single output measure, and (5) separating value change into price change and real output change.

The output concept used for the business and major sector measures is a net output or a value-added type of measure. The concept used for industries is a gross output measure that includes the value of purchased goods and services.

In using the national accounts data to derive the output measure for the business economy, several important exclusions from the gross national product (GNP) measures are made. These exclusions are necessary because (1) no adequate corresponding labor or capital input measure can be developed for some components of the national accounts, and (2) the gross product measures for some components are based on labor inputs implying constant output per unit of labor input.

Private business, which accounts for about 80 percent of GNP, includes the output of all activities measured in the national accounts, except for general government, paid employees of private households, nonprofit institutions, the "rest of world" sector, owner-occupied dwellings, government enterprises, and the statistical discrepancy.

General government is excluded because of the manner in which it is measured in the national accounts: The constant-dollar output of general government is derived by adjusting base-year hourly compensation for changes in the total hours of government employees. This assumes that productivity of this component remains constant. Private household employees and nonprofit institutions are also excluded for this reason.

The "rest of world" sector is excluded primarily for reasons of consistency between output and input data. The current value of output of this sector is equal to the payments to factors (labor and capital) abroad owned by U.S. residents, less payments to factors in the United States owned by foreigners. The payments to factors abroad owned by U.S. residents cannot be related to corresponding labor and capital inputs. The returns to income sent abroad to foreign owners of U.S. enterprises should be included but are not, to provide consistency between the output and input data.

Owner-occupied dwellings are also excluded for consistency purposes. In the national accounts, an estimate is made for the rental value of owner-occupied housing for inclusion in the GNP measures. The output of this service, the net rental value of owner-occupied homes, is estimated as the amount for which owner-occupied homes could be rented, less maintenance, insurance, and like expenses. However, there is no measure available for the hours worked by homeowners.

Statistical discrepancy is the difference between GNP estimates constructed from the product (the sum of all production for consumption, investment, government, and net foreign trade) and the income (the sum of all income resulting from compensation, profits, interest, and so forth) sides of the national accounts. Given that the input data are more closely related to the income side of the accounts, measures net of statistical discrepancy are developed to provide greater consistency between the output and input data.

Government enterprises—the U.S. Postal Service, the Tennessee Valley Authority, State and local enterprises, and the like—are excluded from the multifactor productivity measures because only limited data are available on their capital input. In the national accounts, structures and durable equipment used by these enterprises are treated as final sales to general government rather than as investments of the enterprises. Government enterprises thus show no capital cost associated with plant and equipment in the national accounts. Data on labor input of these enterprises, however, are available and the output of these enterprises is included in the labor productivity measures.

The aggregate measure resulting from these adjustments covers the product of the private business sector. Included in the output measure for this sector, however, are national accounts data for some miscellaneous items still based on measures of their inputs. This results from use of hourly compensation indexes or cost indexes as a deflator in the national accounts. Use of these measures implies no productivity change for the associated components. These remaining items, however, do not constitute a serious problem because they amount to only 6 percent of the total. (See table 1.)

Specific problems. Although GNP data are adjusted to make them appropriate for the multifactor productivity series, there are still problems with the measures. Perhaps the most important is the adequacy of the price measures used to derive the constant-dollar measures. The price measures used in the national accounts to deflate the value of output and intermediate inputs are predominantly from components of the consumer and producer price indexes prepared by BLS.

In obtaining the data for these series, respondents are asked to quote prices for clearly specified items. When producers significantly alter a product, they are asked to report the changes so BLS can adjust the reported price to reflect the change in quality based on the additional cost (or saving) due to the change. However, a quality change in a product can be achieved in ways which are not captured by measuring the cost of the change, either because there is no way to identify the direct cost associated with a specific

Table 1. Relationship between gross national product and the BLS measure of private business sector gross product, 1985

Item	Amount (billions of 1982 dollars)	Percent
Gross national product (GNP)	$3,585.2	100
Output items excluded from GNP to obtain BLS private business gross product:		
General government	355.5	10
Owner-occupied housing	209.4	6
Rest-of-the-world	37.0	1
Households and institutions	140.0	4
Government enterprises	43.9	(1)
Statistical discrepancy	−5.0	(1)
BLS private business gross product	2,804.4	78
Value of output deflated by hourly compensation or cost indexes	238.5	6
Nonresidential structures	152.2	4
Other	86.3	2
Value of output deflated by output price indexes	2,565.9	72

[1] Less than 0.5 percent.

SOURCE: *Survey of Current Business*, July 1986 supplemented by unpublished adjustments by Bureau of Economic Analysis, U.S. Department of Commerce, and Bureau of Labor Statistics.

change, or because there is no additional cost involved.

Two items have been particularly weak in the price area: the treatment of computers and the derivation of construction industry measures.

Because of the rapid changes that have been taking place and the inability to obtain reliable data in price surveys, the national accounts, for many years, assumed no change in the price of computers. It was generally believed that rapid changes in quality of the computers resulted in an upward bias in the prices and a downward bias in the resulting output and productivity measures.

To improve these measures, the Bureau of Economic Analysis, in conjunction with IBM, conducted a study in which new price measures for computers were developed.[1] This study compared two approaches: (1) a matched model index in which prices of models on the market in 2 adjacent years were used to compute a chain index over a period of years, and (2) hedonic indexes, computed using regressions showing the effects of specific computer characteristics on computer prices. A composite index was developed combining results from the two approaches. This composite index showed a substantial drop in the prices for computers and a corresponding increase in real output from that previously reported. While this measure is a considerable improvement, further development of the measurement technique for computer prices is being pursued.

In the construction area, developments have not been as fruitful. With the exception of single-family housing and highway construction, the price indexes available for construction activities are generally input price or cost indexes. (This problem is reflected in the entry for nonresidential structures in table 1.) The resultant productivity index for this industry has a bias toward no change and, to a lesser extent, this extends to the overall measure.

A hedonic price measure has been developed for single-family housing and a bid price index is used for highway construction. These price measures do reflect changes in the utilization of materials and labor per unit of output. They do not, however, represent a large proportion of total construction activities.

The output measures for the industry productivity indicators are derived independently of the national accounts. For each industry, the quantities of the various products that are produced by the industry are directly aggregated with the appropriate weights for the various products which make up the output of the industry. The appropriate weight for the direct aggregation of the products is the base-year factor input. Thus, for a labor productivity measure, the weight is the base-year hours of employees in the industry engaged in the production of each output. For a multifactor industry productivity measure, the appropriate weights for the output are the costs of the factor inputs. The resultant productivity measure is an internal mean of the productivity movements of the component elements of the industry. Thus, the labor productivity measure reflects the change in the labor expended in the production of a constant bundle of goods or services, and the multifactor measure reflects the change in all factors expended in the production of the bundle.

In some industries, however, unit employee hour information is not available for individual products. In such cases, substitute weights are used when it is believed that they are proportional to unit employee weights. These are either labor costs per unit of product, unit value added, or prices. The resultant productivity measure from any of these derivations reflects the effects of shifts in the labor cost, value added, or value per hour among the various products within the industry, as well as the change in productivity among the various products.

For some industries, data collected in the U.S. economic censuses have enabled the BLS to develop labor input weights for product classes, if not at the product level. Thus, a hybrid measure is developed which includes substitute (usually price) weights for combining specified products into product classes and labor weights beyond the product class level.

For those industries lacking quantity data, constant-dollar value of shipments data, adjusted for inventory change, are used to develop the output measure. Deflation of the value of the production of the industry by the price change of the various products is a variant of weighting the physical quantity data with unit values. The adequacy of these measures depends to a great extent on the adequacy of the price measures used to deflate the current-dollar value of output.

The problem of inadequate price deflators is more pronounced with the industry output measures. In many cases, its resolution largely determines whether a productivity measure can or cannot be derived. This has been one of the important factors determining the number of productivity measures that are available in the service sector. In recent years, the number of producer and consumer price indexes has been increasing substantially in the service area, as has the number of productivity measures developed.

In developing the deflated value of gross output indexes for SIC two-digit industries, it is useful to remove intraindustry transactions from the output series. Data for the transactions between establishments in the same two-digit industry are difficult to obtain. However, approximations can be obtained from input-output data.[2] For this purpose, the amount of imported goods included in intraindustry consumption is estimated and removed. Domestic consumption of materials produced by the same domestic industry is then divided by the total domestic commodity output and multiplied by gross output to estimate intraindustry sales. These are then subtracted from the two-digit industry deflated shipment data, adjusted for inventory change, to obtain the output measure.

Determining labor input

The labor input measures for both the sector and industry productivity series are based largely on a monthly survey of establishment payroll records. This survey, the BLS Current Employment Statistics program (establishment survey), provides data on total employment (for all employees) and average weekly hours (for production and nonsupervisory workers only) in nonagricultural establishments. Because the output of the goods and services reflects the activities of all persons engaged in economic activity, it is important to develop labor input measures that include the self-employed, unpaid family workers, and, for the total business sector, labor input on farms. These data are derived, for the most part, from a household survey of the noninstitutional population, the Current Population Survey, which is conducted by the Bureau of the Census for the BLS.

Reliance on establishment survey data provides major benefits, but also presents two problems. The major benefits derive mainly from the size and coverage of the survey: Payroll data are provided each month from a nationwide sample of more than 200,000 establishments. The problems are that the establishment hours are based on an hours paid, rather than an hours worked, concept, and the data exclude average weekly hours of nonproduction and supervisory workers.

A desirable measure of productivity is one that reflects the change in labor input actually involved in the productive process. The hours paid data include paid vacations, holidays, sick leave, and other paid time off, in addition to the actual hours worked. To the extent that leave practices change, the resultant productivity measures overstate or understate the actual change in output per hour or output per unit of labor and capital combined.

To develop a better series of hours at work, the BLS has been conducting an annual survey (now in its fifth year) of some 4,000 establishments to collect data on hours at work and hours paid for all production and nonsupervisory workers in the private nonagricultural business sector. From this survey, ratios are developed to adjust the hours paid measures from the establishment survey to an hours at work basis. The definition of hours at work was established, after careful study, as time on the job or at the place of work. Besides actual time at work, it includes coffee breaks, short rest periods, paid cleanup time, and other paid time at the workplace. This definition was considered to be conceptually the most acceptable one for which statistics could be extracted from establishment records. A narrower definition of hours actually worked was considered questionable and, in any case, too difficult to collect.

Although the problem of developing the appropriate hours concept for the productivity measures is being resolved at the level of the business economy and the major sectors, the current survey does not provide data in sufficient detail to enable the BLS to develop corresponding measures at the industry level.

In the absence of information from the establishment survey on the average weekly hours for nonproduction and supervisory workers, two solutions, neither entirely satisfactory, have been adopted. For average weekly hours of nonproduction workers in manufacturing, ratios of the average weekly hours of manufacturing office workers to those of nonoffice workers have been developed from surveys in the 1960's and 1970's. Estimates of average weekly hours of nonproduction workers in manufacturing are obtained by multiplying production worker hours by these ratios. In industries other than manufacturing, supervisory employees' average weekly hours are assumed to be equal to those of nonsupervisory workers.

The BLS measures of productivity based on the hours of all persons assume that workers are homogeneous with respect to skill. However, a highly skilled worker can be viewed as providing more labor services per hour than a lesser skilled worker. When skill differences are ignored, increases in skill levels are measured as increases in productivity. As a result, shifts from less skilled to more skilled labor because of increased education or on-the-job training are not reflected as an increase in the measure of labor input. For some purposes, it is useful to have a productivity measure that includes any changes in the potential productivity or quality of an input in the input measure. The problem is to construct a measure of labor input which accurately reflects changes in the skill level of the work force.

Worker characteristics weights

Previous studies have generally taken the position that relative wage or income level differentials associated with specific worker characteristics—years of schooling, age, sex, and possible industry and occupation—reflect marginal productivity of these attributes. Weighting the quality of labor (hours or employment), classified by these characteristics of the work force, by the relative wage or income differentials results in an aggregate measure of labor input intended to reflect the composition of the work force.

While this procedure certainly is not without merit, it presents some difficulties. In particular, it is not always clear whether certain characteristics are indeed productive. For example, workers with similar characteristics have widely different earnings in different occupations. However, this correlation between occupation and earnings may be due to influences other than the productivity of the occupation *per se*. Furthermore, wages or earnings may also be an imperfect indicator of marginal product because they may vary for reasons unrelated to productivity, including regional differences in the cost of living and various institutional factors.

To address these problems, the BLS is developing new measures of labor input based solely on changes in the amount of work experience and schooling workers acquire. This methodology, which follows directly from the economic theory of human capital as developed by Jacob Mincer and Gary Becker,[3] assumes that increased schooling and on-the-job training increases one's stock of skills, and thus one's productivity. Furthermore, the economic returns to higher education and additional work experience reflect the marginal productivity of these characteristics. The BLS has developed a multidimensional data base which cross-classifies the annual hours of workers grouped by schooling and experience. Simultaneously, the implicit prices of these characteristics have been calculated.

The determination of work experience requires substantial effort. There are no large-scale surveys which directly collect data on work experience. Instead, an econometric model has been developed that estimates an individual's quarters of work experience, based on available survey data regarding other personal characteristics. This model requires that for each year, the work force be cross-classified by age, sex, education, race, marital status, and number of children. For the decennial census years, and for years after 1968 when observation data from the household survey could be used, the cross-classification of the work force is straightforward. For the remaining years (1948, 1949, 1951–59, 1961–67), a multiproportional interpolation procedure is employed.

The experience model makes use of a matched sample developed from both the household survey and Social Security records. The results have proven to be significantly better than previous estimates: They show that there is a positive correlation between education and experience which some measures of experience do not take into account and which can produce biased estimates. This positive correlation is shown by a comparison of the derived returns to education and experience using the traditional estimates of experience and the new estimates.

As mentioned earlier, it is recognized that hourly wages differ not only because of skill differences, but also because of factors unrelated to productivity. Accordingly, simple averages of hourly wage rates for each education and experience group are not necessarily appropriate measures of marginal productivity. To remove these imperfections, another econometric model has been developed which provides measures of wages dependent upon changes in education and experience, but which simultaneously controls for other types of variation.

This model measures the returns to seven different schooling levels and to quarters of work experience. It controls for differentials by full- or part-time status, regional location, and urban or rural residence of a worker. The latter two variables adjust for possible regional price variations. Proprietors and unpaid family workers are excluded from the estimating sample because their income may reflect not only labor returns, but also returns to capital. The model is designed to yield returns to education and experience adjusted for the possible effects of race and sex discrimination on wages. Initially, annual measures of these returns will be constructed for the 1948–85 period.

The construction of aggregate measures of labor input requires that all hours be cross-classified by the level of education and the amount of experience for men and women separately. The hours of each type of cross-classified labor are weighted by the corresponding hourly rental price determined from the model above to obtain a Törnqvist weighted index of labor input. Skill-adjusted labor input measures are presently being developed for the business and nonfarm business sectors.

In sum, the measurement of labor input is limited in several problem areas. One is achieving more accurate coverage of hours of all persons; another is developing hours at work measures; and another is developing weights which reflect differentials in marginal productivity. Some success in each of these areas has been achieved at the macro level with measures for the business economy and major sectors. However, problems remain with the measures for individual industries. It is difficult to see possibilities for substantial improvement in industry measures without substantial expansions in the surveys providing the basic data.

Capital input measures

Capital inputs should be measures of the flow of services from capital stocks rather than of capital stocks themselves. This is consistent with the measurement of labor and output as flows of goods and services. It is also consistent with the general observation that it is the services of a physical asset, rather than the asset itself, that enter into the production process. Further, it permits the capital input measure to differentiate between the annual contributions of a short-lived asset and a long-lived asset that yields its services at a slower annual rate relative to its value as a stock.

The BLS measures adopt the service-flow concept. The assets included are fixed business equipment and structures, inventories, and land. Structures include nonresidential structures and residential capital which is rented out by profitmaking firms or persons. Financial assets are excluded, largely on pragmatic grounds, as are owner-occupied residential structures.

The capital input measures are constructed in two stages. First, stocks are estimated for various types of assets. The stock estimates are developed after assuming that an asset's services diminish in a fixed pattern as it ages. Second, assets are aggregated by weighting with capital income shares based on rental prices. This step requires the development of rental prices for each type of capital stock.

Exhibit 1 summarizes the methods and data sources used to construct the measures of capital input. Steps 1 through 5 correspond to the first stage and steps 6 and 7, the second.

The framework used for deriving the capital input measures is based on the concept that the stock of capital represents the amount of new investment that would be required to produce the same capital services actually produced by existing assets of all vintages. Thus, the stock measure requires historical data on real investment and assumes an age-efficiency function that describes the pattern of services that capital goods supply as they age.

The measures of investment form the initial point for deriving the capital stock measures. These are constant-dollar measures and are derived from price indexes which have limitations similar to those of indexes used in deriving the constant-dollar GNP output measures. For example, equipment is deflated principally by using the Producer Price Indexes. One part of investment equipment includes computers and, for many years, this presented a problem in measurement of this component of investment. The recently developed price measure for computers (discussed earlier) has improved the estimates for this component. Structures are deflated by indexes of residential prices, highway construction prices, and the construction cost indexes. The highway component and the tenant-occupied, single-family housing construction components are deflated by adequate price measures, but the other structures must be deflated by inadequate cost measures.

In general, the relationship between the economic efficiency of an asset and its age is very complex and depends on the particular type of asset as well as a host of other factors, such as the level of economic activity, relative input prices, interest rates, and technological developments.

Use of an efficiency function involves a strong assumption. The quantity of capital services from a particular asset is assumed to be a function of its age alone. Thus, because the pattern of diminishing services remains fixed over time, the resulting capital measure cannot respond to variations in factor demand. In view of this restrictive assumption, the validity of weighting with a function representative of age alone remains a major issue.

Several general forms have been employed, none of which is completely satisfactory. Use of the gross stock assumes that the asset exhibits no loss of services until it suddenly is discarded. Other forms are net of some loss of services during their lives. A straight-line form shows the same loss of services each year. A concave form shows gradual losses early in the life of an asset, and more rapid losses as it ages. A convex form shows rapid early losses followed by more gradual losses of the remaining efficiency.

Several attempts have been made to address the efficiency function issue by observing used asset prices. A relationship is postulated between the efficiency of a used asset and its market price relative to that of a new asset. The most extensive empirical study of used asset prices in the United States was done by Charles Hulten and Frank Wykoff in 1981.[4] BLS concluded that the concave deterioration pattern appeared to be consistent with the empirical data in the Hulten-Wykoff study, as well as with the reports of businesses concerning experiences with their own capital assets.[5]

Many private researchers have used alternative forms such as a gross measure with no deterioration, a geometric decay function with early rapid decline and a slackening of the rate of decline as the asset ages, other concave forms, and straight-line deterioration.[6] To test the impact of the choice of a particular function on the final measure of multifactor productivity, BLS conducted sensitivity tests of the growth rates of multifactor productivity and of the contribution of the capital-labor ratio to the growth in labor productivity using the different age-efficiency relationships. What emerged was that the choice of function had very little effect on either the multifactor productivity growth rates or the contribution of capital services per hour to the growth rates of output per hour. The largest difference in long-term productivity growth produced by the alternative functions was 0.1 percent. (See table 2.)

Depreciable assets have finite lives; eventually they are discarded from stock. Average lives of the different asset groups are based on recently revised estimates from the Department of Commerce. Asset lives are assumed to be normally distributed with a fairly wide dispersion to take account of the range of service lives observed within each investment cohort.

The second stage in constructing measures of capital services is the aggregation of capital stocks by weighting the stocks with income shares based on rental prices. The various types of capital assets are appropriately aggregated using implicit rental prices (sometimes called user costs) for each type of asset. The rental price represents the annual costs which would be incurred by an organizaiton that purchases an asset with the intention of renting it out.[7] Thus, the rental prices are implicit because the owners and users of capital assets are frequently the same.

Rental prices are calculated for each type of asset. Assets with shorter lives tend to have higher depreciation rates, and therefore, higher rental prices, and are given a larger weight in capital input. This implies that assets with higher rental prices contribute more to the annual flow of output than assets with lower rental prices.

The Törnqvist method is used to combine the capital series by asset type. The change in capital input is, in effect,

Table 2. Sensitivity of private business sector multifactor productivity measure to various age-efficiency assumptions, 1949–81

[Percent change]

Period	BLS (Hyperbolic)	Hulten-Wykoff (best geometric approximation)	Gross (one-hoss shay)	Straight line
1949	−1.1	−1.0	−1.0	−1.2
1950	7.2	7.4	7.2	7.1
1951	2.4	2.5	2.5	2.2
1952	1.8	2.0	1.8	1.8
1953	2.6	2.8	2.5	2.6
1954	−.4	−.3	−.5	−.4
1955	4.4	4.4	4.3	4.3
1956	.3	.4	.4	.2
1957	.9	1.0	.9	.8
1958	.7	.8	.5	.7
1959	4.0	4.1	3.9	4.1
1960	.6	.5	.6	.6
1961	2.0	1.9	1.9	1.9
1962	3.6	3.6	3.6	3.6
1963	2.9	2.8	2.9	2.8
1964	3.6	3.6	3.7	3.5
1965	3.1	3.1	3.3	3.0
1966	1.9	2.0	2.2	1.8
1967	.3	.4	.5	.2
1968	2.4	2.5	2.5	2.3
1969	−.5	−.4	−.4	−.5
1970	−1.2	−1.0	−1.1	−1.2
1971	2.2	2.3	2.1	2.2
1972	3.3	3.4	3.2	3.3
1973	2.4	2.4	2.4	2.3
1974	−3.8	−3.7	−3.8	−3.8
1975	−.2	−.1	−.3	−.2
1976	3.8	3.8	3.6	3.9
1977	3.0	3.0	2.9	3.1
1978	1.0	1.0	1.0	1.0
1979	−1.1	−1.1	−1.2	−1.2
1980	−2.2	−2.2	−2.3	−2.2
1981	1.1	1.1	1.0	1.1
1948–65	2.2	2.3	2.3	2.2
1965–73	1.3	1.4	1.4	1.3
1948–73	2.0	2.0	2.0	1.9
1973–81	.1	.2	.1	.2
1948–81	1.5	1.6	1.5	1.5

a weighted sum of the percentage changes in the capital inputs by asset type. The weights are developed as averages, for the current and preceding year, of the asset's capital compensation, which is the product of the asset's rental price and the quantity of its stock.

Stocks for inventories are based on average end-of-quarter real inventories as reported in the national accounts. The land stock estimate for the farm portion of private business, where land represents a large share of capital, is developed by aggregating regional acreage figures using weights reflecting regional rental values. In the nonfarm sector, the measure for land is derived by multiplying structures by a land-structures ratio.[8]

The capital input measures for the SIC two-digit industries are developed in the same manner as those for the major sectors. However, one problem is encountered at the two-digit level in implementation of the usual capital input measurement procedures. The capital rental price formulation includes the rate of return plus the rate of depreciation minus the rate of capital gains—inflation in the value of an asset—all in nominal terms. Rental prices are used to construct weights for asset types as discussed above. Capital gains are usually computed as the year-to-year change in the deflator for new investment.

At the two-digit level, some industries have very low rates of return in some years. After capital gains are subtracted, some rental prices are volatile over time and even negative. The resulting asset weights thus lead to implausible capital aggregates. Furthermore, this volatility clearly comes from asset-specific year-to-year movements in the deflators customarily used to determine capital gains. Because the derivation of the rental price assumes perfect foresight, the usual procedure of estimating capital gains implies, incorrectly, that investors fully anticipate even erratic price movements. After careful study, BLS concluded that the usual procedure of using an annual deflator is not required by theory.[9] A 3-year moving average of the deflator was judged superior on empirical grounds.

Intermediate inputs

Intermediate purchases include materials, fuels, and business services. Material inputs represent all commodity inputs exclusive of fuels (electricity, fuel oil, coal, natural gas, and miscellaneous fuels). Data on the total cost of materials are available from Department of Commerce annual surveys and are deflated by appropriate price indexes to obtain measures of real material inputs. Because the data are obtained on an establishment basis, products transferred between establishments in the same industry are included in the aggregate materials cost. A two-step procedure is used to determine the rate of growth in real expenditures for materials which are purchased from outside the particular industry. First, from the annual current-dollar cost of materials, an estimate of the cost of intraindustry sales and transfers is removed. Second, a materials deflator is constructed with the detailed materials price data and information on weights from input-output tables.

Data on the price and quantity of energy inputs are constructed from annual surveys. These include only the quantity and cost of fuels purchased for heat and power. However, quantity information is not available for all years, and the measures are extrapolated and interpolated using annual estimates of total cost deflated by appropriate Producer Price Indexes.

Directly collected data on purchased business services are relatively scant in the United States. Nevertheless, the inclusion of purchased services in the input measure is important because there is ample evidence of increased use by industries of such services. Also, there is evidence of increased substitution of leased capital for owned capital, and of purchased services such as accounting, legal, and technical services for services performed inhouse.

The BLS estimates these services from published input-output tables. The general approach is to take service shares in the value of production from the input-output tables at the greatest level of detail; to obtain service costs by multiplying the shares by the value of production; and to deflate these current cost estimates by appropriate deflators. Prices for service inputs are obtained from the consumer and producer price indexes or imputed from various data sources. This is a major problem which will be alleviated by developing more extensive price measures for the service activities.

Multifactor productivity

The calculation of multifactor productivity proceeds from dividing the index of output by the derived index of combined inputs. In the net, or value-added, output framework used in developing the measures for the private business economy and the major sectors, the combined inputs are labor (hours) and capital services. The aggregate input index

Exhibit 1. Summary of methods and data sources used to measure capital and multifactor productivity

Step	Data item obtained or constructed	Method used and detail in which step is performed	Data source
1. Obtain real investment data for data for depreciable assets	Investment in:		
	Equipment	20 asset types	National accounts[1]
	Structures	14 asset types	National accounts[1]
	Rental residential capital	9 asset types	National accounts[1]
2. Allocate investment data to major sectors	Investment by asset type by sector (farm manufacturing, nonfarm manufacturing)	Asset detail allocated using methods in step 1	See step 1
		Sectoral investment total proportional to national accounts	National accounts[1]
		Historical data cross-classified by asset detail and sector	National accounts[1]
3. Determine age/efficiency functions for each type of asset	Weights reflecting the declining services of an asset type cohort as it ages	A hyperbolic form using:	
		An average service life estimate	National accounts[1]
		Normal distribution of discards	National accounts[1]
		A shape determined using empirical evidence	Hulten and Wykoff[2]
4. Perform vintage aggregation	Real stocks of depreciable assets by type and sector	Perpetual inventory method: Real historical investments weighted by age/efficiency functions	See steps 2 and 3
5. Measure nondepreciable assets	Stock of inventories	By stage of processing in manufacturing	National accounts[1]
	Stock of farm land	Regional services weighted using rental prices	U.S. Department of Agriculture
	Stock of land in manufacturing and nonfarm manufacturing	Proportional to structures using benchmark land estimate	Allan[3]
6. Obtain constant rental prices	Implicit rental value of the services of a unit of each type of asset in each sector	Rental price formula estimated using data on capital stocks and data on payments to capital	Christensen and Jorgenson;[4] steps 4 and 5; and national accounts[1]
7. Obtain aggregate assets	Measure of real capital input in each sector	Törnqvist index to asset capital stocks using rental prices to determine weights	Steps 4, 5, and 6

[1] National Income and Product Accounts, Bureau of Economic Analysis, U.S. Department of Commerce.

[2] Shares were reconciled to functions reported in C. R. Hulten and F. C. Wykoff, "The Measurement of Economic Depreciation," in C. R. Hulten, ed., *Depreciation, Inflation and Taxation of Income from Capital* (Washington, The Urban Institute Press, 1981), pp. 81–125; and C. R. Hulten and F. C. Wykoff, "The Estimation of Economic Depreciation Using Vintage Asset Prices," *Journal of Econometrics*, 1981, pp. 367–96.

[3] Benchmarks based on estimates from Manvel D. Allan, "Trends in the Value of Real Estate and Land, 1956–1966," *Three Land Research Studies* (Washington, National Commission on Urban Problems, 1966).

[4] Formula used to measure rental prices derived by Laurits R. Christensen and Dale W. Jorgenson, "The Measurement of U.S. Real Capital Input, 1929–1967," *Review of Income and Wealth*, December 1969, pp. 292–320.

is derived by weighting the annual growth rates of the individual components, where the weights are the income shares of each component averaged over the current and preceding year, a Törnqvist index. Within each sector, total income is equal to the sum of labor compensation of all employees (labor income), corporate property income (capital income), and proprietors' income.

The labor compensation data for employees are readily available from the national accounts. However, proprietors' income is the total return to the proprietors' own labor *and* capital. Because this income reflects returns to both factors of production, it is necessary to develop a method to allocate the income between the two factors.

Various assumptions can be made to do this. For example, production worker earnings can be imputed to the self-employed, but this frequently results in negative nonlabor proprietor income (which is obtained as a residual). Conversely, the rate of return on capital in the corporate sector can be applied to the proprietors' capital, but this frequently yields negative proprietors' labor income.

In the BLS measures, proprietor hours are given the same average wages received by paid employees, and capital income is measured by assigning noncorporate capital the same rate of return as corporate capital. The sum of these computed values is compared with reported noncorporate income in the national accounts, and both the derived labor and capital income are scaled to agree with the reported levels.

The combined input index, then, is derived by weighting the labor input index by the derived compensation share of total income, and the capital input index by the income share of capital.

In the derivation of the two-digit industry and the specific industry multifactor measures, the output measure is a gross output index including the value of purchased materials and services. The corresponding factor input measure reflects intermediate materials and purchased services as well as the labor and capital inputs. These are combined with share weights also; in this case, the sum of the labor, capital, and intermediate shares will equal one.

Inadequacies remain, despite progress

Measurement of productivity change is not a simple task. Despite recent progress, it is clear that inadequacies remain in the data available for measurement of both labor and multifactor productivity. In addition, multifactor productivity measurement presents challenging problems of shaping sometimes imperfect data into empirical measures that take advantage of recent theoretical advances. While multifactor productivity measures are useful for understanding factors affecting the traditional productivity movements, and many such measures have been developed, it is important to recognize that they do not have the same degree of precision that the labor productivity measures have. In estimating them, many more assumptions have to be made, particularly with regard to measuring capital input.

Despite problems, improvements in the measures have been made and, undoubtedly, more will follow. For example, better price data for developing constant-dollar output and capital and intermediate material input measures are now available. Better estimates of rental prices for aggregating the heterogeneous capital stocks have been developed. Even the output per hour measures are being improved using more appropriate hours information and developing adjustments for changes in the composition of the work force.

Improvements in the procedures for measuring productivity must and will continue to be made. Productivity measures of high quality can shed light on policy issues of great importance, including questions on the best means of increasing the efficiency of economic resources, the ability of the economy to expand without adding to inflationary pressures, and the determinants of a country's competitive position in international markets. □

FOOTNOTES

[1] See David W. Cartwright, "Improved Deflation of Purchases of Computers," *Survey of Current Business*, March 1986, pp. 7–10.

[2] Input-output data are available for 1947, 1958, 1963, 1972, and 1977, and estimated data have been developed for the 1967–80 period.

[3] See Jacob Mincer, *Schooling Experience, and Earnings* (New York and London, Columbia University Press, 1974); and Gary Becker, *Human Capital* (Chicago and London, University of Chicago, 1975).

[4] C. R. Hulten and F. C. Wykoff, "The Estimation of Economic Depreciation Using Vintage Asset Prices," *Journal of Econometrics*, 1981, pp. 367–96.

[5] See *Trends in Multifactor Productivity, 1948–81*, Bulletin 2178 (Bureau of Labor Statistics, 1983).

[6] See John W. Kendrick, "Productivity Trends in the United States," in Shlomo Maital and Noah M. Meltz, eds., *Lagging Productivity Growth* (Cambridge, MA, Ballinger Publishing Co., 1980); Edward F. Denison, *Accounting for Slower Economic Growth* (Washington, The Brookings Institution, 1979); and Frank M. Gollop and Dale W. Jorgenson, "U.S. Productivity Growth by Industry, 1947–1973," in John W. Kendrick and Beatrice N. Vaccara, eds., *New Developments in Productivity Measurement and Analysis* (Chicago, The University of Chicago Press, 1980), pp. 17–124.

[7] The foundations for the use of rental prices in asset aggregation were set forth in Laurits R. Christensen and Dale W. Jorgenson, "The Measurement of U.S. Real Capital Input, 1929–1967," *Review of Income and Wealth*, December 1969, pp. 292–320. Their analysis proceeds from the assumption of equilibrium of supply and demand in the rental market and develops a rental price equation. Rental prices derived from this equation are assumed to reflect the stock's marginal products. The equation reflects, among the determinants of rental prices, depreciation costs, and the rate of return in the form of interest and profits. These costs are reduced by inflation in the value of the asset and adjusted for tax considerations.

[8] Manvel D. Allan, "Trends in the Value of Real Estate and Land 1956–1966," *Three Land Research Studies* (Washington, National Commission on Urban Problems, 1966).

[9] Michael J. Harper, Ernst R. Berndt, and David O. Wood, "Rates of Return and Capital Aggregation Using Alternative Rental Prices" (Bureau of Labor Statistics, unpublished working paper, 1986).

International trends in productivity and unit labor costs in manufacturing

U.S. output per hour exceeded the rates of gain in 8 of 11 other industrial countries in 1985, but U.S. unit labor costs rose 2.7 percent relative to the trade-weighted average of the other nations after adjustment for the dollar's appreciation

ARTHUR NEEF

Labor productivity, as measured by output per hour, rose 4.4 percent in manufacturing in the United States in 1985. This exceeded the rates of gain recorded by Canada and 7 of 9 European countries studied—France, Italy, the United Kingdom, Denmark, the Netherlands, Norway, and Sweden. However, two major trade competitors, Japan and West Germany, along with Belgium, had larger increases.

Manufacturing output rose in each country, but the increases recorded by the United States and most of the other countries were substantially less than in the preceding year and only Canada, Japan, Denmark, and Norway had increases in both employment and aggregate hours.

Unit labor costs, which reflect changes in productivity and hourly compensation costs, rose less in the United States, at 0.6 percent, than in Canada or in the seven European countries with smaller productivity gains. Germany and Belgium, however, had about equally small increases, and unit labor costs fell in Japan. The relative value of the U.S. dollar began to fall during 1985, but on an annual average basis the U.S. dollar was up by 0.4 percent over 1984 compared with the Japanese yen, by 5 percent compared with the Canadian dollar, and by 2 to 9 percent compared with the European currencies. Consequently, when measured on a U.S. dollar basis, unit labor costs declined in Belgium, Canada, Germany, Italy, and the Netherlands, as well as in Japan. Only the three Scandinavian countries had larger increases than the United States. Measured on a national currency basis, U.S. unit labor costs fell 0.5 percent relative to a trade-weighted average of the other 11 countries; adjusted for the dollar's appreciation, U.S. relative unit labor costs rose 2.7 percent.

This article examines comparative annual average percent changes in manufacturing labor productivity and labor costs through 1985 in the United States and 11 other industrial nations.[1] The comparisons are limited to trend measures only; reliable level comparisons of manufacturing productivity and unit labor costs are not available.[2] The measures for 1985 are preliminary. Data for other years are also subject to some revision as countries revise the underlying statistics used to construct the measures.[3] The Canadian productivity and labor cost series are in the process of being revised because of a benchmark revision of the Canadian national accounts, including a shift in the base year from 1971 to 1981 for the series at constant prices, and a major historical revision in the labor income series. The revised measures were not available for inclusion in this article.[4]

The article also provides comparisons of changes in U.S. manufacturing productivity and labor costs relative to a trade-weighted average of the 11 other countries. The relative measures were constructed by taking the ratio of the U.S. indexes to weighted geometric averages of the corresponding indexes for the other 11 countries. The weights used to combine the other 11 countries' indexes into an average "competitors" index reflect the relative importance of each country as a manufacturing trade competitor as of 1980.[5]

Arthur Neef is chief of the Division of Foreign Labor Statistics, Bureau of Labor Statistics. He was assisted by Division economists Harry Boissevain, Christopher Kask, and James Thomas.

Productivity trends

The U.S. productivity gain of about 4½ percent in 1985 was somewhat stronger than the average trade-weighted gain of 4 percent recorded by the 11 foreign competitor nations, although below the 5- to 5½-percent increases recorded by Japan and Germany. (See table 1.) In the 3 years from 1982 to 1985, the U.S. average increase of 4.7 percent was about equal to the average 5-percent increase of the 11 foreign nations, most of which had average annual gains between about 4 and 5½ percent. On the upside, Japan and the Netherlands registered nearly 6 and 7 percent and on the downside, Denmark and Norway posted 1.5 and 3 percent.

As pointed out in previous articles,[6] all 12 countries have had productivity slowdowns since about 1973 as compared with the period 1960 to 1973. The addition of 1985 data does not change this pattern. However, the U.S. productivity gains for each of the 3 years between 1982 and 1985 exceeded the U.S. average rate of gain between 1960 and 1973. The United Kingdom was the only other country to exceed its pre-1973 rate over the 1982–85 period.

Output and labor input. U.S. manufacturing output growth slowed from 11 percent in 1984 to about 4 percent in 1985. (See table 2.) Most of the other countries also had smaller output gains in 1985 than in the preceding year. A notable exception was Germany, where output rose 5 percent—Germany's largest annual increase since 1976.

The slowdown in U.S. manufacturing output growth did not result in a lower rate of productivity growth because total worker hours, which rose 6½ percent in 1984, were reduced by 0.5 percent in 1985. (See table 3.) This has not been typical of the United States, where manufacturing output increases of 2 percent or more are normally accompanied by increases in employment and hours. It corresponds more closely to recent developments in many of the European countries, where employment and hours have frequently continued to decline even in years of relatively large output increases. In 1985, however, total manufacturing hours rose along with output in Denmark and Norway and remained about unchanged in Sweden and the United Kingdom. Employment rose strongly in Denmark and increased in Germany, the Netherlands, Norway, and Sweden. Employment and hours also rose in Canada and Japan, but at reduced rates from 1984.

The rise in Dutch manufacturing employment was the first annual increase since 1970; the increase in Norwegian employment was the first since 1977. British employment remained nearly stable after falling in 9 of the previous 10 years. However, employment in Belgium and France continued to fall for the 11th consecutive year. The tabulation below shows the peak year for manufacturing employment in each of the 12 countries and the level of employment in 1985 relative to the peak employment year and relative to 1973. The latter was one of very large output increases in each country, but not the peak employment year for any country.

	Peak employment year	*1985 index*	
		Peak = 100	*1973 = 100*
Japan	1985	100	101
Canada	1979	95	100
United States	1979	92	96
Denmark	1965	92	94
Italy	1974	87	89
Norway	1974	85	88
Sweden	1965	84	89
Germany	1970	81	83
France	1974	81	82
Netherlands	1965	70	76
Belgium	1974	65	66
United Kingdom	1966	64	70

Hourly compensation and unit labor costs

Hourly compensation costs—which include wages and salaries, supplements, and employer payments for social security and other employee benefit plans—rose 2½ percent between 1984 and 1985 in Japan; about 5 to 6 percent in the United States, Canada, France, Germany, Belgium, Denmark, and the Netherlands; and 7 to 10 percent in Italy, the United Kingdom, Norway, and Sweden. As shown in table 4, all countries recorded slower increases in 1985 compared with their 1973–85 trend rates.

Japan, which had the largest increases in hourly compensation in the 1960's and among the largest increases in the

Table 1. Annual percent changes in manufacturing productivity, 12 countries, 1960–85

Year	United States	Canada	Japan	France	Germany	Italy	United Kingdom	Belgium	Denmark	Netherlands	Norway	Sweden	Foreign countries (weighted)[1]
Output per hour:													
1960–85	2.7	3.4	8.0	5.5	4.8	5.4	3.5	6.5	4.8	6.2	3.2	4.7	5.4
1960–73	3.2	4.7	10.3	6.5	5.8	7.3	4.3	6.9	6.4	7.4	4.3	6.4	6.8
1973–85	2.2	1.9	5.6	4.4	3.7	3.5	2.7	6.0	3.0	5.0	2.1	3.0	3.9
1973–79	1.4	2.2	5.5	5.0	4.3	3.3	1.2	6.2	4.2	5.5	2.1	2.6	3.9
1979–85	3.1	1.7	5.7	3.8	3.2	3.7	4.2	5.7	1.9	4.4	2.0	3.3	3.9
1984	4.1	3.7	7.0	3.9	3.7	5.4	4.5	3.5	1.0	10.7	2.6	4.4	5.0
1985	4.4	3.2	5.0	3.3	5.6	3.1	3.4	4.6	.7	3.1	.9	2.7	4.1

[1] A trade-weighted average of the 11 foreign countries. See description of weights in text.

NOTE: Rates of change based on the compound rate method.

Table 2. Annual percent changes in manufacturing output, 12 countries, 1960–85

Year	United States	Canada	Japan	France	Germany	Italy	United Kingdom	Belgium	Denmark	Netherlands	Norway	Sweden
Output:												
1960–85	3.4	4.2	9.3	4.6	3.3	4.6	1.2	4.2	3.8	3.8	2.5	3.1
1960–73	4.8	6.5	12.8	7.3	5.2	7.0	3.0	6.6	5.3	6.0	4.6	5.1
1973–85	1.9	1.7	5.6	1.7	1.3	2.0	−.8	1.6	2.2	1.5	.1	1.1
1973–79	1.9	2.7	3.6	3.1	1.7	3.1	−.7	1.5	1.6	1.7	.1	.5
1979–85	1.8	.5	7.5	.4	.8	1.0	−.9	1.6	2.8	1.4	.1	1.6
1984	10.8	8.2	11.4	1.0	2.7	3.7	3.9	1.7	5.8	5.5	2.5	6.0
1985	3.8	4.8	6.4	.2	5.0	1.8	3.2	.9	5.3	2.1	2.4	2.0

NOTE: Rates of change based on the compound rate method.

first half of the 1970's, has had the smallest average rate of increase in the 1980's—about 4 percent. The only other countries with average gains of 6 percent or less since 1980 are the United States, Germany, and the Netherlands.

Unit labor costs, which reflect changes in both labor productivity and hourly compensation, fell for the fourth consecutive year in Japan as productivity continued to climb more than hourly compensation. Manufacturing unit labor costs were about unchanged in 1985 in Belgium. Unit labor costs rose only about 0.5 percent in the United States and Germany. In the previous 2 years, unit labor costs fell 3 percent in the United States and rose only 0.5 percent in Germany. Canada and the other European countries had 1985 increases of 2 to 7 percent.

Unit labor costs in U.S. dollars

Unit labor costs measured in U.S. dollars were significantly influenced by 1985 changes in currency exchange rates, as they were in the previous 4 years. The value of the U.S. dollar began to fall during 1985 relative to the Japanese yen and the European currencies, but measured on an annual average basis, the U.S. dollar was largely unchanged relative to the yen and rose about 2 to 5 percent relative to the currencies of Canada and all of the European countries except Italy. The dollar rose 8 percent relative to the Italian lira. Consequently, manufacturing unit labor costs on a U.S. dollar basis declined in Canada, Germany, Italy, Belgium, and the Netherlands as well as in Japan. On a national currency basis, 8 of the 11 foreign countries had larger unit labor cost increases than the United States; on a U.S. dollar basis, only the three Scandinavian countries had larger increases.

The strong gain of the U.S. dollar relative to most other currencies began about 1980. As of 1985 (annual average),

Table 3. Annual percent changes in manufacturing employment and hours, 12 countries, 1960–85

Year	United States	Canada	Japan	France	Germany	Italy	United Kingdom	Belgium	Denmark	Netherlands	Norway	Sweden
Aggregate hours:												
1960–85	0.6	0.8	1.1	−0.8	−1.5	−0.8	−2.3	−2.2	−0.9	−2.2	−0.9	−1.5
1960–73	1.6	1.8	2.3	.8	−.6	−.2	−1.2	−.3	−1.1	−1.2	.3	−1.2
1973–85	−.3	−.3	−.1	−2.6	−2.4	−1.4	−3.4	−4.2	−.8	−3.2	−1.9	−1.8
1973–79	.5	.5	−1.8	−1.9	−2.5	−.2	−1.8	−4.5	−2.5	−3.6	−1.9	−2.0
1979–85	−1.2	−1.0	1.7	−3.3	−2.3	−2.6	−4.9	−3.8	.9	−2.9	−1.8	−1.6
1984	6.4	4.4	4.1	−2.8	−.9	−1.6	−.5	−1.8	4.7	−4.7	−.2	1.5
1985	−.5	1.4	1.3	−3.0	−.5	−1.2	−.2	−3.5	4.6	−1.0	1.4	−.6
Employment:												
1960–85	.6	1.0	1.7	−.1	−.5	.4	−1.7	−1.3	0	−1.1	.1	−.5
1960–73	1.4	1.9	3.3	1.3	.4	1.6	−.6	.8	.5	.1	1.3	.1
1973–85	−.3	0	.1	−1.7	−1.6	−1.0	−2.9	−3.4	−.5	−2.3	−1.1	−1.0
1973–79	.8	.8	−1.5	−.9	−1.6	.3	−1.4	−3.4	−2.0	−2.3	−.2	−.5
1979–85	−1.4	−.8	1.7	−2.4	−1.6	−2.2	−4.4	−3.5	1.0	−2.3	−1.9	−1.5
1984	4.9	4.4	2.9	−2.9	−.9	−4.0	−1.2	−1.2	5.0	−2.0	−1.3	.7
1985	−.5	.7	1.9	−3.0	1.1	−2.3	−.2	−6.3	6.9	1.6	1.2	.3
Average hours:												
1960–85	.1	−.2	−.6	−.7	−.9	−1.1	−.6	−.9	−1.0	−1.2	−.9	−1.1
1960–73	.2	−.2	−1.0	−.5	−1.0	−1.8	−.7	−1.1	−1.6	−1.3	−1.0	−1.3
1973–85	0	−.3	−.1	−1.0	−.8	−.5	−.5	−.7	−.3	−1.0	−.8	−.8
1973–79	−.2	−.4	−.3	−.9	−.9	−.5	−.5	−1.1	−.5	−1.3	−1.7	−1.6
1979–85	2	−.2	.1	−1.0	−.7	−.4	−.5	−.3	−.1	−.6	.1	−.1
1984	1.4	−.1	1.2	1	0	2.5	.7	−.6	−.3	−2.8	1.2	.8
1985	−.1	.7	−.6	0	−1.6	1.1	0	3.0	−2.2	−2.5	.3	−.9

NOTE: Rates of change based on the compound rate method.

the Japanese yen was only 5 percent below its 1980 value. However, the Canadian dollar was down to 86 percent of its 1980 value, relative to the U.S. dollar, and the European currencies ranged between about 45 and 60 percent of their 1980 values. The following tabulation shows the effect of these exchange rate changes by comparing the average annual percentage changes in each country's unit labor costs between 1980 and 1985, as measured on a national currency basis and on a U.S. dollar basis:

	National currency	*U.S. dollars*
United States	2.1	2.1
(Trade-weighted average, 11 countries)	3.1	−4.3
Canada	5.4	2.1
Japan	−1.2	−2.3
Norway	7.0	−4.2
Italy	11.9	−4.7
Denmark	6.2	−6.5
United Kingdom	3.9	−7.6
Germany	1.8	−7.6
France	7.4	−7.7
Sweden	5.5	−8.4
Netherlands	.1	−9.7
Belgium	1.2	−12.2

Expressed in national currencies, 7 of the 11 foreign countries had greater increases in unit labor costs than the United States. Taking into account the appreciation of the dollar since 1980, only one country besides the United States—Canada—had an increase in unit labor costs.

Unadjusted for exchange rate changes, Japan improved its relative competitive position more than any of the other 11 countries, with an overall decline in unit labor costs between 1980 and 1985. However, because of the sharp relative depreciations of all of the European currencies, all nine European countries had larger declines in unit labor costs than Japan after adjustment for relative changes in exchange rates. The countries that most improved their competitive positions were those with small increases in unit labor costs in national currency terms and large relative currency depreciations, such as Belgium and the Netherlands. Table 5 shows annual percent changes in U.S. unit labor costs, average trade-weighted "competitors" unit labor costs, and the U.S. relative measures.

Recent exchange rate changes

The comparative measures in this article are based on annual average measures. Therefore, the 1985 trend measures of unit labor costs on a national currency basis have been adjusted to a U.S. dollar basis using annual average exchange rates for 1985. As noted earlier, the U.S. dollar in 1985 was largely unchanged relative to the Japanese yen on an annual average basis and rose between 2 and 9 percent relative to the currencies of the other 10 countries. However, by the end of 1985, the U.S. dollar had depreciated strongly against the yen and most European currencies and the dollar continued to depreciate during 1986. Table 6 provides a comparison of October 1986 exchange rates and

Table 4. Annual percent changes in hourly compensation and unit labor costs in manufacturing, 12 countries, 1960–85

Year	United States	Canada	Japan	France	Germany	Italy	United Kingdom	Belgium	Denmark	Netherlands	Norway	Sweden	Foreign countries (weighted)[1]
Hourly compensation:													
1960–85	6.5	8.1	11.9	12.1	9.1	15.9	12.1	10.9	11.6	10.7	10.7	11.2	10.9
1960–73	5.0	6.2	15.1	10.0	10.3	13.6	9.3	11.0	12.2	12.9	10.0	10.5	10.9
1973–85	8.2	10.3	6.6	14.4	7.7	18.4	15.1	10.7	10.9	8.4	11.6	11.9	10.8
1973–79	9.5	12.2	12.8	16.3	9.5	20.6	19.2	14.0	14.0	11.6	13.4	14.2	13.8
1979–85	6.9	8.3	4.6	12.5	6.0	16.1	11.2	7.5	7.9	5.2	9.8	9.7	8.0
1984	3.6	1.5	2.9	6.8	4.8	8.4	7.1	8.3	5.6	4.8	8.5	9.5	4.7
1985	5.0	5.1	2.5	5.9	6.0	10.2	7.3	4.8	5.6	5.3	7.7	10.1	5.3
Unit labor costs:													
1960–85	3.7	4.6	3.6	6.2	4.1	9.9	8.3	4.1	6.5	4.3	7.3	6.2	5.2
1960–73	1.8	1.4	4.3	3.3	4.3	5.9	4.8	3.8	5.5	5.2	5.4	3.9	3.8
1973–85	5.8	8.2	2.8	9.5	3.9	14.3	12.1	4.5	7.6	3.3	9.3	8.7	6.7
1973–79	8.0	9.8	6.3	10.7	4.9	16.7	17.9	7.4	9.4	5.8	11.1	11.2	9.5
1979–85	3.7	6.6	−1.1	8.3	2.8	12.0	6.7	1.7	5.9	.8	7.6	6.2	4.0
1984	−.5	−2.1	−3.9	4.7	1.0	2.8	2.5	4.6	4.5	−5.4	5.8	4.8	−.3
1985	.6	1.9	−2.5	2.5	.5	7.0	3.7	.2	4.8	2.1	6.7	7.3	1.1
Unit labor costs in U.S., dollars:													
1960–85	3.7	3.2	5.3	3.7	5.5	5.0	5.0	3.4	4.7	4.8	6.5	4.0	4.6
1960–73	1.8	1.2	6.6	4.1	8.0	6.4	3.7	5.8	6.6	7.7	7.2	5.3	5.1
1973–85	5.8	5.4	3.9	3.3	3.0	3.6	6.4	.9	2.7	1.7	5.7	2.7	4.1
1973–79	8.0	7.0	10.8	11.5	11.6	10.0	15.1	12.5	11.9	11.7	13.4	11.5	10.8
1979–85	3.7	3.9	−2.5	−4.4	−5.0	−2.5	−1.7	−9.6	−5.8	−7.3	−1.4	−5.5	−2.2
1984	−.5	−6.8	−3.8	−6.7	−9.3	−11.0	−9.6	−7.4	−7.7	−15.8	−5.3	−2.8	−7.4
1985	.6	−3.4	−2.9	−.3	−2.8	−1.6	.7	−2.5	2.4	−1.3	1.3	3.1	−2.0

[1] A trade-weighted average of the 11 foreign countries. See description of weights in text.

NOTE: Rates of change based on the compound rate method.

Table 5. Relative annual percent changes in U.S. unit labor costs in manufacturing, 1960–85

Year	United States	11 foreign countries[1]	Relative measures[2]
Unit labor costs in national currency:			
1960–85	3.7	5.2	-1.4
1960–73	1.8	3.8	-2.0
1973–85	5.8	6.7	-.9
1973–79	8.0	9.5	-1.4
1979–85	3.7	4.0	.3
1980–85	2.1	3.1	-.9
1981	7.3	8.2	-.8
1982	6.2	5.7	.4
1983	-2.5	.9	-3.4
1984	-.5	-.3	-.2
1985	.6	1.1	-.5
Unit labor costs in U.S. dollars:			
1960–85	3.7	4.6	-.9
1960–73	1.8	5.1	-3.2
1973–85	5.8	4.1	1.6
1973–79	8.0	10.8	-2.5
1979–85	3.7	-2.2	6.0
1980–85	2.1	-4.3	6.7
1981	7.3	-3.1	10.7
1982	6.2	-5.5	12.3
1983	-2.5	-3.4	1.0
1984	-.5	-7.4	7.4
1985	.6	-2.0	2.7

[1] A trade-weighted average of the 11 foreign countries.

[2] Ratio of U.S. measure to the trade-weighted measure for the 11 foreign countries.

NOTE: Rates of change based on the compound rate method.

January-October 1986 exchange rates relative to annual average 1985 and 1980 exchange rates.

As the table shows, while the Canadian dollar continued to depreciate slightly, the Japanese yen as of October 1986 had risen 52 percent in value relative to the U.S. dollar over the annual average of 1985 and the European currencies were up 10 to 46 percent. Whether U.S. relative unit labor costs will fall in 1986 in line with the depreciation of the U.S. dollar will, of course, depend on comparative 1986 developments in productivity and hourly compensation costs. As of the first three quarters of 1986, U.S. manufacturing unit labor costs were up only 0.3 percent over the first three quarters of 1985.

While the relative values of the Japanese yen and the European currencies rose strongly in 1986, only the Japanese yen has increased in value over 1980. The relative values of the European currencies, which in 1985 ranged between 45 and 60 percent of their 1980 values, ranged between 60 and 90 percent of their 1980 values as of October 1986.

Exchange rates and trade. Because of the 1985–86 depreciation of the U.S. dollar, many commentators have expected significant improvement in the U.S. trade balance. However, two important facts are often overlooked. The U.S. dollar has not depreciated against the Canadian dollar, and Canada accounted for 20 percent of U.S. manufactured imports, for 25 percent of U.S. manufactured exports, and for 12 percent of the U.S. trade deficit in manufactured products in 1985. Of possibly greater significance, the U.S. dollar has not depreciated against the currencies of most of the Asian and Latin American countries or areas that are frequently referred to as the newly industrializing countries—such as Hong Kong, Singapore, South Korea, Taiwan, Brazil, and Mexico. Table 6 also shows exchange rate indexes for these 6 countries and areas, along with 1985 U.S. trade weights (percent of U.S. imports and exports of manufactured goods) and percent of the U.S. trade deficit in manufactured goods for the 6 and for the 11 foreign coun-

Table 6. Exchange rate indexes, 18 countries or areas, 1980–86

[Value of foreign currency relative to the U.S. dollar]

Country	Index: 1985 = 100			Index: 1980 = 100				Trade weights[1] (percent)	U.S. trade deficit[2] (percent)
	1985	Jan.-Oct. 1986	October 1986	1980	1985	Jan.-Oct. 1986	October 1986		
United States	100.0	100.0	100.0	100.0	100.0	100.0	100.0	—	—
Canada	100.0	98.2	98.4	100.0	85.6	84.1	84.2	21.7	12.1
Japan	100.0	141.5	152.4	100.0	95.0	134.4	144.8	18.3	36.3
France	100.0	128.5	136.8	100.0	47.0	60.5	64.4	3.1	3.2
Germany	100.0	133.9	146.7	100.0	61.8	82.8	90.6	5.9	10.4
Italy	100.0	126.7	137.6	100.0	44.9	56.8	61.7	2.8	5.4
United Kingdom	100.0	113.8	109.9	100.0	55.8	63.4	61.3	4.5	.6
Belgium	100.0	131.5	142.5	100.0	49.3	64.8	70.2	1.6	-.8
Denmark	100.0	129.5	140.2	100.0	53.2	68.9	74.5	.4	.9
Netherlands	100.0	134.0	146.4	100.0	59.9	80.2	87.7	2.0	-1.7
Norway	100.0	116.6	116.7	100.0	57.5	67.0	67.1	.2	0
Sweden	100.0	120.1	124.9	100.0	49.2	59.1	61.4	1.2	2.0
Brazil	100.0	46.1	44.4	100.0	(3)	(3)	(3)	1.9	3.6
Hong Kong	100.0	99.8	99.9	100.0	63.9	63.8	63.8	2.3	5.3
Mexico	100.0	48.0	33.0	100.0	(3)	(3)	(3)	4.7	-1.8
Singapore	100.0	101.2	101.1	100.0	97.3	98.5	98.3	1.6	.7
South Korea	100.0	97.1	96.0	100.0	70.5	68.5	68.1	3.1	5.2
Taiwan	100.0	104.5	108.8	100.0	90.3	94.3	98.3	4.2	11.9

[1] Percent of total U.S. imports and exports of manufactured goods in 1985, excluding special category exports (military goods sent out under Department of Defense contracts). Weight for Belgium is Belgium-Luxembourg combined.

[2] Percent of U.S. trade deficit in manufactured goods in 1985. See footnote 1.

[3] Not relevant unless adjusted for inflation.

tries covered by the comparative unit labor cost measures.

The six newly industrializing countries and areas accounted for 18 percent of U.S. trade in manufactured goods in 1985 and for 25 percent of the trade deficit in manufactured products. For comparison, the nine European countries covered by this article accounted for 22 percent of U.S. trade and 20 percent of the deficit. As of October 1986, the relative value of the Taiwan dollar was up moderately against the U.S. dollar but the Hong Kong and Singapore dollars and the South Korean won were little changed from their 1985 values. The relative values of the currencies of Brazil and Mexico were only about half of their average 1985 values as of October 1986, but, in large part, this reflects sharply higher prices. A more meaningful comparison among countries with markedly different price developments is a real exchange rate index, that is, one adjusted for relative differences in inflation. Inflation-adjusted exchange rate indexes for Brazil and Mexico (1985=100) were, respectively, 108 and 82 in the first half of 1986.

The principal trade-weighted dollar exchange rate indexes are those published by the Board of Governors of the Federal Reserve System, the Department of the Treasury, the International Monetary Fund, and the Morgan Guaranty Trust Co. of New York. All of these indexes show a sharp depreciation of the U.S. dollar since early 1985, but, while all four indexes include Canada, they all exclude the six newly industrializing countries and areas of Asia and Latin America. An exchange rate index including these countries was recently developed by senior economist W. Michael Cox of the Federal Reserve Bank of Dallas.[7] His index, which covers 131 U.S. trading partners, shows only a 6-percent depreciation of the U.S. dollar between March 1985 and May 1986, while the other four indexes show depreciations ranging from about 18 percent up to 34 percent.[8] The differentials between the Cox index and the other four would probably be less on an inflation-adjusted basis. An inflation-adjusted index computed by Cox shows a 7-percent depreciation of the U.S. dollar between the first and fourth quarters of 1985, compared with a nominal 2-percent depreciation over the same period.[9] □

—FOOTNOTES—

[1] The data relate to all employed persons, including the self-employed, in the United States and Canada, and to all wage and salary employees in the other countries. Hours refer to hours paid in the United States and to hours worked in the other countries.

[2] The Bureau does not prepare level comparisons of manufacturing productivity and unit labor costs because of data limitations and technical problems in comparing the levels of manufacturing output among countries. Each country measures total manufacturing output in its own currency units. To compare outputs among countries, a common unit of measure—such as the U.S. dollar—is needed. However, satisfactory conversion factors are not available for the manufacturing sector. Market exchange rates are not suitable as a basis for comparing output levels. What are needed are purchasing-power-parity (PPP) exchange rates, that is, the number of foreign currency units required to buy goods and services equivalent to what can be bought with one unit of U.S. currency. Reasonably reliable PPP exchange rates are available for total gross domestic product (GDP) and are used by the Bureau for comparing levels of total GDP. See Michael Ward, *Purchasing Power Parities and Real Expenditures in the OECD* (Paris, Organization for Economic Cooperation and Development (OECD), 1985); and Peter Hill, *International Price Levels and Purchasing Power Parities*, OECD Economic Studies No. 6 (Paris, OECD, Spring 1986). However, these PPP exchange rates are derived from the expenditure side of the national accounts (consumer, business, and government final expenditures for goods and services) and not from the output side of the accounts (gross product originating by industry). Therefore, they do not provide PPP exchange rates by industry. Some researchers have published level comparisons of manufacturing productivity using either the PPP exchange rate for total GDP or a constructed PPP exchange rate based on selected final expenditures by consumers and businesses. However, there are large differences in PPP exchange rates for different categories of final expenditure and the author is not aware of any satisfactory justification for the use of either procedure for comparing manufacturing output levels, although a constructed PPP exchange rate that excludes government consumption expenditures and consumer expenditures on services should provide a better approximation of a PPP exchange rate for the manufacturing sector than the PPP for total GDP.

[3] This article includes revised statistics which have not yet been incorporated in "Current Labor Statistics," table 47, this issue.

[4] The output figures from 1981 forward will be based on 1981 price weights. The figures for earlier years will continue to be based on 1961 and 1971 price weights, although they will be expressed in 1981 constant dollar levels. This contrasts with the U.S. method; when the U.S. national accounts were rebased to 1982, the entire constant dollar series was revised.

[5] The trade weights were adapted from weights developed by the International Monetary Fund (IMF). The original IMF weights cover 17 countries; the 11 foreign countries covered by this article account for 94 percent of the IMF 16 U.S. competitors' total trade weight. For more information on the relative indexes, see Patricia Capdevielle, Donato Alvarez, and Brian Cooper, "International trends in productivity and labor costs," *Monthly Labor Review*, December 1982, pp. 3–14.

[6] For example, see Edwin Dean, Harry Boissevain, and James Thomas, "Productivity and labor cost trends in manufacturing, 12 countries," *Monthly Labor Review*, March 1986, pp. 3–10.

[7] See W. Michael Cox, "A New Alternative Trade-Weighted Dollar Exchange Rate Index," *Economic Review*, Federal Reserve Bank of Dallas, September 1986, pp. 20–28. In addition to introducing the new index, the article provides a comparison with the four principal indexes. Cox's index differs from the other four primarily by its much broader coverage—131 countries versus 10 to 22 countries. It also differs in that he uses annually moving rather than constant trade weights. Both the 1985 and 1986 indexes are based on 1985 weights, but the 1986 indexes will be revised when full-year 1986 trade data become available. During the period when the dollar was appreciating strongly, the five indexes show more similar results—a U.S. dollar appreciation between January 1980 and March 1985 ranging from 42 percent up to Cox's 65.5 percent.

For another recently compiled trade-weighted dollar exchange rate index that includes the major newly industrializing countries and areas, see Irwin L. Kellner "Why Our Trade Gap Persists," *Manufacturers Hanover Economic Report*, September 1986. Kellner's index covers the 17 largest U.S. trading partners and uses 1985 weights. It shows only about a 4-percent trade-weighted depreciation of the U.S. dollar between February 1985 and August 1986.

[8] March 1985 to April 1986 for the Treasury index. All of the other four indexes include Canada, but with very different weights. As reported in Cox, the weights given to Canada are 9 percent in the Board of Governors index, 30 percent in the Morgan Guaranty Trust index, and 21 percent in the International Monetary Fund and his own index (1985 weight).

[9] Information provided directly to the author by W. Michael Cox. Cox's article did not include an inflation-adjusted index.

The Morgan Guaranty Trust Co. publishes both nominal and real effective U.S. dollar exchange rates. They show virtually the same U.S. dollar depreciation—24.0 and 24.7 percent, respectively, between March 1985 and July 1986.

U.S. productivity growth since 1982: the post-recession experience

Gains in productivity during recoveries typically are greater than the long-term trend; increases for the current upturn are more modest than those recorded for similar postwar periods, although the manufacturing sector is performing well

LAWRENCE J. FULCO

Productivity in the business sector has grown at an average annual rate of 2.3 percent since 1947.[1] Growth was more rapid before 1973 (3.0 percent) than after (0.9 percent), but throughout the postwar period, the business cycle has had pronounced effects on the rate of change in productivity. Table 1 shows these effects on productivity growth in the business, nonfarm business, and manufacturing sectors.

There have been eight business cycle troughs since the end of World War II, the most recent of which occurred in the fourth quarter of 1982.[2] (See exhibit 1.) The business cycle exerts an accelerating influence on productivity growth during recoveries and retards it during contractions. Since the 1982 trough, the BLS has analyzed movements in labor productivity—output per hour of all persons—for purposes of comparing this recovery with similar periods in the past.

The cycle's effect on productivity is often explained in terms of the fixed nature of some inputs in the short run. Because the stocks of capital plant and equipment and the number of available skilled employees are not instantaneously adjustable, they remain to some extent fixed over the course of the cycle. Thus, when product demand increases after a trough, firms are able to increase output more rapidly than capital and labor inputs, thereby inducing a swift rise in productivity. During a contraction the opposite occurs, giving rise to a procyclical pattern in productivity.

Productivity in the business sector[3] has risen more rapidly during postwar recoveries (2.6 percent per year) than over the entire 1947–85 period (2.3 percent). The same is true for the more narrowly defined nonfarm business and manufacturing sectors. However, since the beginning of the productivity slowdown in 1973, the contrast between productivity advances during recoveries and the long-term trend in productivity increase has become greater. Since 1973, the growth rate during recoveries has been more than 0.6 percent higher than the long-term rate for business and nonfarm business, and 1.1 percent higher for manufacturing. In manufacturing, the post-1973 slowdown has been smaller than in the more comprehensive business and nonfarm business sectors. (Manufacturing accounts for about one-fourth of the business sector output.)

The current recovery

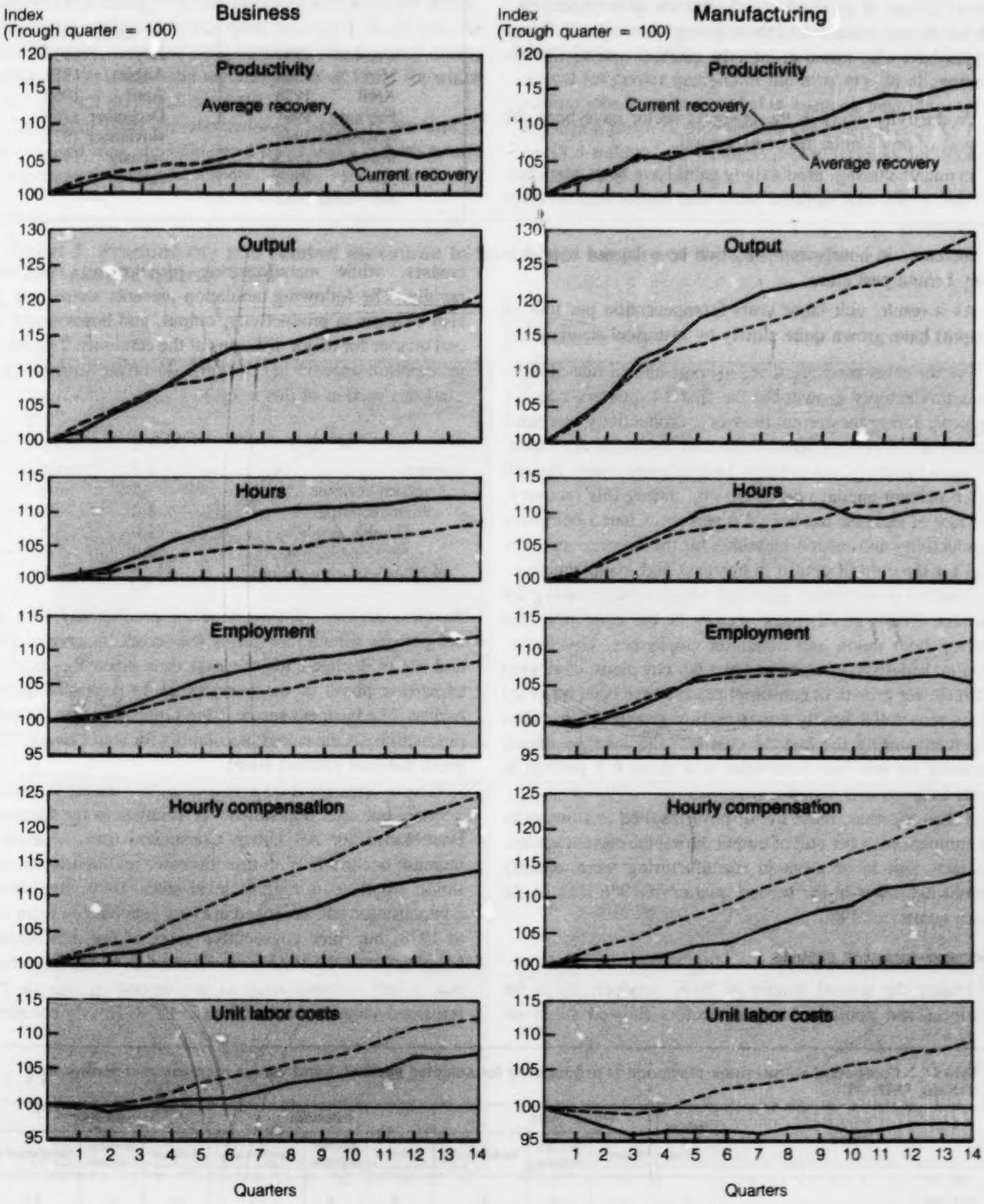
The eight postwar recoveries are dissimilar, ranging in length from 4 to 35 quarters, trough to peak:

Trough	*Quarters, trough to peak*
October 1949	15
May 1954	13
April 1958	8
February 1961	35
November 1970	12
March 1975	20
July 1980	4
Mean	15

By the second quarter of 1986, the current recovery had lasted 14 quarters, longer than all but three of the others.

Lawrence J. Fulco is a supervisory economist in the Office of Productivity and Technology, Bureau of Labor Statistics.

Chart 1. Productivity and related measures 14 quarters after the trough of the business cycle in the business and manufacturing sectors, current recovery versus average postwar recovery



Because recoveries have differed so widely, it is not possible to draw any conclusions regarding the underlying growth rate of productivity based on experience during this part of the cycle. (For similar reasons, projections of the future course of productivity change are quite unreliable.) However, a comparison of the ongoing recovery with others which have also lasted at least 14 quarters reveals the following:

- Productivity gains in the business sector have been the lowest of any similar recovery period.
- In manufacturing, productivity gains have been much better than in the total business sector and higher than previous experience.
- Increases in hourly compensation have lagged considerably behind past gains.
- As a result, unit labor costs (compensation per unit of output) have grown quite slowly by historical standards.

For the other recoveries, the average annual rate of business productivity growth for the first 14 quarters was 3.1 percent; during the current recovery, productivity increased at only a 1.8-percent annual rate over the same time span. In manufacturing, the average 14-quarter recovery showed a 3.6-percent annual rate of growth; during this recovery, the rate of increase has been 4.4 percent. Chart 1 compares productivity and related measures for the average recovery and for the current upturn in business and manufacturing.

Hourly compensation gains have been modest during the current upturn in all major sectors of the economy, and among both union and nonunion employees. Givebacks, smaller benefits packages, and two-tier pay plans, combined with slower growth in consumer prices, have been reflected in current-dollar hourly compensation growth of less than 4 percent during the last 14 quarters; the average annual increase for previous recoveries was about 6.5 percent in both business and manufacturing.

Taken together, these trends have resulted in slow gains in compensation per unit of output during the current upturn. In fact, unit labor costs in manufacturing were actually somewhat lower in the second quarter of 1986 than in the third quarter of 1980.

Exhibit 1. Troughs and peaks of the eight postwar business cycles

Trough	Peak
—	November 1948
October 1949	July 1953
May 1954	August 1957
April 1958	April 1960
February 1961	December 1969
November 1970	November 1973
March 1975	January 1980
July 1980	July 1981
November 1982	—

Second-quarter results

During the second quarter of 1986, productivity in the business and nonfarm business sectors showed slight increases, while manufacturing productivity rose more rapidly. The following tabulation presents annualized percent changes in productivity, output, and hours in the second quarter for major divisions of the economy. (Additional information appears in tables 42–44 of the Current Labor Statistics section of this issue.)

Sector	*Productivity*	*Output*	*Hours*
Business	0.5	0.3	−0.2
Nonfarm business	.5	.6	.1
Manufacturing	3.2	−.4	−3.5
Durable goods	1.0	−3.8	−4.8
Nondurable goods	7.0	5.3	−1.6
Nonfinancial corporations	−.3	−1.1	−.8

Business sector. Business sector productivity rose at a 0.5-percent annual rate during the second quarter of 1986, and hours declined for the first time since the recovery-expansion phase of the business cycle began 14 quarters earlier. The business sector is the broadest sector for which productivity is measured, accounting for about four-fifths of gross national product (GNP).

Hourly compensation rose moderately during the second quarter, but after adjustment for changes in the Consumer Price Index for All Urban Consumers (CPI-U),[4] a strong increase occurred. With this increase, real hourly compensation stood at its highest level since 1979. Real hourly compensation had advanced in every year but one from 1947 to 1978, but three consecutive years of declines occurred beginning with 1979. Growth resumed in 1982, but even so, real hourly compensation in the second quarter of 1986 remained somewhat lower than in 1978. Hourly compensa-

Table 1. Compound annual rates of change in productivity for selected sectors, trend versus recovery and contraction phases, 1947–85

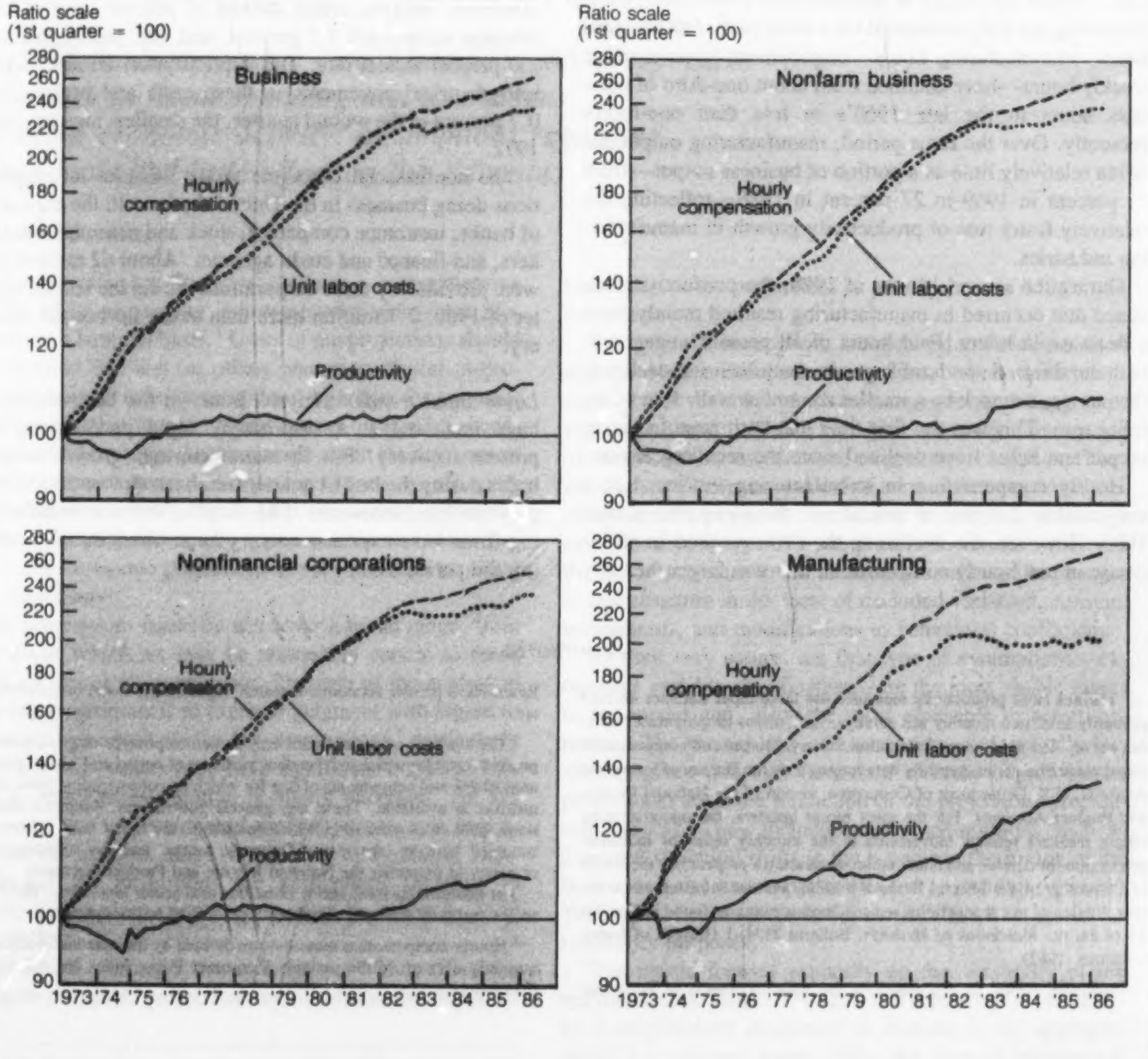
Period	Number of cycles	Trend			Contraction			Recovery		
		Business	Nonfarm business	Manufacturing	Business	Nonfarm business	Manufacturing	Business	Nonfarm business	Manufacturing
1947–1985	8	2.3	1.9	2.7	.6	.4	−.1	2.6	2.1	3.3
1947–1973	5	3.0	2.5	2.9	1.3	1.1	−.2	3.1	2.6	3.3
1973–1985	3	.9	.7	2.2	−.7	−.7	.0	1.7	1.3	3.3

tion includes wages and salaries, supplements, and employer payments to employee benefit plans, and measures employer costs rather than employee income. Adjustment with the CPI-U translates these costs into real terms, by taking into account changes in the prices of consumption goods. The decline in the CPI-U was quite unusual in itself; over the past 25 years, there has only been one other quarter during which the CPI-U fell—the second quarter of 1961, for which a 0.1-percent drop was recorded.

Unit labor costs are compensation expenses per unit of output, and thus are influenced by changes in both hourly compensation and productivity. In the second quarter of 1986, these important costs rose at an annual rate of only 2.3 percent. This small increase reflects the slow gains in hourly compensation which have characterized the entire recovery period and the small productivity gain in the second quarter, as shown in chart 2.

Business employment continued to grow during the second quarter of 1986, but the pace was slower than was typical for earlier quarters of the recovery. In all, over 9.5 million jobs have been added to business payrolls since the expansion phase of the business cycle began early in 1983. At 88.4 million, the business sector accounts for about 77 percent of U.S. employment.

Chart 2. Productivity and related measures in four major sectors of the economy, 1973–second quarter 1986



Nonfarm business. Productivity movements in nonfarm business are, of course, not affected by developments on farms, which are included in the more comprehensive business measure. Nonfarm productivity showed the same increase as the business measure in the second quarter. Output rose more than in the business sector, and hours posted a small rise. These were the smallest increases in nonfarm output and hours during the current expansion.

Hourly compensation increases in nonfarm business were modest in the second quarter, but the declining CPI-U resulted in the largest quarterly gain in real hourly compensation since 1983. Unit labor costs rose 1.8 percent, reflecting the small rise in productivity and moderate increase in hourly compensation.

Manufacturing. Although discussions of productivity often conjure up images of assembly-line production, manufacturing has long accounted for a small part of all business hours. Manufacturing hours—employment times average weekly hours—have declined from about one-third of business hours in the late 1960's to less than one-fourth presently. Over the same period, manufacturing output has fallen relatively little as a portion of business output—from 29 percent in 1969 to 27 percent in 1986—reflecting the relatively faster rate of productivity growth in manufacturing industries.

During the second quarter of 1986, the productivity advance that occurred in manufacturing resulted mainly from a decrease in hours. Paid hours of all persons engaged in both durable and nondurable goods manufacturing declined. Output was cut back by a smaller amount overall, so productivity rose. This was the first time that both manufacturing output and hours have declined since the recovery began.

Hourly compensation in manufacturing increased at a very modest 2.7-percent annual rate during second-quarter 1986. However, the decline in the CPI-U resulted in an increase in real hourly compensation that was larger than any since 1982. Unit labor costs declined 0.5 percent in the second quarter.

The decline in manufacturing hours was accomplished through cutbacks in both employment and average weekly hours. Employment, which stood at 19.5 million in the second quarter, had grown by about 1.3 million jobs in the first eight quarters of the recovery, but then declined by about 300,000 over the next six quarters.

Nonfinancial corporations. Nonfinancial corporations experienced the third consecutive quarterly decrease in output per hour of all employees during the second quarter of 1986. This was also the first period since the fourth quarter of 1982 during which both output and hours declined. Hourly compensation increased only 1.6 percent, and this is reflected in the moderate 1.9-percent rise in unit labor costs during the period. Unit nonlabor costs—capital consumption allowances, interest, rental income of persons, and indirect business taxes—fell 2.7 percent, and unit profits rose at a 2.0-percent annual rate. The implicit price deflator, which reflects price movements in these costs and profits, rose 0.7 percent in the second quarter, the smallest increase since 1972.

The nonfinancial corporate sector includes all corporations doing business in the United States with the exception of banks, insurance companies, stock and commodities brokers, and finance and credit agencies. About 62 million jobs were provided by these corporations during the second quarter of 1986, 7.7 million more than at the start of the recovery.

Labor input trends. Payroll hours in the business sector have increased at a surprisingly rapid pace during the present recovery. But in manufacturing, growth in paid hours during the last 14 quarters has been slower than during previous long recoveries. This implies that nonmanufacturing firms have experienced very large hours increases during the period. □

—FOOTNOTES—

[1] The BLS labor productivity measures use labor input statistics derived primarily from two monthly BLS surveys, the Current Employment Statistics survey and the Current Population Survey. Output and compensation measures are based on quarterly data prepared by the Bureau of Economic Analysis, U.S. Department of Commerce, as part of the National Income and Product Accounts. For the most recent quarters, the manufacturing output measure reflects movements in the monthly index of industrial production for durable and nondurable manufactures prepared by the Board of Governors of the Federal Reserve System. Further information on the computation of BLS productivity and cost measures can be found in Chapter 13 of the *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982).

[2] Business cycles are designated by the National Bureau of Economic Research, a private economic research organization based in Cambridge, MA.

[3] The business sector excludes only those components of gross national product (GNP) for which independent measures of output and labor input are unavailable and components of GNP for which no corresponding labor input measure is available. These are: general government, nonprofit institutions, paid employees of private households, the rental value of owner-occupied housing, the rest-of-the-world sector, and the statistical discrepancy in preparing the National Income and Product Accounts.

The nonfarm business sector is the business sector less farms. The farm sector currently accounts for about 3 percent of business hours.

[4] Hourly compensation measures are divided by the seasonally-adjusted quarterly average of the monthly Consumer Pricer Index for All Urban Consumers.

Sensitivity of BLS economic projections to exogenous variables

The 1995 macroeconomic model has been most responsive to changes in fiscal spending and to changes in foreign economic activity; assumptions regarding energy have had little effect on the estimates

NORMAN C. SAUNDERS

The Bureau of Labor Statistics conducts a comprehensive program of aggregate and industry-level employment projections on a biennial basis.[1] Users of the projections should keep in mind that BLS (or others preparing similar projections) must make many assumptions regarding the behavior of factors which affect the future course of the U.S. economy. In addition, judgments are made about the response of the projections to these primary assumptions. In short, although projections preparation and the use of models in preparing the projections may appear precise and scientific, developing economic projections is very much an art filled with uncertainty.

The assumptions made by BLS cover a broad range, from those about which we may be reasonably certain to those which are not at all predictable. The role of the analyst in preparing projections is to exercise judgment with regard to reasonable expectations for the assumptions, particularly where alternate values may have significant impacts. That is, if a particular assumption is highly uncertain, yet has little impact on the outcome of the projections, it is important that the analysts make that known to the users. Conversely, if the projections are particularly sensitive to specific assumptions, more care must be taken in their preparation.

This article examines the assumptions which affect the aggregate economic projections and illustrates the degree of sensitivity of the projections to possible errors in those assumptions.

Two types of assumptions are required to develop a set of aggregate economic projections. First, values must be assigned to all variables which are exogenous to the aggregate projections model, that is, variables that are not determined by the model but are required to generate a solution. They include such items as real defense expenditures, Social Security benefit payments, and the U.S. currency exchange rate. The second type of assumptions concern the validity of the model structure itself, as these are reflected in changes to that structure in the form of excluded variables, constant adjustments, and modifications to behavioral coefficients.

By their very nature, the first type of assumptions—exogenous variable specification—are the most visible inputs to the model and, also, the most amenable to sensitivity testing. The second type of assumptions are generally less visible, given that they (and their ultimate impact on the projections) are more a function of the projections preparation process. They include explicit assumptions such as expected structural shifts in the economy, the timing of the business cycle, and expectations for productivity growth. This type of assumption is far more difficult to assess for sensitivity purposes.

This article focuses primarily on the sensitivity of the macroeconomic projections (and, to a certain extent, industry-level employment measures) to changes in the aggregate model's exogenous inputs. First, the flow of information into and out of the macroeconomic model is outlined, fol-

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Norman C. Saunders is an economist in the Office of Economic Growth and Employment Projections, Bureau of Labor Statistics.

lowed by a discussion of the results of the error analysis and an examination of the effects of large, sustained errors in the growth rates of selected exogenous assumptions on the aggregate and industry projections. Finally, the constant adjustments imposed on the model's behavioral relationships are discussed.

The flow of information

The projections process begins with the constrained extrapolation of age-, sex-, and race-specific labor force participation rates.[2] Applying the extrapolated participation rates to the Bureau of the Census projected population levels[3] yields an estimate of the civilian labor force which is used in the aggregate model.

Next, exogenous assumptions are applied to the aggregate model. These assumptions include true policy variables (for example, benefit payments under various Federal transfer programs, the response of the monetary authority to growth in the economy, and the level of the Armed Forces), and variables for which other reliable and generally accepted projections are available, such as the population projections developed by the Bureau of the Census. Exogenous variables also include items which are outside the scope of the model, such as economic growth and inflation rates in the economies of the major trading partners of the United States, the long-term behavior of the U.S. dollar's exchange value, and energy prices.

The aggregate model is then used as a framework for the preparation of the projection of total U.S. economic activity.[4] BLS analysts review the aggregate results for reasonableness, checking for internal consistency and continuity with past trends and comparing the results with projections made by others. Their review focuses on such aggregate measures of economic activity as GNP, unemployment, and productivity, but the model's framework ensures that other important measures of economic performance are not overlooked.

As for industry and occupational projections, the level and distribution of real GNP and employment, as well as several other aggregate variables, are the controlling factors from the aggregate projections model. Following is a summary of major inputs to and outputs from the aggregate projections model:

- Variables incorporated from earlier projection stages
  - Level of the Armed Forces
  - Labor force, age 16 and over, by sex
  - Resident population, all age groups, by sex
- Variables incorporated as part of the macroeconomic stage of the projections
  - Fiscal policy assumptions
  - Monetary policy assumptions
  - Foreign economic activity assumptions
  - Energy price and availability assumptions
- Variables passed from the macroeconomic model to later stages of the projections
  - Gross National Product
    - Personal Consumption Expenditures
    - Gross Private Domestic Investment
    - Exports
    - Imports
    - Government
  - Employment
  - Miscellaneous

The flow of information in the early stages of projection development is from the more aggregate to the more detailed. In the later stages, a less formal, but no less important, feedback occurs from the industry and occupational projections to the more aggregate level. Because of the review and feedback process, BLS projections converge to an internally consistent set of solutions at all levels of the estimation process.

Error analysis

The macroeconomic model used by BLS requires the values for 849 exogenous variables to generate a solution. Following is a breakdown by type of all variables and of the subset of those variables included in the subsequent analysis:

	Total	*Included in analysis*
Total	849	373
Fiscal	29	26
Income	40	40
Financial	18	18
Tax-related	161	146
Foreign activity	11	11
Demand-related	37	37
Energy	136	36
Technical input/output	170	0
Demographic	46	46
Miscellaneous	13	13
Model switches	188	0

Variables were excluded from consideration if they controlled program flow (model switches), accounted for extraordinary variability in historical data series (dummy variables), or were of a highly detailed industry-specific nature. A separate run of the model was performed for each of the 373 exogenous variables used.

The assumption was made that the underlying trend of each variable was correct for the 1985–95 period, but that the initial period estimate was in error by 10 percent. Thus, the exogenous value was increased by 10 percent in each year of the period, a model solution was generated, and the results were compared with the results of the base projection. Comparisons were made of those variables which are used at later stages of the projections—GNP and major demand components, employment, the unemployment rate,

Table 1. Difference between selected exogeneous variables used to generate 1995 projections values as published and as generated by a 10-percent error
[In percent]

Exogenous variable	GNP, 1972 dollars	GNP, current dollars	Employment	Unemployment rate	Large time deposit rate
Fiscal:					
Defense purchases of goods and services, 1972 dollars	1.4	1.5	1.6	−1.4	–
Nondefense purchases, 1972 dollars	.4	.5	.5	−.5	–
Federal nondefense employment	–	.1	.1	−.1	–
Federal compensation/employee, 1972 dollars	−.2	−.2	−.6	.5	–
Transfers, food stamps, 1972 dollars	–	–	–	−.1	–
Transfers, military retirement, 1972 dollars	.1	.2	.2	−.2	–
Transfers, medicare, 1972 dollars	.3	.5	.5	−.4	–
Transfers, Social Security, 1972 dollars	.8	.9	.9	−.9	.1
Transfers, all other, 1972 dollars	.2	.3	.3	−.2	–
State and local:					
Education purchases, 1972 dollars	.8	.9	1.1	−1.0	.1
Health, labor and welfare, 1972 dollars	.4	.4	.6	−.5	–
Civilian safety, 1972 dollars	.2	.2	.3	−.2	–
Other purchases, 1972 dollars	.7	.8	.9	−.8	.1
Education employment	–	.2	.3	−.2	–
Civilian safety employment	–	–	.1	–	–
Other employment	–	–	.2	−.2	–
Compensation/employee, 1972 dollars	−.2	−.1	−1.0	.9	–
Transfers to persons, 1972 dollars	.2	.3	.3	−.3	–
Foreign economic activity:					
World gross domestic product less U.S. and centrally-planned, 1972 dollars	1.4	1.1	1.4	−1.2	−.7
Major trading partner gross domestic product deflator	.1	.6	−.1	.1	.5
Major trading partner export deflator	1.5	2.0	1.6	−1.4	−.6
Major trading partner exchange rate index	1.5	2.9	1.6	−1.4	−.1
Energy-related:					
Domestic well-head price, lower 48 crude	−.1	.4	−.1	.1	−.3
Domestic well-head price, natural gas	−.1	.3	–	–	−.1
Barrel price, imported crude petroleum	–	.1	–	–	.1
Miscellaneous income:					
Depreciation rate, commercial and other	−.2	.2	.9	−1.0	.3
Depreciation rate, food and kindred products	–	–	–	−.1	.3
Depreciation rate, mining	–	–	–	−.1	–
Depreciation rate, communications	−.4	−.2	–	–	−.6
Ratio, non-OASDHI contributions to personal income less transfers	−.2	–	−.2	.2	−.1
Percent of private earnings covered by Social Security	−1.0	.1	−1.2	1.2	−.2
Ratio, employee social insurance contributions to total contributions	−.1	−1.5	−.2	1.5	−.1
Business transfer payments, current dollars	–	–	–	−.1	–
Miscellaneous demand-related:					
Capacity value, new housing units	–	−.2	–	–	2
Discard rate, residential one-unit structures	–	.1	–	−.1	.1
Ratio, purchases of new cars to total PCE	−.1	−.1	−.1	.1	−.1
Gasoline pump price, 1972 dollars/gallon	–	.2	–	–	−.2
Exports, factor income, 1972 dollars	.3	.6	.2	−.1	.1
Imports, factor income, 1972 dollars	−.3	−.5	−.1	.1	–
Demographic:					
Male labor force, age 16 and over	.9	1.1	1.2	3.8	–
Female labor force, age 16 and over	.7	.9	.9	3.2	–
Tax-related:					
Ratio, personal income of States with an income tax to total income	−.5	−.7	−.7	.6	−.1
Value of a standard deduction, average	.2	.3	.3	−.3	–
Value of an individual exemption	.2	.2	.2	−.2	–
Maximum taxable salary, OASDHI	−.1	–	−.1	.1	–
Indirect business tax rate	−.3	1.2	−.3	.2	−.1
Effective corporate tax rate	−.3	−.3	−.3	.2	−.2
Effective State personal income tax rate	−.5	−.7	−.7	.6	−.1
Combined OASDHI tax rate	−1.0	.1	−1.2	1.2	−.2
Personal tax alternatives:					
No indexation of rates (versus full indexing)	−8.8	−4.0	−3.5	3.3	−2.4
10-percent tax cut (across the board)	1.9	2.4	2.3	−2.1	.4
10-percent tax increase (across the board)	−1.7	−2.2	−2.2	2.0	−.1

GNP per labor hour, the inflation rate (as measured by the rate of change in the implicit price deflator for GNP), and the interest rate on large time deposits (the key interest rate in the macroeconomic model).

Table 1 shows the percent difference between the published moderate-growth projection values and those generated by the alternative solution. Also included is the absolute difference in the unemployment rate between the two model solutions and the impact on the interest rate on large time deposits. Exogenous variables having insignificant impacts on these specific variables were not included in the table.

The macroeconomic model appears to be most sensitive to changes in fiscal policy assumptions, both revenues and expenditures, and to assumptions concerning foreign economic activity. Changes in assumptions regarding the energy sector, especially the barrel price of imported crude petroleum, have very little impact on the macroeconomic estimates passed along to later stages of the projections process.

To better analyze the effects of fiscal expenditure shifts on projections, the immediate and long-term multipliers for selected Federal and State and local government expenditure categories are shown in the following tabulation:

	Immediate effect	*11-year effect*
Federal:		
Defense spending	1.83	2.36
Nondefense spending	1.94	2.51
Military retirement	.71	1.83
Medicare benefits	1.56	1.97
Social Security benefits	.73	1.81
Other Federal transfers	.72	1.77
State and local:		
Education purchases	1.82	1.95
Health and welfare purchases	1.72	1.91
Civilian safety purchases	1.78	1.90
Other State and local purchases	1.76	1.89
Transfer payments	.72	1.53

Table 2 presents the absolute differences in the percent shares of GNP accounted for by the major demand components of GNP. As with the level of GNP and employment, the significant impacts appear to be related primarily to fiscal policy and foreign economic activity assumption changes.

The macroeconomic model includes two types of monetary policy assumptions. The first includes many of the small components of the various definitions of the money supply. These assumptions affect only the determination of M1 (the narrow definition of the money supply) and M3 (the broadest definition of the money supply) and have no impact whatsoever on other sectors of the model.

The second type of monetary policy assumption is the "decision rule" used by the Federal Reserve Board to determine the optimal rate of growth of M2. In the macroeconomic model used by BLS, the decision rule is formulated as the willingness of the monetary authority to accommodate current levels of inflation and real growth in the current period. Choices range from fully accommodative (easy money) to the least accommodative (tight money).

Accommodation policies affect real and nominal GNP growth, employment and inflation growth, the interest rate on large time deposits, and the unemployment rate. The impacts are quite small, which is not particularly surprising in a model of this type. Monetary control, by its very nature, is a short-term phenomenon which depends on the dynamics of a detailed financial sector specification normally found only in the many short-term forecasting models available for the U.S. economy. Long-run determinants of potential

Table 2. Difference between the distribution of GNP in the 1995 projections values as published and as generated by alternate assumptions for exogenous variables

[In percent]

Exogenous variable	Personal Consumption Expenditures (PCE)			Investment			Foreign trade		Government	
	Durables	Nondurables	Services	Non-residential	Residential	Inventory change	Exports	Imports	Federal	State and local
Fiscal:										
Defense purchases, 1972 dollars	.16	-.09	-.22	.03	-.03	-.01	-.15	-.02	.47	-.14
Nondefense purchases, 1972 dollars	.05	-.02	-.06	–	-.01	-.01	-.04	–	.14	-.04
Medicare transfers, 1972 dollars	.02	-.01	.10	–	-.01	–	-.04	–	-.03	-.03
Social Security, 1972 dollars	.15	.09	.02	.03	-.01	-.01	-.09	-.05	-.06	-.08
State and local:										
Education, 1972 dollars	.10	-.07	-.14	-.02	-.02	-.01	-.09	-.01	-.06	.31
Health, 1972 dollars	.04	-.04	-.08	–	-.01	-.01	-.04	–	-.03	.16
Other, 1972 dollars	.06	-.06	-.12	-.02	-.02	-.01	-.08	-.01	-.05	.26
Compensation per employee, 1972 dollars	-.05	.01	.03	-.10	.03	.01	.01	.04	.01	.02
Foreign economic activity:										
World gross domestic product	.05	-.26	-.40	.14	-.05	-.01	.74	.02	-.10	-.14
Foreign export deflator	.06	-.27	-.39	.12	-.02	-.01	.37	.41	-.11	-.15
Exchange rate	.04	-.28	-.37	.07	-.02	-.01	.40	.44	-.11	-.16
Miscellaneous income:										
Social Security coverage	-.16	.07	.05	-.06	.04	.01	.04	-.02	.08	.11
Employee contribution rate	-.06	-.08	-.08	.02	-.03	–	.10	.10	.01	.01
Miscellaneous demand:										
Financial services, 1972 dollars	-.03	-.04	.07	–	–	–	–	–	–	–
Auto share of PCE	.29	-.11	-.09	-.03	-.01	-.01	.01	-.06	.01	.01
Gasoline pump price	-.03	.07	-.03	–	–	-.01	-.01	-.02	–	-0.1
Factor income, exports	–	-.06	-.08	-.03	-.01	-.01	.22	–	-.02	-.03
Factor income, imports	–	.04	.07	.02	–	–	.03	-.21	.02	.03
Tax-related:										
State coverage ratio	-.10	-.07	-.01	-.02	–	–	.08	.04	.04	.06
Indirect business tax rate	-.03	.01	.08	-.04	.03	.01	-.03	-.07	.02	.03
Corporate tax rate	-.04	–	.03	-.10	.01	–	.03	.02	.02	.05
State tax rate	-.10	-.07	-.01	-.02	–	–	.06	.04	.04	.06
Combined OASDHI rate	-.16	-.07	.05	-.06	.04	.01	.04	-.02	.08	.11

growth are generally understood to be more related to those factors which affect the trend path of demand growth, such as demographic factors and patterns in income growth. Thus, the monetary policy instruments, while useful in influencing the short-run behavior of the macroeconomic model, generally do not affect projections which focus on long-term growth.

Growth-rate shift analysis

The error analysis tests for the relative sensitivity of the macroeconomic model to sustained level shifts or errors in a specific exogenous variable. Some of the key asumptions, however, are subject to wide, relatively unpredictable fluctuations. To test the sensitivity of the model and projection results to unexpected fluctuations in the growth rates of selected exogenous variables, six exogenous variables were selected and two solutions were prepared for each, as follows:

- Defense purchases of goods and services (1972 dollars):
  - Variable unchanged, 1985–95 (no real growth).
  - Annual real growth of 5 percent.
- Federal nondefense purchases of goods and services (1972 dollars):
  - Variable unchanged, 1985–95 (no real growth).
  - Annual real growth of 5 percent.
- Federal transfer payments, Social Security benefits (1972 dollars):
  - Real average annual decline of 5 percent.
  - Real average annual increase of 5 percent.
- Gross domestic product, our major trading partners (1972 dollars):
  - Annual real growth of 1 percent.
  - Annual real growth of 5 percent.
- Average exchange rate index, our major trading partners:
  - No change, 1985–95 (value of the dollar remains constant over the period).
  - Annual growth of 8 percent (value of the dollar falls smoothly over the entire period).
- Price of imported crude petroleum:
  - Price declines to $18 per barrel by 1988 and remains at that level thereafter.
  - Price declines to $26 per barrel in 1986 then begins to increase again, reaching $60 per barrel by 1995.

Table 3 shows the percent difference for each of the six exogenous variables and the associated impact on the major results of the aggregate model solutions.

The major demand components, for each of the 12 aggregate solutions, were allocated by producing sectors using the distributions implicit in the published BLS base projections. The resulting final demand bills of goods were applied to the 1995 input-output table from the same published projections to arrive at detailed estimates of industry total output necessary to produce the aggregate GNP. Finally, the industry output estimates were translated to employment requirements using the employment/output ratios from the published base projections. The resulting percent changes in employment between the two alternative solutions for each of the selected exogenous variables are presented, at the sector level, in table 3.

The implications are that, at least for the selected variables, large errors in specification could lead to significantly altered results, at both the aggregate and industry levels of detail. In subsequent projections preparation, it would be worthwhile to develop such "single-variable" alternatives.

Add-factor analysis

For each behavioral relationship in the macroeconomic model, the analyst may specify adjustments to the constant term of the equation. These are called add-factors because they displace the result of the equation up or down by an additive amount. Constant adjustments may be applied in one or more years of the solution interval, may be constant, declining, or increasing over time, and, in short, allow for tremendous control by the analyst over the solution path and results of the model.

Normally, constant adjustments are initially specified for virtually every behavioral equation in a complex model to smooth the vagaries of individual equations and to force the model to reproduce the last few years of available historical data. These add-factors would then be tapered smoothly to a zero value at some point in the solution interval. Indeed, without this initial step, large economic models will generally be unable to converge on a solution at all.

Finally, to derive an acceptable solution, the analyst introduces modifications to exogenous values and further changes to the constant adjustment factors. In some cases, where the dynamics of the model make the effects of changes to constant adjustments unpredictable, the analyst may elect to exclude certain behavioral relationships. That is, the equation is "turned off" and exogenously specified values are supplied in place of the equation results. Once an acceptable solution has been derived, all of the add-factors are recomputed so that previously excluded variables may be included again in the solution set.

From the foregoing discussion, it is clear that an econometric model provides a convenient framework for a set of economic projections. However, the way that framework is fleshed out is, to a great extent, a reflection of the experiential judgments of the analysts preparing the projection. In fact, it has been estimated that as much as 70 percent of the content of a particular projection set is attributable to the judgments of the analyst and the remaining 30 percent to the formal structure of the econometric model.

The BLS 1995 projections process was begun with the Wharton control forecast of June 1984 as the starting point. Thus, the preliminary step of calibrating the constant adjustments had already been performed. However, to derive a reasonable trend projection of growth, BLS had to replace the Wharton exogenous variables with its own estimates, and, more importantly, to disentangle the Wharton constant adjustments which had been overlaid on the calibrating adjustments. One of the primary features of the Wharton forecast was that it contained a strong cyclical component, and many of the initial changes to the Wharton add-factors were necessitated by BLS' goal of a cycle-free trend projection.

A comparison of the Wharton constant adjustments was made with those of BLS for 106 behavioral relations in the model: 71 demand categories (all behaviorally determined components of real GNP), 33 employment levels (all behaviorally determined sectoral employment), and the male and female civilian labor force. Following is the number of behavioral relations where the constant adjustment as a proportion of the determined variable increased or decreased over time:

Equation	*Increased*	*Decreased*
Demand:		
BLS	37	34
Wharton	35	36
Employment:		
BLS	18	15
Wharton	10	23
Labor force:		
BLS	2	0
Wharton	2	0

The relation of the BLS constant adjustment to that in the Wharton control is shown below:

Equation	*Larger*	*Smaller*	*Identical*
Demand	39	21	11
Employment	24	4	5
Labor force	0	2	0

Exactly how one should interpret these comparisons is moot. Generally, the BLS add-factors are larger than those of Wharton. This may reflect a greater propensity on the part of BLS analysts to experiment with the structure of the model, or it may reflect the smoothing that BLS imposed on the macroeconomic results.

Recall that the BLS macroeconomic projections do not stand completely on their own merits. Where detailed results at lower levels of the projection process contradict the aggregate results, the aggregate projections are often modified to take into account these contradictions. This factor alone accounts for BLS' apparent tendency to more heavily add-factor the employment equations than does Wharton.

Conclusions and recommendations

The key results of the macroeconomic model are more heavily influenced by some exogenous assumptions than by others. These include Federal spending and tax policy and the assumptions relating to foreign economic activity. Perhaps far more important, but much less straightforward to quantify, are the impacts of model structure modifications, in the form of constant adjustments, on projection results.

Table 3. Effects of large changes in selected exogenous variables on major projected variables and sectoral employment as compared to those published for 1995
[In percent]

Item	Defense purchases	Nondefense purchases	Social Security benefits	Foreign gross domestic product	Exchange rate	Import oil price
Major projected variable						
Exogenous variable difference	62.9	62.9	172.1	37.8	115.9	233.3
Real GNP	6.5	2.3	5.3	5.4	12.6	-.7
1985–95 growth rate difference	.6	.2	.5	.5	1.1	.0
GNP deflator	.7	.4	.9	-.7	9.1	1.3
1985–95 growth rate difference	.1	.0	.1	.0	.8	.1
Employment	6.5	2.5	5.3	4.2	10.0	-.6
1985–95 growth rate difference	.6	.2	.5	.4	.9	.0
Unemployment rate difference	-5.6	-2.2	-4.7	-3.6	-8.5	.5
Large time deposit rate difference	.36	.16	.36	.06	1.99	.16
GNP per worker, 1985–95 rate difference	.0	.0	.0	.0	.2	.0
Sectoral employment						
Total establishment employment	6.3	2.0	6.7	5.2	12.0	-.6
Agriculture, forestry, and fisheries	2.6	1.2	4.2	8.3	18.5	-.3
Mining	5.8	1.5	4.2	9.9	42.4	-1.8
Maintenance and repair construction	5.6	1.4	3.5	3.1	8.2	-.4
Manufacturing	9.7	2.1	6.2	9.5	25.7	-.8
Transportation	7.7	1.9	6.4	7.0	15.7	-.8
Communications	5.7	1.8	6.5	5.1	11.0	-.5
Public utilities	6.8	2.2	8.6	4.8	13.6	-.1
Wholesale and retail trade	6.4	2.2	8.7	4.6	7.7	-.7
Finance, insurance, and real estate	3.8	1.5	6.0	2.8	7.1	-.3
Other services	5.1	2.1	6.0	3.2	7.8	-.3
Government enterprises	5.7	1.7	6.7	4.1	9.7	-.8
Special industries	3.9	1.8	5.2	2.5	5.9	-.8

BLS' current methodology is to prepare a base projection and several alternative projections. The purpose of the alternative projections has been primarily to put confidence intervals around the base projection. This approach should continue, with special focus on those variables most heavily add-factored in the preparation of the base projection.

What BLS methodology has been lacking, however, is the identification and exploration of alternatives around those exogenous assumptions which most heavily impact the key macroeconomic results. Therefore, in addition to the alternative projections mentioned above, the foregoing results should be used to identify those specific exogenous assumptions for which alternative scenarios should be developed. Such "single-variable" alternatives would be relatively inexpensive to generate (relative to "whole-model" alternatives) and would add greatly to the usefulness of the BLS projections, in that they would assist users in identifying results which are most likely to be affected by unexpected developments in key assumptions. □

FOOTNOTES

[1] The BLS projections are initially published in the *Monthly Labor Review*. The latest series of projections articles, appearing in the November 1985 *Review*, include: Betty W. Su, "The economic outlook to 1995: new assumptions and projections," pp. 3–16; Howard N Fullerton, Jr., "The 1995 labor force: BLS' latest projections," pp. 17–25; Valerie A. Personick, "A second look at industry output and employment trends through 1995," pp. 26–41; and George T. Silvestri and John M. Lukasiewicz, "Occupational employment projections: the 1984–95 outlook," pp. 42–57.

[2] A comprehensive methodological description, along with reprints of the latest projection articles and more detailed projection results, appears in *Employment Projections for 1995: Data and Methods*, Bulletin 2253 (Bureau of Labor Statistics, 1986).

[3] *Projections of the Population of the United States: 1983 to 2080*, *Current Population Reports*, Series P-25, No. 952 (Bureau of the Census, 1984).

[4] The aggregate economic model currently in use by the BLS was acquired as the result of a competitive procurement process. It is the Long-Term Model of the U.S. Economy developed by the Wharton Econometric Associates, Inc., version LTM0684S. The general structure of the model is fully outlined in *Long-Term Model Structure and Specification* (Wharton Econometrics, 1982).

A note on communications

The *Monthly Labor Review* welcomes communications that supplement, challenge, or expand on research published in its pages. To be considered for publication, communications should be factual and analytical, not polemical in tone. Communications should be addressed to the Editor-in-Chief, *Monthly Labor Review*, Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C. 20212.

Research Summaries

Women veterans total 1 million in first half of 1986

MARIA L. ROCA

A large portion of our male population has served in the Armed Forces of the United States, and there has long been a demand for information on their post-service adjustment to the civilian labor market. Data on male veterans of World War II, for example, were published regularly by BLS in the 1940's and 1950's,[1] and population and labor force data on those who served during the Vietnam era have been published monthly since 1971. By contrast, women did not begin to serve in the Armed Forces to a significant degree until the mid-1970's. With this rise in service participation, there has been an increase in the number of women joining the veteran ranks. Beginning in January 1986, data on female veterans first became available from the Current Population Survey (CPS). This report discusses the current role of women in the military services and provides a summary of the new CPS data.

Women in the military. Women began active participation in the military during the early part of this century, with the establishment of the Army Nurse Corps in 1901 and the Navy Nurse Corps 7 years later. But, while they were recognized as military personnel, these women were denied equal rank, comparable pay, and veteran status.[2] It was not until the second half of the century that they began to be recruited in large numbers for a wider range of jobs providing equal pay and full veterans' benefits.

Women in the military today find a broad range of job opportunities available to them. Though many continue to serve in such traditional specialties as health and administration, others work in such diverse fields as sonar and aircraft equipment repair, radio and air traffic control, law enforcement, and meteorology. While each service has its own regulations, the only occupational restrictions women generally encounter in the military are those associated with direct combat, and so very few serve in the infantry, on gun crews, and on combat ships.[3]

In March 1986, the Department of Defense reported that there were 215,000 women in the military, comprising approximately 10 percent of the total Armed Forces. In the post-Vietnam era (since 1975), the number of enlisted women has increased by 100,150 and the number of female officers by 17,200—or by 120 and 126 percent, respectively.[4] Over this same period, the size of the total Armed Forces has changed little.

The new data. Given the small sample of female veterans in the CPS, the new data allow for little analysis of such issues as post-service employment and unemployment experience. Nevertheless, the accompanying tables provide limited labor force and population data for the average of the first 6 months of 1986; 6-month averages were used because they are somewhat more reliable than data for an individual month.

During the first half of 1986, the female veteran population averaged 1,030,000. (See table 1.) About 55 percent of these women participated in the labor force, the same proportion as for female nonveterans. The majority of female veterans served during a designated wartime period: almost 250,000 were Vietnam-era veterans, 70 percent of whom were between the ages of 30 and 39. (See table 2.) The labor force participation rate for these veterans, almost 80 percent, was higher than that of any age group of female nonveterans. The unemployed among this group averaged only 9,000 persons, yielding a jobless rate of about 5 percent. However, the sample on which such estimates are based is so small that any interpretation of these data is problematic.

About 450,000 women were veterans of other wars. These women were primarily involved in World War II and the Korean conflict and thus were mainly between the ages of 60 and 69. Because of this concentration in the older age

Table 1. Labor force status of women 18 years and over by veteran status, January–June 1986 averages

[Numbers in thousands]

Veteran status	Civilian noninstitutional population	Civilian labor force	Labor force participation rate
Total veterans	1,027	562	54.7
Vietnam-era veterans	245	193	78.8
Other war veterans	452	135	29.9
Peacetime veterans	330	234	71.0
Nonveterans	93,504	51,244	54.8

Maria L. Roca is an economist in the Division of Employment and Unemployment Analysis, Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

Table 2. Age distribution of the female population 18 years and over by veteran status, January-June 1986 averages

Age	Veterans			Non-veterans
	Vietnam-era veterans	Other war veterans	Peace-time veterans	
Total (in thousands)	245	452	330	93,504
Total (in percent)	100.0	100.0	100.0	100.0
18 to 29 years	4.5	—	52.7	26.2
30 to 39 years	69.7	—	22.1	20.7
40 to 49 years	20.0	0.9	16.4	14.1
50 to 59 years	3.3	20.4	5.2	12.2
60 to 69 years	1.2	63.1	1.2	11.5
70 years and over	1.2	15.9	2.4	11.5

groups, the labor force participation rate for "other" war veterans is relatively low, about 30 percent.

The last group identified through the survey was peacetime veterans, generally those who served between World War II and the Korean conflict, between the Korean conflict and Vietnam, and during the post-Vietnam era. In early 1986, there were 330,000 peacetime veterans, 71 percent of whom were labor force participants.

The Bureau of Labor Statistics will make the data on female veterans available upon request. ☐

——*FOOTNOTES*——

[1] See, for example, *Labor Force and Employment in 1959*, Special Labor Force Report No. 4 (Bureau of Labor Statistics, 1960), p. A-11.

[2] *Survey of Female Veterans* (Veterans' Administration, September 1985), p. 1.

[3] *Military Women in the Department of Defense* (U.S. Department of Defense, April 1985), p. 47.

[4] Data are from the U.S. Department of Defense, Defense Manpower Data Center.

Military and civilian wives: update on the labor force gap

HOWARD V. HAYGHE

In an era when wives' earnings are a major component of family income, many military wives experience labor market difficulties which can have a serious impact on the economic well-being of their families. This, in turn, can affect the ability of today's all-volunteer Armed Forces to retain the highly skilled, experienced personnel that are vital to its mission.

This report updates a 1981 *Monthly Labor Review* article comparing the labor force patterns of military and civilian wives.[1] The recent situation is described first and is followed by a review of trends since 1970.

Status in March 1986

About 846,000 women in the United States were living on or off military posts with husbands who were members of the Armed Forces in March 1986. An additional 50,000 women were separated from their spouses because the men had been assigned to ships, overseas duty, or other posts where the family could not accompany them.[2]

Of the women living with their husbands 52 percent were working or looking for work, compared with 55 percent of civilian wives. However, this similarity is misleading. When the age difference between military and civilian wives is taken into account, military wives are substantially less likely to be in the labor force.

The age distribution of military wives can be estimated from that of their husbands. We know that, in general, women tend to marry men who are about 2 to 3 years older than themselves. In 1986, for example, the median age for married women, husband present, was 42.1 years, compared with a median of 44.8 years for husbands. As shown in the percent distribution below, husbands in military services are a great deal younger than their civilian counterparts.

Age	*Military husbands*	*Civilian husbands*	*All wives*
Total	100	100	100
16 to 19	2	–	–
20 to 24	17	4	7
25 to 34	49	23	26
35 to 44	26	23	23
45 and over	6	50	44

Thus, it can be expected that as a group, military wives are also considerably younger than all civilian wives. Indeed, virtually all are probably under 45 years of age. For the sake of consistency, labor force comparisons for military wives will be made with all wives 16 to 44 years old. (The proportion of military wives is only about 2.9 percent of all married women these ages, so their effect on labor force data pertaining to all 16- to 44-year-old wives is clearly negligible. Thus, all wives in the age group can be considered as the civilian counterparts of military wives.)

Overall, the labor force participation rate of military wives (52 percent) was nearly 15 percentage points lower than that of their civilian counterparts. Moreover, whatever their race or motherhood status, military wives were less likely than the 16- to 44-year-olds to be labor force participants. (See table 1.) For instance, white military wives had a participation rate in 1986 that was 18 percentage points lower than the rate for their civilian counterparts. Among blacks, the difference was about 11 percentage points. The presence of preschool children appeared to limit military wives' labor force activity more sharply than that of the

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Howard V. Hayghe is an economist in the Division of Employment and Unemployment Analysis, Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

Table 1. Population and labor force participation rates of military and civilian wives by race and presence and age of children, March 1986
[Numbers in thousands]

Characteristic	Military wives, 16 years and older	Civilian wives, 16 years and older	All wives, 16 to 44 years old
Population			
Total	846	50,132	29,228
White	669	45,285	25,967
Black	138	3,570	2,213
With no children under age 18	221	26,100	7,079
With children under age 18	625	24,032	22,150
Children ages 6 to 17 only	216	12,499	10,027
Children under age 6	409	11,533	12,123
Labor force participation rate[1]			
Total	52.1	54.6	66.9
White	48.1	53.6	66.1
Black	65.9	64.3	77.1
With no children under age 18	68.3	48.0	82.6
With children under age 18	46.4	61.8	61.8
Children ages 6 to 17 only	66.2	68.5	71.4
Children under age 6	35.7	54.5	53.9

[1] Labor force as a percent of population.

NOTE: Because of rounding, sums of individual cells may not equal totals.

other group of wives with children that age, but the difference narrowed for those with school-age children. However, even when there were no children in the family, the military wives' participation rate was lower.

Unemployment rates were higher across the board for military wives than for the other wives—10.7 versus 6.0 percent. This is partly a function of the black-white mix as well as greater family mobility; black wives constituted 16 percent of the total, versus 8 percent of all civilian wives.

When employed, military wives are more concentrated in sales and service occupations than civilian wives. About 35 percent of military wives held such jobs in March 1986, compared with 27 percent of civilian wives. At the same time, military wives were less likely to be in professional specialty jobs—12 versus 16 percent. Service and sales jobs frequently offer the flexibility of part-time employment, do not necessarily require specialized training, and are often typified by high employee turnover. Hence, even though they are characterized by low earnings,[3] they are probably easier for military wives to obtain than other jobs, for which longer-term commitments are often expected.

Trends

The relatively low labor force participation rates of military wives are not a new development. In 1970, shortly after the Bureau of Labor Statistics first tabulated data for this group, 31 percent of military wives were working or looking for work. In contrast, 44 percent of their civilian counterparts were in the labor force. Since then, the rates for both groups have increased by a little more than 20 percentage points. Thus, by 1986, the rates were 52 percent for military wives and 67 percent for the other wives—practically the same difference as in 1970.

While the participation rates for civilian wives advanced steadily over the period, the trend for military wives was erratic. In addition to the demographic, economic, and social factors that influence the labor force activity of both civilian and military wives,[4] the rates for military wives are also likely to be affected by changes in the flows of enlistments, transfers, and discharges of their husbands. This may also partly account for the erratic movements in military wives' unemployment rates.

Table 2. Labor force and unemployment rates of military and civilian wives, March 1970 to March 1986

Year	Labor force participation rate[1]			Unemployment rate[2]		
	Military wives, 16 years and older	Civilian wives, 16 years and older	All wives, 16 to 44 years old	Military wives, 16 years and older	Civilian wives, 16 years and older	All wives, 16 to 44 years old
1970	30.5	41.2	43.7	13.0	4.5	5.7
1971	27.2	41.1	44.0	10.4	5.7	7.3
1972	26.8	41.9	45.3	10.0	5.2	6.4
1973	33.3	42.5	47.5	13.1	4.4	5.3
1974	36.3	43.3	48.9	12.4	4.5	5.8
1975	39.3	44.6	51.1	16.3	8.3	10.0
1976	38.0	45.3	52.1	12.7	7.0	8.4
1977	38.2	46.8	54.7	18.0	6.6	7.8
1978	46.6	47.7	56.3	16.5	4.9	6.2
1979	50.2	49.4	58.7	11.8	4.9	5.9
1980	50.6	50.2	60.3	10.9	5.1	6.2
1981	50.7	51.1	61.6	8.0	5.6	6.8
1982	51.9	51.3	62.4	13.5	6.9	8.1
1983	47.5	51.9	63.4	17.2	6.9	8.2
1984	50.6	53.0	64.5	16.9	5.4	6.7
1985	52.1	54.4	66.3	17.8	5.5	6.3
1986	52.1	54.6	66.9	10.7	5.2	6.0

[1] Labor force as percent of population.

[2] Unemployed as percent of labor force.

NOTE: Data are not seasonally adjusted.

Clearly, military wives have made considerable progress in the labor market. But a number of articles and studies indicate that frequent transfers of their husbands place many military wives at a labor market disadvantage. It has long been known that high mobility means frequent breaks in the wife's employment or education and training.[5] One result is that her opportunities to develop a marketable career are disrupted; another is that she must search for jobs in unfamiliar geographic areas. Moreover, the concomitant lack of experience, training, and seniority may result in lower earnings for military wives.[6] They may also experience some job discrimination because of the likelihood that they will not remain with an employer for very long.[7] But, whatever the cause, or causes, of military wives' labor market problems, these problems continue to be a source of concern not only to the families themselves, but also to the Armed Services as a whole. ☐

——FOOTNOTES——

[1] See Allyson Sherman Grossman, "The employment situation for military wives," *Monthly Labor Review*, February 1981, pp. 60–64.

[2] The information in this research summary is based on data collected in the Current Population Survey in March 1986 and in March of prior years. The Current Population Survey is a monthly survey with a sample that presently includes about 59,500 households in the 50 States and the District of Columbia. The survey is conducted for the Bureau of Labor Statistics by the Bureau of the Census and provides comprehensive data on the labor force by a wide variety of demographic characteristics, including family status. For further information, see BLS *Handbook of Methods, Volume I*, Bulletin 2134–1, pp. 3–12.

[3] See, for example, "Weekly Earnings of Wage and Salary Workers: Third Quarter," BLS News Release, Oct. 1985, table 3.

[4] See Hilda Kahne and Andrew Kohen, "Economic Perspectives on the Roles of Women in the American Economy," *Journal of Economic Literature*, December 1975, pp. 1249–92.

[5] See Ruth Chaskel, "Effect of Mobility on Family Life," *Social Work*, vol. 9, October 1964, pp. 83–91; Elizabeth Finlayson, "A Study of the Wife of the Army Officer: Her Academic and Career Preparation, Her Current Employment and Volunteer Services," in McCubbin and others, eds., *Families in the Military* (Beverly Hills, CA, Sage Publications, 1976), ch. 1.; Judy Pearson, *Testimony on Transferability of GI Bill* (Arlington, VA, Military Wives Association, October 1981).

[6] See "Relative Spouse Earnings," *Pay Adequacy Study* (Department of Defense, 1979), appendix C.

[7] See Helga M. Parks, "Survey of Job Discrimination Against Military Wives," unpublished manuscript (Springfield, VA, Military Family Resource Center, February 1983).

Occupational pay in textile dyeing and finishing plants

Production and related workers in the textile dyeing and finishing industry averaged $6.67 an hour in June 1985, according to a study by the Bureau of Labor Statistics.[1] Regionally, average hourly earnings were highest in New England ($7.67) and lowest in the Southeast ($6.42), where three-fourths of the 36,300 production workers were employed. The Middle Atlantic States, employing one-tenth of the workers, recorded $7.27 an hour. (See table 1.)

Wages in mills processing textiles for their own account averaged virtually the same as mills processing materials for customers on a commission basis (textiles owned by others), $6.67 and $6.68, respectively. Employment was equally divided between these two types of finishers.

Pay in mills primarily processing manmade textiles—seven-tenths of the work force—averaged $6.83 an hour, 6 percent more than the $6.42 recorded among cotton textile processors. Within both of these groups, pay nearly always averaged more per hour in fabric mills than in yarn or thread mills.

Pay levels also were compared by type of area, size of establishment, and labor-management contract coverage. Average hourly earnings were 11 percent higher in metropolitan areas[2] than in nonmetropolitan areas ($7.10 versus $6.39). Pay in plants with at least 500 employees averaged $6.84 an hour, the same as in plants with 250 to 499 employees, but was higher than in plants with 50–249 employees ($6.45 an hour). In establishments where a majority of the workers were covered by labor-management agreements, pay averaged $7.57 an hour, 19 percent more than the $6.35 in nonunion establishments. Regionally, the pay advantage for production workers in union establishments was 5 percent in the Southeast, 15 percent in New England, and 48 percent in the Middle Atlantic region.

Forty occupations, accounting for nearly three-fifths of the production workers, were selected to represent the industry's wage structure, workers' skills and manufacturing operations. Pay levels among these jobs ranged from $5.63 and hour for janitors, porters, and cleaners, to $9.71 for machine printers. Tenders of cloth-dyeing machines, numerically the largest job studied separately, averaged $6.92 an hour. Occupational pay levels varied by pay determining characteristics such as region, type of textile processed, size of establishment, and union contract status; the interrelationships among these factors, however, were not taken into account when tabulating the data.

Virtually all production workers were in establishments providing paid holidays, paid vacations, and at least part of the cost of various health and insurance plans. Seven to 10 holidays annually were typical, as were 1 to 4 weeks of vacation pay, depending on years of service.

Retirement pension plans (in addition to Social Security) covered approximately three-fourths of the work force, while retirement severance plans applied to nearly one-tenth. Employers typically paid the entire cost of these retirement plans.

One-fourth of the workers were employed in establishments having collective bargaining agreements covering a majority of the production workers. Regionally, the proportions were one-tenth in the Southeast, seven-tenths in the

Table 1. Average hourly earnings[1] in textile dyeing and finishing plants, United States and selected regions,[2] June 1985

Characteristic	United States[3]	New England	Middle Atlantic	Southeast
All production workers	$6.67	$7.67	$7.27	$ 6.42
Type of finisher:				
Commission mill	6.66	7.58	7.54	6.00
For own account	6.67	8.03	5.31	6.65
Type of textile:				
Cotton[3]	6.42	7.71	6.35	6.18
Broadwoven	6.44	7.37	6.86	6.19
Yarn or thread	6.11	-	-	6.11
Manmade[3]	6.83	7.66	7.85	6.56
Broadwoven	6.92	7.66	8.10	6.62
Yarn or thread	5.51	-	-	5.47
Type of area:				
Metropolitan areas[4]	7.10	7.67	7.40	6.55
Nonmetropolitan areas	6.39	-	-	6.39
Size of establishment:				
50–249 workers	6.45	7.55	7.26	5.69
250–499 workers	6.84	7.95	-	6.65
500 workers or more	6.84	-	-	6.84
Labor-management contracts:				
Establishments with—				
Majority of workers covered	7.57	7.87	8.06	6.74
None or minority of workers covered	6.35	6.87	5.43	6.39
Selected production occupations:				
Color mixers	7.12	7.79	8.44	6.74
Dyeing-machine tenders, cloth	6.92	7.40	7.85	6.32
Finishing-range operators	6.61	7.70	6.32	6.31
Inspectors, cloth, machine	6.44	6.71	7.89	6.29
Janitors, porters, and cleaners	5.63	6.71	7.75	5.26
Mechanics (machinery), maintenance	8.32	8.39	9.73	8.25
Power-truck operators	6.07	7.09	-	5.97
Printers, machine	9.71	-	7.37	10.50
Tenter-frame tenders	6.88	6.90	7.76	6.27
Winders, yarn	5.66	-	5.12	5.73

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts. Incentive payments, such as those resulting from piecework or production bonus systems, and cost-of-living pay increases (but not bonuses) were included as part of the workers' regular pay. Excluded are performance bonuses and lump-sum payments of the type negotiated in the auto and aerospace industries, as well as profit-sharing payments, attendance bonuses, Christmas or yearend bonuses, and other nonproduction bonuses.

[2] The regions used in this study include: *New England*—Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont; *Middle Atlantic*—New Jersey, New York, and Pennsylvania; and *Southeast*—Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia.

[3] Includes data for subclassifications in addition to those shown separately.

[4] Metropolitan Statistical Areas as defined by the U.S. Office of Management and Budget through June 1983.

NOTE: Dashes indicate no data were reported or that data did not meet publication criteria.

Middle Atlantic, and four-fifths in New England. The major union in the industry was the Amalgamated Clothing and Textile Workers Union (AFL-CIO).

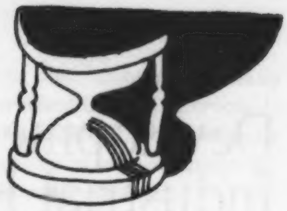
A comprehensive bulletin on the study, *Industry Wage Survey: Textile Dyeing and Finishing, June 1985*, BLS Bulletin 2260, may be purchased from the Bureau of Labor Statistics Publication Sales Center, P.O. Box 2145, Chicago, IL 60690, or the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. The bulletin provides additional information on occupational pay and on the incidence of employee benefits. The study covered 223 establishments primarily engaged in dyeing and finishing nonwool yarn, thread, cloth, or other textile products and employing 50 workers or more. ☐

FOOTNOTES

[1] Wage data are straight-time earnings which exclude premium pay for overtime and for work on weekends, holidays, and late shifts. Incentive payments, such as those resulting from piecework or production bonus systems, and cost-of-living pay increases (but not bonuses) were included as part of the workers' regular pay. Excluded are performance bonuses and lump-sum payments of the type negotiated in the auto and aerospace industries, as well as profit-sharing payments, attendance bonuses, Christmas or yearend bonuses, and other nonproduction bonuses.

[2] Metropolitan Statistical Areas as defined by the U.S. Office of Management and Budget through June 1983.

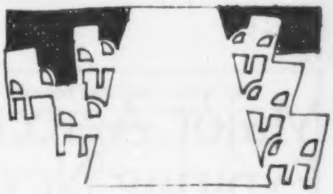
Major Agreements Expiring Next Month



This list of selected collective bargaining agreements expiring in January is based on information collected by the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more. Private industry is arranged in order of Standard Industrial Classification.

Industry or activity	Employer and location	Labor organization[1]	Number of workers
Private			
Construction	National Electrical Contractors Association, Northwest Line Constructors (Interstate)	Electrical Workers (IBEW)	1,200
	Associated General Contractors, Cincinnati Division Ohio Building Chapter and one other (Ohio)	Carpenters	2,800
Food products	Wholesale, retail bread and cake bakeries (New York, NY)	Bakery, Confectionery and Tobacco Workers	3,000
	Chef Boy-Ar-Dee, division of American Home Foods (Milton, PA)	Food and Commercial Workers	1,350
	Bryan Foods Inc. (West Point, MS)	Food and Commercial Workers	1,200
	Del Monte Corp., Midwest Division (Illinois)	Retail, Wholesale and Department Store	1,200
Textiles	Erwin Mills (Erwin, NC)	Clothing and Textile Workers	1,150
Stone, clay, and glass products	Corning Glass Works (Corning, NY)	Flint Glass Workers	3,500
Primary metals	Blaw Knox Foundry & Mill Machinery, Inc. (Interstate)	Steelworkers	1,500
Electrical products	Litton Industries, Inc. (Sioux Falls, SD)	Electrical Workers (UE-Ind.)	2,100
Transportation equipment	United Technologies Corp. (West Palm Beach, FL)	Machinists	1,300
	Dana Corp., Spicer Axle Division (Ft. Wayne, IN)	Industrial Workers	1,650
Air transportation	Western Airlines, flight attendants (Interstate)	Flight Attendants	2,300
	Western Airlines, clerks and agents (Interstate)	Air Transport Employees	4,500
	Western Airlines, ground service (Interstate)	Teamsters (Ind.)	1,600
Communication	General Telephone Co. of Wisconsin (Wisconsin)	Communications Workers	1,250
Utilities	Boston Gas Co. (Boston, MA)	Steelworkers	1,000
	Utah Power & Light Co. (Interstate)	Electrical Workers (IBEW)	3,800
Wholesale trade	Associated Produce Dealers & Brokers of Los Angeles (California)	Teamsters (Ind.)	1,900
Retail trade	Acme Markets, Inc. (Philadelphia, PA)	Food and Commercial Workers	5,000
	Acme Markets, Inc. (New Jersey)	Food and Commercial Workers	2,700
	Acme Markets, Inc. (Delaware)	Food and Commercial Workers	1,250
Real estate	Midtown Realty Owners Association, Inc.	Service Employees	2,500
Public			
Education	Michigan: Detroit Board of Education, office	Educational Office Employees	1,800
	Detroit Board of Education, maintenance, custodial, transportation	State, County and Municipal Employees	2,400
	Detroit Board of Education, paraprofessional	Detroit Association of Educational Employees	1,400

[1] Affiliated with AFL-CIO except where noted as Independent (Ind.).



Developments in Industrial Relations

Health insurance extended to the unemployed

Employees and their dependents gained additional health insurance protection in 1986 under provisions of the Consolidated Omnibus Budget Reconciliation Act of 1985 (Public Law 99–272). Under the Act, employers with more than 20 employees who offer group health insurance must continue coverage for up to 18 months for workers who are laid off or quit, and for up to 36 months for widows and divorced spouses and their dependents. Employers generally criticized the provisions, even though the cost of the mandated coverage, and a 2-percent administration fee, must be borne by the beneficiaries.

The employers contend that it will be difficult and expensive to keep track of former employees, particularly in high turnover industries. They also maintain that premiums will be driven up because persons with chronic medical problems will tend to retain coverage. Another problem, according to critics, is that some people will not continue coverage, but will initiate coverage if they suffer a health problem. The law provides for retroactive coverage if the employer receives the first premium within 105 days after an applicant indicates he or she intends to join the plan.

Proponents of the coverage extension say it is vital to help reduce the number of people not protected by health insurance, estimated to be between 30 and 37 million.

NLRB upholds safety complaint ruling

In a 3–0 decision, the National Labor Relations Board affirmed its 1984 ruling that an employer was justified in firing an employee who acted alone in refusing to drive a company truck he deemed unsafe. In its 1986 opinion, the Board said the employee's action would have been warranted if it was "concerted" or "engaged in with or on the authority of other employees, and not solely by and on behalf of the employee himself."

In the 1984 decision, the Board had reversed the precedent it had established in a 1975 case in which it had expanded the definition of "concerted activity" by ordering the reinstatement of a maintenance worker who was fired after he acted alone in filing a safety complaint with a State agency. On appeal, a Federal district court had reversed the 1984 decision and returned it to the Board for reconsideration. In its finding, the district court said that the Board had "misconstrued the bounds of the law," which is intended to protect workers who act to protect themselves on the job.

The attorney for Kenneth Prill, the fired truck driver, said the Board's 1986 decision would be appealed. The employer involved is Meyers Industries, a boat manufacturer located in Tecumseh, MI.

Boston University faculty cannot bargain

The National Labor Relations Board upheld a hearing examiner's finding that department heads and full-time faculty at Boston University are managerial employees and therefore not entitled to bargain collectively. In its 4–0 ruling, the Board said "the faculty has absolute authority over such matters as grading, teaching methods, graduation requirements and student discipline." The Board also said that the teachers also play "an effective and determinative role" in recommending faculty hiring, tenure, promotions, and reappointments. The ruling was based on a 1980 Supreme Court decision that full-time faculty members at Yeshiva University were not covered by the National Labor Relations Act because they had managerial duties.

Ann Franke, associate counsel of the American Association of University Professors, called the decision "another precedent that administrations will find extremely useful in justifying a refusal to bargain." She said the Association was considering an appeal of the decision and that future rulings in such cases will hinge on the extent of faculty involvement in school management. The decision does not prohibit faculty members from joining unions or associations such as the American Association of University Professors, which has had a chapter at Boston University since 1975.

Catfish processors vote for union representation

The Food and Commercial Workers claimed a major victory in its 7-year organizing campaign in Mississippi after winning a representation election at Delta Catfish Processors' plant in Indianola. About 925 of the company's 1,050 employees were eligible to vote in the National Labor Relations Board election. The tally was 489–349 in favor of the union. More than 2,000 workers in the State are employed in the catfish processing industry, of which Delta is the largest employer.

"Developments in Industrial Relations" is prepared by George Ruben of the Division of Developments in Labor-Management Relations, Bureau of Labor Statistics, and is largely based on information from secondary sources.

At the time of the election, the union was negotiating with Farm Fresh Catfish in Hollandale on an initial contract for 200 workers it organized in 1985.

The organizing drive, which has also included other types of industries in the State, has also encountered some setbacks. The latest came in August, when workers at ConAgra's catfish plant in Isola rejected union representation by a 162-to-119 vote.

During the representation drive at Delta Catfish, the Food and Commercial Workers contended that the employees were underpaid, averaging $3.90 an hour, did not have paid sick leave or adequate health insurance, and were subject to excessive discipline. The company maintained that the employees did not "need a third party to speak for them because our company and our employees will work out any problems we might have."

Winery workers accept previously rejected pact

A 7-week strike against 11 of California's largest wineries ended when the employers threatened to hire permanent replacements for the 2,200 striking workers. The strike occurred during the critical grape-crushing season, but the wineries maintained normal production using supervisory employees, temporary replacements, and some returning strikers, according to an official of the California Winery Employers Association.

George J. Orlando, President of the Distillery, Wine and Allied Workers union, said that employee acceptance of the "final offer" they had turned down 5 days earlier resulted from "the understandable fear that remaining on the picket line would result in the loss of their jobs."

The settlement provided for an immediate cut of 50 cents an hour in pay, which ranged from $6.34 to $15.54 according to the Association, and averaged $10.75 according to the union. There also was a 25-cent-an-hour cut in the employers' financing of pensions, and an increase in the annual individual deductible under the health insurance plan.

In another important change, the agreement will run to March 31, 1991, diminishing the impact of a possible strike because it will occur prior to the grape-crushing period. The previous contract expired on July 31, 1986.

The Association said the compensation cuts accepted by the employees were needed to help the wineries compete with increased imports and with a growing number of nonunion lower cost producers.

Timken steelworkers take pay cut

A recent United Steelworkers settlement providing for cuts in compensation involved 6,000 employees of Timken Co. plants in Canton, Columbus, and Wooster, OH. Timken, which makes roller bearings as well as steel, had traditionally followed the settlement pattern set by the other companies bargaining as the Coordinating Committee Steel Companies. This was not possible in 1986 because the breakup of the bargaining association resulted in wide variations in settlement terms at the various companies. The companies contended that such variations in terms were necessary because of differences in their financial condition.

The Timken accord, which was preceded by a 1-month strike, provides for a 45-cent-an-hour pay cut, which will be restored in 15-cent increments at the end of each contract year. Immediately after the cut, average pay was $10.95 according to the union, and $11.84 according to the company.

The automatic cost-of-living pay allowance formula was modified to provide quarterly adjustments of 1 cent an hour for each 0.3-point rise in the BLS Consumer Price Index for Urban Wage Earners and Clerical Workers (1967=100). The provision becomes operative in the second year and reflects only possible CPI movement between 4 and 6 percent in that year and between 1.5 and 6 percent in the third year (previously, there was no 6-percent annual cap).

Pension rates were raised by $1.50 a month for each year of credited service, bringing the range of rates to $19–$22. Also, employees age 60 with 30 years of service were given two opportunities (during the last months of both 1986 and 1987) to retire with a $400 special pension supplement continuing to age 62.

In contrast with other 1986 settlements in the steel industry, Empire-Detroit Steel Co. and United Steelworkers Local 169 negotiated a 3-year contract that does not call for a cut in employee compensation. Company President John Frecka said, "We're profitable. I saw no reason to insist upon concessions." The contract does provide for possible annual performance awards of $150, $300, or $450, based on the company's financial results during the preceding 12 months. The accord, covering 1,100 workers in Mansfield, OH, also provides for a reopening of negotiations if the company encounters unexpected difficulties.

Paperworkers approve 'flexible' work assignments

In Rumford, ME, a $2\frac{1}{2}$-month strike against Boise Cascade Corp.'s largest paper mill ended when members of the United Paperworkers union approved a 3-year contract that included a "flexible work assignment" plan the company had been seeking since 1980. In 1984, Boise Cascade unilaterally introduced part of the plan by consolidating 12 job classifications into seven. In response to a complaint filed by the union, an arbitrator later overturned the company move. Nevertheless, the company claimed that the job consolidation improved productivity and morale during the 18 months it was in effect.

Under the bargained approach, Boise Cascade can shift production workers into other jobs, and have nonbargaining unit employees perform duties that had previously been generally restricted to bargaining unit workers. Another aspect of the plan permits management to train machine operators to perform routine maintenance and minor repairs, cutting the down time that had resulted when the operators waited for regular maintenance workers to do the work. There also was a change in duties of maintenance workers, as 12 job classifications were reduced to two: machinists and instrument machinists.

Wage provisions included a 50-cent-an-hour immediate increase, followed by 3-percent increases in the second and third years. According to a company official, the initial increase brought the average pay rate to $13.58 and the maximum for some machine tenders to more than $18. All employees on the payroll at the time of the contract signing also received a $1,000 lump-sum payment.

Boise-Cascade also achieved a cost saving under a new stretched pay progression schedule. New employees will be paid 80 percent ($7.77) of top base pay during their first 6 months, and full base pay thereafter.

The contract also provided for other cost reduction provisions, including time-and-one-half pay for all overtime work (previously, double time and, on occasion, quadruple time pay applied to some overtime work); elimination of some restrictions on operating the mill on Independence Day and Christmas; and adoption of a cost-containment plan for health insurance, including an 80-percent/20-percent coinsurance instead of the previous "first-dollar" coverage.

John Hancock provides 'cafeteria' benefits

The flexible or "cafeteria" approach to employee benefits is illustrated in a settlement between John Hancock Mutual Life Insurance Co. and the Teamsters union for nearly 300 claims processors in Dearborn, MI. All of the employees have "core" coverage consisting of a major medical plan with a $350 annual deductible and life insurance equal to each employee's annual compensation. Each employee also receives a number of weekly credits which can be used for alternate or additional benefits, such as a major medical plan with a $175 annual deductible, additional life insurance, dependent life insurance, a survivor's income plan, dental coverage, and vision coverage. Employees are permitted to select coverage in excess of their available credits if they assume the additional cost.

In addition to pension improvements, the 3-year contract provided for 5-percent annual pay increases and a lump-sum payment at the end of the first contract year equal to 7 percent of earnings during that year, followed by a 5-percent payment at the end of the second year and a 4-percent payment at the end of the final year.

Machinery workers take $1 hourly pay cut

Employees of Harnischfeger Corp., a machinery manufacturer, have agreed to a $1 an hour pay cut and other cost reduction changes in return for a possible share of profits and a company commitment to modernize the plants, located in the Milwaukee, WI, area. If the company meets the specified profit objective during the fiscal year beginning November 1, 1986, the 1,250 employees will receive $1.20 for each hour worked during the period. If the profit exceeds the objective, the distribution will be larger. If the company's profit level is "on target" after the first 6 months, the employees will then receive 25 percent of the expected full-year total payout.

Other terms of the 3-year contract negotiated by United Steelworkers Local 1114 included a suspension of automatic cost-of-living adjustments during the first 2 years and a 15-cent limit on adjustments during the final year; adoption of a two-tier compensation system providing for lower pay and benefit levels for new employees; lower vacation pay; and employee payment of a larger share of health insurance costs.

Harnischfeger's obligation for plant modernization was set at a minimum of $4.5 million over the contract term. Of that amount, the union will have a voice in spending $250,000 a year. The company also agreed to establish a job training fund of $30,000 a year to be administered by a joint committee.

Hospitals, nursing homes in New York settle

In New York City, 40,000 employees were covered by a settlement between the League of Voluntary Hospitals and Nursing Homes and Local 1199, Drug, Hospital and Health Care Employees Union. The League comprises 40 nonprofit hospitals and 9 nonprofit nursing homes. Earlier, five other nonprofit hospitals had settled on terms that were reportedly slightly more favorable to their 6,500 employees represented by Local 1199, which is part of the Retail, Wholesale and Department Store Union.

The League contract provides for an initial wage increase of 5 percent, retroactive to the August 28, 1984, ending date of the 47-day strike that preceded the 1984 settlement. This amount, to be paid in two lump-sums, represents a 5-percent increase scheduled under the 1984 accord but never implemented because of a dispute over the legality of the contract. (The 1984 settlement called for an additional 5-percent increase which went into effect as scheduled.)

The 3-year 1986 contract also calls for wage increases of 4 percent on November 1, 1986, and July 1, 1987, and 5 percent on July 1, 1988, all calculated on pay rates at the time of settlement, rather than being compounded. According to the union, average pay at the time of settlement was $370 a week for nurses, nurses' aides, housekeeping and laboratory personnel, social workers, and clerical workers.

The union agreed to several changes intended to moderate the cost of the settlement. One was that entry pay rates were only increased 9 percent over the term, instead of 13 percent. Also, new employees will be paid 4 percent less than normal pay rates during their first year. In the benefits area, employers' financing of pensions was changed to an amount equal to 7 percent of each employee's base pay, from 8 percent of gross pay. (Despite this reduction, an existing surplus enabled the parties to request that the plan trustees raise benefits by 10 percent for current retirees, retroactive to January 1, 1985, and by the same amount for future retirees.) Health insurance benefits were not changed, but the parties did adopt a cost-containment plan calling for such measures as a second opinion requirement before nonemergency surgery.

Food stores settlements

In Washington, DC, and nearby Maryland and Virginia, 18,500 employees of Safeway Stores Inc. and Giant Food Inc. were covered by a 3-year contract negotiated by Local 400 of the United Food and Commercial Workers. Similar terms also were negotiated by Local 27 for 7,000 employees in the Baltimore, MD, area.

Under the Local 400 settlement, employees hired prior to the October 1983 effective date of the prior contract did not receive wage increases. However, they will receive six semiannual lump-sum payments, each ranging from $175 to $500, depending on their assignment and number of hours worked. Workers hired after October 1983 will receive wage increases of $1.30 an hour, narrowing the differential with the longer service employees that resulted from adoption of a two-tier pay system in 1983.

The negotiators eliminated two-tier insurance benefits by adopting a uniform program for full-time employees and another less generous program for part-time employees.

Pension rates for employees hired prior to October 1983 were increased to $32 a month (from $20) for each year of credited future service for full-time employees, and to $20 (from $16) for part-timers. For employees hired later, the rates were increased to $13.20 for full-time workers and to $6.60 for part-timers. All of the 2,300 employees who retired prior to January 1, 1986, will receive 3-percent increases in their benefits on January 1 of 1987, 1988, and 1989.

Elsewhere in the industry, 650 members of United Food and Commercial Workers Local 23 agreed to pay cuts ranging from 24 cents to $1.15 an hour in a settlement with 12 Kroger Co. stores in eastern Ohio and nearby West Virginia. According to a company official, the pay cuts and other negotiated labor-cost savings could lead to expansion of operations in the Ohio Valley area, despite intense competition from nonunion stores.

The impact of the pay cut will be reduced by a provision for one-time lump-sum payments in late 1986 equal to the individual's cut in hourly pay multiplied by the number of hours worked between October 1985 and October 1986. There will not be any other such payments under the 5-year contract, but a new profit-sharing plan provides for possible annual distributions beginning in March 1988. Each worker's share of any distribution will be proportional to earnings lost as a result of the pay cut. In each of the last 2 years of the contracts, full-time employees will be guaranteed minimum payments of $300 and part-timers will be guaranteed $150.

Other changes that will reduce labor costs include a "buy out" offer under which top-scale full-time employees will receive $8,000 for resigning and top-scale part-timers will receive $4,000; 5 weeks maximum paid vacation, instead of 6 weeks; two paid personal leave days per year, instead of five; a $19.88 reduction in Kroger's $247.88 a month financing of insurance benefits; and expanded duties for meat clerks. Kroger estimated that all of the contract changes would result in a cost savings of about $2 an hour.

Hotel employees settle

More than 20,000 members of the Hotel Employees and Restaurant Employees were covered by settlements in three cities.

In Atlantic City, NJ, workers settled with seven casino hotels, ending a 1-day strike. The settlement covered 13,000 people, including employees of three operations that were not struck in return for assurances that they would accept the same terms as the other casino hotels. The settlement, reached under a contract reopening provision, extended the contract by 1 year, and provides for 10- to 20-cent-an-hour pay increases in 1986 and 1987.

In Washington, DC, Local 25 negotiated a 3-year contract that covered more than 6,000 employees of 17 hotels in the employers' bargaining association and 11 other hotels that accepted the same terms. The accord provides for 5-percent pay increases in each year, bringing the average pay of housekeepers, dishwashers, and food service workers to $8 an hour.

In San Francisco, Local 2 settled for 2,150 employees of six large hotels and was pressing 32 hotels to accept the same terms. During the 3-year contract term, employees will receive annual pay increases of 15 cents an hour for those who receive tips and 35 cents for those who do not, as well as improvements in overtime pay, sick leave, and medical and pension benefits.

Home work proposed in producing ladies apparel

In a move that drew criticism and vows of legal action from organized labor, the Department of Labor proposed regulations to allow employees in six industries to work in their homes, as long as their employers get a Government certificate. Secretary of Labor William Brock said that "because of the nationwide interest in home work employment," the period for public comment on the proposal would be 60 days.

The industries that would be affected are the production of women's apparel, jewelry, gloves and mittens, buttons and buckles, handkerchiefs, and embroidery. The proposal came after an 18-month study of the effectiveness of the certification plan that was instituted in the knitted outerwear industry in December 1984. In that industry, home work is permitted after employers register with the Department of Labor so that their adherence to minimum wage, child labor, and other laws can be monitored.

Jay Mazur, President of the Ladies Garment Workers, said the proposed rules give "the green light to thousands of sweatshop operators throughout this country who exploit our most vulnerable workers." He predicted that thousands of factory workers in the six industries would lose their jobs or suffer a decline in their "already modest standard of living due to competition with sweatshop wages."

Stephen Goodrick, executive director of the Center on National Labor Policy, a lobbying and legal advocacy group, said the rule change will "liberate this section of the economy for entrepreneurial growth and productivity." He also said that 70,000 people are already engaged in illegal commercial work in the home and that legalizing the practice would raise government tax revenue by $50 million a year.

Glass container workers restore forgone pay

In the glass container industry, 17,000 workers negotiated restoration of a 31-cent-an-hour scheduled wage increase they had given up in 1985 when the employers were experiencing financial problems. The 1985 settlements had also extended the existing agreement by 1 year, to March 31, 1987. Under the 1986 settlement, which came during a period of improved employer profits, the contract was extended to March 31, 1990, with provision for a 21-cent wage increase in April 1987, 26 cents in April 1988, and 31 cents in April 1989. Prior to the settlement, the average wage was $9.40.

Pensions were increased effective in April 1988 for all employees who retire after April 1986. The employees' cost for health insurance was increased, but the companies did agree to pay more into a trust fund for retirees' health coverage. They also agreed to assume the workers' 50-percent share of a 10-cent-an-hour payment into an industry promotion fund.

The companies that settled with the Glass, Pottery, Plastic and Allied Workers were Brockway Inc., for 6,500 workers; Anchor-Hocking Corp. (4,300); Foster Forbes Glass Co. (3,000); Incon Packaging Inc. (2,100); and Ball Corp. (1,100). Negotiations were continuing with Owens Illinois Inc. for 12,000 workers and with Diamond-Bathurst for 5,000.

Teachers' agreements

Members of the Portland (OR) Association of Teachers negotiated a 3-year contract that calls for wage increases of 5 percent in the first year and 4.5 percent in the second year. In the third year, the 3,200 teachers will receive an increase of at least 3.5 percent but not more than 6.5 percent, depending on the movement of the Portland area Consumer Price Index. After the first-year increase, salaries ranged from $17,732 for starting teachers to $33,240 for teachers with a master's degree plus 45 credit hours of academic training and 18 years of experience.

Other terms included a doubling of college tuition reimbursement, to six credit hours per year.

In Little Rock, AR, 1,100 teachers received two payments totaling $520 to $971 by agreeing to add $6\frac{1}{4}$ days to the 1985-86 school year. The payment resulted when the school district received a Federal grant for magnet schools, permitting the district to distribute to teachers $1.6 million it had budgeted from its own funds for the project.

Early in 1986, the district gave each teacher $475 and was planning to distribute the balance of the $1.6 million in the same way, but the State Board of Education ruled that this could be done only if the school year was extended, leading to the $6\frac{1}{4}$-day extension and an additional $45 to $496 payment, varying according to each teacher's salary scale.

The payments did not become part of the teachers' contractual salary scale for the school year, which was raised 1.61 percent on September 9, 1985, under the contract negotiated then. This brought the salary range to $14,098 to $26,308 a year, depending on education and length of service.

Ohio State workers get initial contract

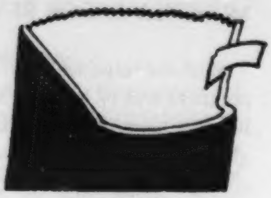
About 35,000 State employees were covered by an initial contract negotiated by the Ohio Civil Service Employees Association, which affiliated with the State, County and Municipal Employees union in 1984. Ohio State employees gained the right to bargain on wages and benefits under 1984 legislation.

Wage provisions included an immediate increase of 58 cents an hour or 7 percent (whichever is greater) and a $450 bonus for those on the payroll before April 1, 1986; an increase of 44 cents or 5 percent, in the second year; and 65 cents or 7 percent in the third year, plus a $300 bonus on November 1, 1988, for those on the payroll on October 15, 1988.

Prior to the initial pay increase, average hourly rates for the eight units of workers involved ranged from $6.63 for food service, custodial, and laundry workers to $11.64 for engineers, biologists, and geologists.

Benefit changes included an eleventh paid holiday; 10 annual sick leave days payable at 100 percent, instead of 7 days payable at 90 percent; three personal leave days and prorated paid vacation for part-time employees; and adoption of a program to aid corrections officers suffering aftereffects of being taken hostage. □

Book Reviews



Managerial discretion in the workplace

Management Rights: A Legal and Arbitral Analysis. By Marvin Hill, Jr. and Anthony V. Sinicropi. Washington, The Bureau of National Affairs, Inc., 1986. 560 pp. $40.

Source books that deal with questions of legal rights for practitioners usually face the kind of dilemma that confronts do-it-yourself guides to medicine: offer summary descriptions and readers may not be able to tell when they have a problem, but present a detailed discussion and they may start to think that they can cut the doctor out of the process. Marvin Hill, Jr. and Anthony V. Sinicropi have avoided that dilemma by writing a book that is not for practitioners in the usual sense but for the labor relations "doctors"—arbitrators and those who present arbitration cases.

The book focuses on the issue of management rights under collective bargaining agreements—situations where the agreements do not clearly specify the rights of the parties. In fact, the book's theme is much broader than what many arbitrators will think of as management rights issues, in that it goes beyond such common problems as technological change and job assignment to consider virtually every set of circumstances where contracts may be silent. This broad coverage has the great advantage of presenting a single source for all such issues. However, some issues, such as employee discipline and discharge and seniority decisions, have already been discussed in depth elsewhere, and readers may want to consult the existing literature.

The book traces the evolution of management rights primarily through a detailed analysis of arbitration decisions, although rulings of the National Labor Relations Board, case law, and legislation are also considered. It begins by discussing some general issues, such as the important role of past practice in determining management rights, and then addresses various areas of those rights in turn. Perhaps the most interesting section of the book is the discussion of areas where management's interests may conflict with employees' interests in privacy, for example, the use of polygraph tests and surveillance and searches in the workplace. Separate discussions of management's rights with respect to medical and psychiatric screening, including drug testing and the handling of employees with AIDS, make the book very topical.

Management Rights is obviously not a book for everyone. Nonarbitrators involved in day-to-day labor relations should of course be aware that the analyses of the issues here will not necessarily help determine how a given arbitrator might rule on a particular issue because the precedential value of arbitration decisions is limited at best. In terms of reading, the book is filled with quotations and citations that combined with the often convoluted path of arbitration decisions make it considerably slower going than, say, your average gothic novel.

But this detail is precisely what results in a very useful book, especially for arbitrators and lawyers who have limited experience with some of the issues raised here because they can quickly see the line of reasoning in previous decisions. By identifying the trends in arbitration decisions in the difficult area of management's rights, the authors have traveled through relatively uncharted waters and have contributed a real service to the field of labor relations.

—PETER CAPPELLI
Associate Professor
The Wharton School
University of Pennsylvania

Labor in a changing America

Out of Work: The First Century of Unemployment in Massachusetts. By Alexander Keyssar. New York, Cambridge University Press, 1986. 469 pp. $49.50, cloth; $14.95, paper.

Alexander Keyssar's book is a scholarly contribution and a valuable resource to economists, labor historians, trade unionists, and policymakers. Keyssar investigates labor markets from the 1870's to the 1920's, a period often passed over by present-day economists and economic historians who tend to direct more attention to the Great Depression and Industrial Revolution in the United States. (John A. Garraty's *Unemployment in History: Economic Thought and Public Policy* and Gordon, Edwards, and Reich's *Segmented Work, Divided Workers* are notable exceptions.) He blends an abundance—sometimes an overabundance—of empirical data with impressionistic evidence depicting the extent and character of the period's unemployment.

Idle labor is a centuries-old phenomenon. But as the structure of production shifted toward manufacturing throughout the 19th century, the consequences for a typical jobless worker became harsher by the 1870's with the disappearance of alternative activities such as household production.

With the stage set, Keyssar then offers four original viewpoints in *Out of Work*. First is his chronicling of the unbelievably slow pace at which unemployment came to be regarded as a conspicuous social problem. Public perception only gradually evolved from considering unemployment as an individual, labor supply problem to understanding it as a labor demand problem endemic to the industrial economy. The tendency for chronic unemployment to uproot many working men was initially regarded as "the tramp problem." Reforms to prevent unemployment or its hardship were routinely rebuffed until 1915, when government and business began to recognize the threat of unemployment to the existing social structure. Economists viewed unemployment as transitory and thus proved little help in remedying it.

Keyssar also describes how chronic unemployment gradually transformed trade unions from organizations promoting universal policies to benefit all labor such as a shorter workweek to policies pursuing exclusionist measures, for example, restricting apprenticeships in order to protect members' jobs.

The author creatively uses the available data to construct unemployment frequencies—the percentage of workers unemployed at some point during the year. The data reveal startlingly high frequencies upwards of 30 percent in the depths of a downturn and surprisingly high proportions in prosperous times as well.

Keyssar's final and most important point derives from these frequencies. The 1870–1920's era was apparently characterized by a substantial *volatility* in employment. Income insecurity rather than low incomes per se was thus the key problem workers faced. Their vulnerability to sudden layoff and income loss cut across occupations, industries, ethnic groups, and gender. One immediate and two subsequent developments from this era could be traced to the widespread income insecurity. Keyssar colorfully illustrates how workers established ad hoc methods of coping with the persistent threat of unemployment. Children were periodically sent to work and debt was commonly incurred with local shopkeepers. After 1915, businesses began to discover the costs associated with high labor turnover. Some implemented progressive personnel practices including the offer of continuous employment over seasonal (but not cyclical) fluctuations, work sharing, and a rationalized allocation of layoffs based on seniority. The modern implicit contract and its increased predictability of incomes were thus born. Finally, the widespread income insecurity ultimately led to the adoption of unemployment insurance programs.

Despite its merits, *Out of Work* has some shortcomings. The author often fails to clearly distinguish structural, frictional, and cyclical sources of unemployment, essential in assessing the consequent hardship. Also, there is no direct mention of productivity growth in industry and its potential role in suppressing employment levels, shortening the workweek, or varying wages and living standards. In addition, Keyssar often subtly implicates but never really outright indicts the widely accepted employment-at-will doctrine as the ultimate source of the era's employment volatility. This is perhaps the principle message and it is left to the reader to infer. Finally, it is also left to the reader to gauge the *relative* condition of labor because we are given no reference point. Perhaps some of the redundancy that appears throughout the book could be sacrificed for some comparisons to unemployment frequencies, the composition of the "reserve army" of unemployed, and the use of short-time versus layoffs in more recent years.

A final comparison Keyssar misses is the parallel to the current fad of identifying laissez faire as the policy solution rather than the problem. Even with these shortcomings, *Out of Work* reminds us that labor market instability and unemployment were the cause of union and government intervention rather than the result of it.

—LONNIE GOLDEN
Assistant Professor of Economics
University of Wisconsin, Whitewater

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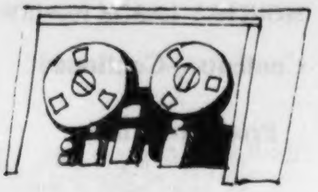

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Series	Release date	Period covered	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	December 5	November	January 9	December	February 6	January	1; 4–21
Producer Price Index	December 12	November	January 9	December	February 13	January	2; 33–35
Consumer Price Index	December 19	November	January 21	December	February 27	January	2; 30–32
Real earnings	December 19	November	January 21	December	February 27	January	14–17
Productivity and costs: Nonfinancial corporations	December 2	3rd quarter	....	....	....	....	2; 42–44
Nonfarm business and manufacturing	....	....	....	....	February 2	4th quarter	2; 42–44
Major collective bargaining settlements	....	....	January 27	1986	....	....	3; 25–28
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NOTES ON CURRENT LABOR STATISTICS

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics: series on labor force, employment, unemployment, collective bargaining settlements, consumer, producer, and international prices, productivity, international comparisons, and injury and illness statistics. In the notes that follow, the data in each group of tables are briefly described, key definitions are given, notes on the data are set forth, and sources of additional information are cited.

General notes

The following notes apply to several tables in this section:

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect on the data of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might prevent short-term evaluation of the statistical series. Tables containing data that have been adjusted are identified as "seasonally adjusted." (All other data are not seasonally adjusted.) Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. (Seasonally adjusted data appear in tables 1–3, 4–10, 13, 14, 17, and 18.) Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are seasonally adjusted with a procedure called X-11 ARIMA, which was developed at Statistics Canada as an extension of the standard X-11 method previously used by BLS. A detailed description of the procedure appears in *The X-11 ARIMA Seasonal Adjustment Method* by Estela Bee Dagum (Statistics Canada, Catalogue No. 12-564E, February 1980). The second change is that seasonal factors are calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at midyear for the July-December period. However, revisions of historical data continue to be made only at the end of each calendar year.

Seasonally adjusted labor force data in tables 1 and 4–10 were revised in the February 1986 issue of the *Review*, to reflect experience through 1985.

Annual revisions of the seasonally adjusted payroll data shown in tables 13, 14, and 18 were made in the July 1986 *Review* using the X-11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in table 42 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the Hourly Earnings Index in table 17—are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is $2 ($3/150 × 100 = $2). The $2 (or any other resulting values) are described as "real," "constant," or "1967" dollars.

Additional information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. News releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule preceding these general notes. More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in *Employment and Earnings*, a monthly publication of the Bureau. More data from the household survey are published in the two-volume data book—*Labor Force Statistics Derived From the Current Population Survey*, Bulletin 2096. More data from the establishment survey appear in two data books—*Employment, Hours, and Earnings, United States*, and *Employment, Hours, and Earnings, States and Areas*, and the annual supplements to these data books. More detailed information on employee compensation and collective bargaining settlements is published in the monthly periodical, *Current Wage Developments*. More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report*, and *Producer Prices and Price Indexes*. Detailed data on all of the series in this section are provided in the *Handbook of Labor Statistics*, which is published biennally by the Bureau. BLS bulletins are issued covering productivity, injury and illness, and other data in this section. Finally, the *Monthly Labor Review* carries analytical articles on annual and longer term developments in labor force, employment, and unemployment; employee compensation and collective bargaining; prices; productivity; international comparisons; and injury and illness data.

Symbols

p = preliminary. To increase the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally, this revision reflects the availability of later data but may also reflect other adjustments.
n.e.c. = not elsewhere classified.
n.e.s. = not elsewhere specified.

COMPARATIVE INDICATORS
(Tables 1–3)

Comparative indicators tables provide an overview and comparison of major BLS statistical series. Consequently, although many of the included series are available monthly, all measures in these comparative tables are presented quarterly and annually.

Labor market indicators include employment measures from two major surveys and information on rates of change in compensation provided by the Employment Cost Index (ECI) program. The labor force participation rate, the employment-to-population ratio, and unemployment rates for major demographic groups based on the Current Population ("household") Survey are presented, while measures of employment and average weekly hours by major industry sector are given using nonagricultural payroll data. The Employment Cost Index (compensation), by major sector and by bargaining status, is chosen from a variety of BLS compensation and wage measures because it provides a comprehensive measure of employer costs for hiring labor, not just outlays for wages, and it is not affected by employment shifts among occupations and industries.

Data on **changes in compensation, prices, and productivity** are presented in table 2. Measures of rates of change of compensation and wages from the Employment Cost Index program are provided for all civilian nonfarm workers (excluding Federal and household workers) and for all private nonfarm workers. Measures of changes in: consumer prices for all urban consumers; producer prices by stage of processing; and the overall export and import price indexes are given. Measures of productivity (output per hour of all persons) are provided for major sectors.

Alternative measures of wage and compensation rates of change, which reflect the overall trend in labor costs, are summarized in table 3. Differences in concepts and scope, related to the specific purposes of the series, contribute to the variation in changes among the individual measures.

Notes on the data

Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data. For detailed descriptions of each data series, see BLS *Handbook of Methods*, Volumes I and II, Bulletins 2134–1 and 2134–2 (Bureau of Labor Statistics, 1982 and 1984, respectively), as well as the additional bulletins, articles, and other publications noted in the separate sections of the *Review*'s "Current Labor Statistics Notes." Historical data for many series are provided in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). Users may also wish to consult *Major Programs, Bureau of Labor Statistics*, Report 718 (Bureau of Labor Statistics, 1985).

EMPLOYMENT DATA

(Tables 1; 4–21)

Household survey data

Description of the series

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 59,500 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons include (1) all civilians who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. Members of the Armed Forces stationed in the United States are also included in the employed total. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **overall unemployment rate** represents the number unemployed as a percent of the labor force, including the resident Armed Forces. The **civilian unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **labor force** consists of all employed or unemployed civilians plus members of the Armed Forces stationed in the United States. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons who are retired, those engaged in their own housework, those not working while attending school, those unable to work because of long-term illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy, and members of the Armed Forces stationed in the United States. The **labor force participation rate** is the proportion of the noninstitutional population that is in the labor force. The **employment-population ratio** is total employment (including the resident Armed Forces) as a percent of the noninstitutional population.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 4–10 are seasonally adjusted, based on the seasonal experience through December 1985.

Additional sources of information

For detailed explanations of the data, see BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 1, and for additional data, *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). A detailed description of the Current Population Survey as well as additional data are available in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*. Historical data from 1948 to 1981 are available in *Labor Force Statistics Derived from the Current Population Survey: A Databook*, Vols. I and II, Bulletin 2096 (Bureau of Labor Statistics, 1982).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

Establishment survey data

Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by more than 250,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

An **establishment** is an economic unit which produces goods or services (such as a factory or store) at a single location and is engaged in one type of economic activity.

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include working supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 12–17 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in the following industries: transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and

services. These groups account for about four-fifths of the total employment on private nonagricutural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W). The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries.

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received and are different from standard or scheduled hours. **Overtime hours** represent the portion of gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

The Diffusion Index, introduced in the May 1983 *Review*, represents the percent of 185 nonagricultural industries in which employment was rising over the indicated period. One-half of the industries with unchanged employment are counted as rising. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. The diffusion index is useful for measuring the dispersion of economic gains or losses and is also an economic indicator.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of May 1986 data, published in the July 1986 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Unadjusted data have been revised back to April 1984; seasonally adjusted data have been revised back to January 1981. These revisions were published in the *Supplement to Employment and Earnings* (Bureau of Labor Statistics, 1986). Unadjusted data from April 1985 forward, and seasonally adjusted data from January 1982 forward are subject to revision in future benchmarks.

In the establishment survey, estimates for the 2 most recent months are based on incomplete returns and are published as preliminary in the tables (13 to 16 in the *Review*). When all returns have been received, the estimates are revised and published as final in the third month of their appearance. Thus, August data are published as preliminary in October and November and as final in December. For the same reason, quarterly establishment data (table 1) are preliminary for the first 2 months of publication and final in the third month. Thus, second-quarter data are published as preliminary in August and September and as final in October.

Additional sources of information

Detailed data from the establishment survey are published monthly in the BLS periodical, *Employment and Earnings*. Earlier comparable unadjusted and seasonally adjusted data are published in *Employment, Hours, and Earnings, United States, 1909–84*, Bulletin 1312–12 (Bureau of Labor Statistics, 1985) and its annual supplement. For a detailed discussion of the methodology of the survey, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 2. For additional data, see *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

Unemployment data by State

Description of the series

Data presented in this section are obtained from two major sources—the Current Population Survey (CPS) and the Local Area Unemployment Statistics (LAUS) program, which is conducted in cooperation with State employment security agencies.

Monthly estimates of the labor force, employment, and unemployment for States and sub-State areas are a key indicator of local economic conditions and form the basis for determining the eligibility of an area for benefits under Federal economic assistance programs such as the Job Training Partnership Act and the Public Works and Economic Development Act. Insofar as possible, the concepts and definitions underlying these data are those used in the national estimates obtained from the CPS.

Notes on the data

Data refer to State of residence. Monthly data for 11 States—California, Florida, Illinois, Massachusetts, Michigan, New York, New Jersey, North Carolina, Ohio, Pennsylvania, and Texas—are obtained directly from the CPS, because the size of the sample is large enough to meet BLS standards of reliability. Data for the remaining 39 States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates for the 11 States are revised to new population controls. For the remaining States and the District of Columbia, data are benchmarked to annual average CPS levels.

Additional sources of information

Information on the concepts, definitions, and technical procedures used to develop labor force data for States and sub-State areas as well as additional data on sub-States are provided in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*, and the annual report, *Geographic Profile of Employment and Unemployment* (Bureau of Labor Statistics). See also *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 4.

COMPENSATION AND WAGE DATA

(Tables 1–3; 22–29)

COMPENSATION AND WAGE DATA are gathered by the Bureau from business establishments, State and local governments, labor unions, collective bargaining agreements on file with the Bureau, and secondary sources.

Employment Cost Index

Description of the series

The **Employment Cost Index** (ECI) is a quarterly measure of the rate of change in compensation per hour worked and includes wages, salaries, and employer costs of employee benefits. It uses a fixed market basket of labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over time in employer costs of employing labor. The index is not seasonally adjusted.

Statistical series on total compensation costs and on wages and salaries are available for private nonfarm workers excluding proprietors, the self-employed, and household workers. Both series are also available for State and local government workers and for the civilian nonfarm economy, which consists of private industry and State and local government workers combined. Federal workers are excluded.

The Employment Cost Index probability sample consists of about 2,200 private nonfarm establishments providing about 12,000 occupational observations and 700 State and local government establishments providing

3,500 occupational observations selected to represent total employment in each sector. On average, each reporting unit provides wage and compensation information on five well-specified occupations. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Beginning with June 1986 data, fixed employment weights from the 1980 Census of Population are used each quarter to calculate the indexes for civilian, private, and State and local governments. (Prior to June 1986, the employment weights are from the 1970 Census of Population.) These fixed weights, also used to derive all of the industry and occupation series indexes, ensure that changes in these indexes reflect only changes in compensation, not employment shifts among industries or occupations with different levels of wages and compensation. For the bargaining status, region, and metropolitan/nonmetropolitan area series, however, employment data by industry and occupation are not available from the census. Instead, the 1980 employment weights are reallocated within these series each quarter based on the current sample. Therefore, these indexes are not strictly comparable to those for the aggregate, industry, and occupation series.

Definitions

Total compensation costs include wages, salaries, and the employer's costs for employee benefits.

Wages and salaries consist of earnings before payroll deductions, including production bonuses, incentive earnings, commissions, and cost-of-living adjustments.

Benefits include the cost to employers for paid leave, supplemental pay (including nonproduction bonuses), insurance, retirement and savings plans, and legally required benefits (such as Social Security, workers' compensation, and unemployment insurance).

Excluded from wages and salaries and employee benefits are such items as payment-in-kind, free room and board, and tips.

Notes on the data

The Employment Cost Index data series began in the fourth quarter of 1975, with the quarterly percent change in wages and salaries in the private nonfarm sector. Data on employer costs for employee benefits were included in 1980 to produce, when combined with the wages and salaries series, a measure of the percent change in employer costs for employee total compensation. State and local government units were added to the ECI coverage in 1981, providing a measure of total compensation change in the *civilian* nonfarm economy (excluding Federal employees). Historical indexes (June 1981 = 100) of the quarterly rates of change are presented in the May issue of the BLS monthly periodical, *Current Wage Developments*.

Additional sources of information

For a more detailed discussion of the Employment Cost Index, see the *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 11, and the following *Monthly Labor Review* articles: "Employment Cost Index: a measure of change in the 'price of labor'," July 1975; "How benefits will be incorporated into the Employment Cost Index," January 1978; "Estimation procedures for the Employment Cost Index," May 1982; and "Introducing new weights for the Employment Cost Index," June 1985.

Data on the ECI are also available in BLS quarterly press releases issued in the month following the reference months of March, June, September, and December; and from the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

Collective bargaining settlements

Description of the series

Collective bargaining settlements data provide statistical measures of negotiated adjustments (increases, decreases, and freezes) in compensation (wage and benefit costs) and wages alone, quarterly for private industry and semiannually for State and local government. Compensation measures cover all collective bargaining situations involving 5,000 workers or more and wage measures cover all situations involving 1,000 workers or more. These data, covering private nonagricultural industries and State and local governments, are calculated using information obtained from bargaining agreements on file with the Bureau, parties to the agreements, and secondary sources, such as newspaper accounts. The data are not seasonally adjusted.

Settlement data are measured in terms of future specified adjustments: those that will occur within 12 months after contract ratification—first-year—and all adjustments that will occur over the life of the contract expressed as an average annual rate. Adjustments are worker weighted. Both first-year and over-the-life measures exclude wage changes that may occur under cost-of-living clauses that are triggered by future movements in the Consumer Price Index.

Effective wage adjustments measure all adjustments occurring in the reference period, regardless of the settlement date. Included are changes from settlements reached during the period, changes deferred from contracts negotiated in earlier periods, and changes under cost-of-living adjustment clauses. Each wage change is worker weighted. The changes are prorated over all workers under agreements during the reference period yielding the average adjustment.

Definitions

Wage rate changes are calculated by dividing newly negotiated wages by the average hourly earnings, excluding overtime, at the time the agreement is reached. Compensation changes are calculated by dividing the change in the value of the newly negotiated wage and benefit package by existing average hourly compensation, which includes the cost of previously negotiated benefits, legally required social insurance programs, and average hourly earnings.

Compensation changes are calculated by placing a value on the benefit portion of the settlements at the time they are reached. The cost estimates are based on the assumption that conditions existing at the time of settlement (for example, methods of financing pensions or composition of labor force) will remain constant. The data, therefore, are measures of negotiated changes and not of total changes in employer cost.

Contract duration runs from the effective date of the agreement to the expiration date or first wage reopening date, if applicable. Average annual percent changes over the contract term take account of the compounding of successive changes.

Notes on the data

Care should be exercised in comparing the size and nature of the settlements in State and local government with those in the private sector because of differences in bargaining practices and settlement characteristics. A principal difference is the incidence of cost-of-living adjustment (COLA) clauses which cover only about 2 percent of workers under a few local government settlements, but cover 50 percent of workers under private sector settlements. Agreements without COLA's tend to provide larger specified wage increases than those with COLA's. Another difference is that State and local government bargaining frequently excludes pension benefits which are often prescribed by law. In the private sector, in contrast, pensions are typically a bargaining issue.

Additional sources of information

For a more detailed discussion on the series, see the *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 10. Comprehensive data are published in press releases issued quarterly (in January, April, July, and October) for private industry, and semi-

annually (in February and August) for State and local government. Historical data and additional detailed tabulations for the prior calendar year appear in the April issue of the BLS monthly periodical, *Current Wage Developments*.

Work stoppages

Description of the series

Data on **work stoppages** measure the number and duration of major strikes or lockouts (involving 1,000 workers or more) occurring during the month (or year), the number of workers involved, and the amount of time lost because of stoppage.

Data are largely from newspaper accounts and cover only establishments directly involved in a stoppage. They do not measure the indirect or secondary effect of stoppages on other establishments whose employees are idle owing to material shortages or lack of service.

Definitions

Number of stoppages: The number of strikes and lockouts involving 1,000 workers or more and lasting a full shift or longer.

Workers involved: The number of workers directly involved in the stoppage.

Number of days idle: The aggregate number of workdays lost by workers involved in the stoppages.

Days of idleness as a percent of estimated working time: Aggregate workdays lost as a percent of the aggregate number of standard workdays in the period multiplied by total employment in the period.

Notes on the data

This series is not comparable with the one terminated in 1981 that covered strikes involving six workers or more.

Additional sources of information

Data for each calendar year are reported in a BLS press release issued in the first quarter of the following year. Monthly data appear in the BLS monthly periodical, *Current Wage Developments*. Historical data appear in the *BLS Handbook of Labor Statistics*.

Other compensation data

Other BLS data on pay and benefits, not included in the Current Labor Statistics section of the *Monthly Labor Review*, appear in and consist of the following:

Industry Wage Surveys provide data for specific occupations selected to represent an industry's wage structure and the types of activities performed by its workers. The Bureau collects information on weekly work schedules, shift operations and pay differentials, paid holiday and vacation practices, and information on incidence of health, insurance, and retirement plans. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Monthly Labor Review*.

Area Wage Surveys annually provide data for selected office, clerical, professional, technical, maintenance, toolroom, powerplant, material movement, and custodial occupations common to a wide variety of industries in the areas (labor markets) surveyed. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Review*.

The National Survey of Professional, Administrative, Technical, and Clerical Pay provides detailed information annually on salary levels and distributions for the types of jobs mentioned in the survey's title in private employment. Although the definitions of the jobs surveyed reflect the duties and responsibilities in private industry, they are designed to match specific pay grades of Federal white-collar employees under the General Schedule pay system. Accordingly, this survey provides the legally required information for comparing the pay of salaried employees in the Federal civil service with pay in private industry. (See Federal Pay Comparability Act of 1970, 5 U.S.C. 5305.) Data are published in a BLS news release issued in the summer and in a bulletin each fall; summaries and analytical articles also appear in the *Review*.

Employee Benefits Survey provides nationwide information on the incidence and characteristics of employee benefit plans in medium and large establishments in the United States, excluding Alaska and Hawaii. Data are published in an annual BLS news release and bulletin, as well as in special articles appearing in the *Review*.

PRICE DATA
(Tables 2; 30–41)

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Consumer Price Indexes

Description of the series

The **Consumer Price Index** (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI–W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all urban consumer index (CPI–U) introduced in 1978 is representative of the 1972–73 buying habits of about 80 percent of the noninstitutional population of the United States at that time, compared with 40 percent represented in the CPI–W. In addition to wage earners and clerical workers, the CPI–U covers professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items are kept essentially unchanged between major revisions so that only price changes will be measured. All taxes directly associated with the purchase and use of items are included in the index.

Data collected from more than 24,000 retail establishments and 24,000 tenants in 85 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 28 major urban centers are presented in table 31. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

Notes on the data

In January 1983, the Bureau changed the way in which homeownership costs are measured for the CPI–U. A rental equivalence method replaced the

asset-price approach to homeownership costs for that series. In January 1985, the same change was made in the CPI-W. The central purpose of the change was to separate shelter costs from the investment component of homeownership so that the index would reflect only the cost of shelter services provided by owner-occupied homes.

Additional sources of information

For a discussion of the general method for computing the CPI, see *BLS Handbook of Methods, Volume II, The Consumer Price Index*, Bulletin 2134–2 (Bureau of Labor Statistics, 1984). The recent change in the measurement of homeownership costs is discussed in Robert Gillingham and Walter Lane, "Changing the treatment of shelter costs for homeowners in the CPI," *Monthly Labor Review*, June 1982, pp. 9–14.

Additional detailed CPI data and regular analyses of consumer price changes are provided in the *CPI Detailed Report*, a monthly publication of the Bureau. Historical data for the overall CPI and for selected groupings may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

Producer Price Indexes

Description of the series

Producer Price Indexes (PPI) measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 60,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The stage of processing structure of Producer Price Indexes organizes products by class of buyer and degree of fabrication (that is, finished goods, intermediate goods, and crude materials). The traditional commodity structure of PPI organizes products by similarity of end use or material composition.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

Since January 1976, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

Notes on the data

Beginning with the January 1986 issue, the *Review* is no longer presenting tables of Producer Price Indexes for commodity groupings, special composite groups, or SIC industries. However, these data will continue to be presented in the Bureau's monthly publication *Producer Price Indexes*.

The Bureau has completed the first major stage of its comprehensive overhaul of the theory, methods, and procedures used to construct the Producer Price Indexes. Changes include the replacement of judgment sampling with probability sampling techniques; expansion to systematic coverage of the net output of virtually all industries in the mining and manufacturing sectors; a shift from a commodity to an industry orientation; the exclusion of imports from, and the inclusion of exports in, the survey universe; and the respecification of commodities priced to conform to Bureau of the Census definitions. These and other changes have been phased in gradually since 1978. The result is a system of indexes that is easier to use in conjunction with data on wages, productivity, and employment and other series that are organized in terms of the Standard Industrial Classification and the Census product class designations.

Additional sources of information

For a discussion of the methodology for computing Producer Price Indexes, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 7.

Additional detailed data and analyses of price changes are provided monthly in *Producer Price Indexes*. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

International price indexes

Description of the series

The BLS **International Price Program** produces quarterly export and import price indexes for nonmilitary goods traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national income accounts: it includes corporations, businesses, and individuals but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents. With publication of an all-import index in February 1983 and an all-export index in February 1984, all U.S. merchandise imports and exports now are represented in these indexes. The reference period for the indexes is 1977 = 100, unless otherwise indicated.

The product universe for both the import and export indexes includes raw materials, agricultural products, semifinished manufactures, and finished manufactures, including both capital and consumer goods. Price data for these items are collected quarterly by mail questionnaire. In nearly all cases, the data are collected directly from the exporter or importer, although in a few cases, prices are obtained from other sources.

To the extent possible, the data gathered refer to prices at the U.S. border for exports and at either the foreign border or the U.S. border for imports. For nearly all products, the prices refer to transactions completed during the first 2 weeks of the third month of each calendar quarter—March, June, September, and December. Survey respondents are asked to indicate all discounts, allowances, and rebates applicable to the reported prices, so that the price used in the calculation of the indexes is the actual price for which the product was bought or sold.

In addition to general indexes of prices for U.S. exports and imports, indexes are also published for detailed product categories of exports and imports. These categories are defined by the 4- and 5-digit level of detail of the Standard Industrial Trade Classification System (SITC). The calculation of indexes by SITC category facilitates the comparison of U.S. price trends and sector production with similar data for other countries. Detailed indexes are also computed and published on a Standard Industrial Classification (SIC-based) basis, as well as by end-use class.

Notes on the data

The export and import price indexes are weighted indexes of the Laspeyres type. Price relatives are assigned equal importance within each weight category and are then aggregated to the SITC level. The values assigned to each weight category are based on trade value figures compiled

by the Bureau of the Census. The trade weights currently used to compute both indexes relate to 1980.

Because a price index depends on the same items being priced from period to period, it is necessary to recognize when a product's specifications or terms of transaction have been modified. For this reason, the Bureau's quarterly questionnaire requests detailed descriptions of the physical and functional characteristics of the products being priced, as well as information on the number of units bought or sold, discounts, credit terms, packaging, class of buyer or seller, and so forth. When there are changes in either the specifications or terms of transaction of a product, the dollar value of each change is deleted from the total price change to obtain the "pure" change. Once this value is determined, a linking procedure is employed which allows for the continued repricing of the item.

For the export price indexes, the preferred pricing basis is f.a.s. (free alongside ship) U.S. port of exportation. When firms report export prices f.o.b. (free on board), production point information is collected which enables the Bureau to calculate a shipment cost to the port of exportation. An attempt is made to collect two prices for imports. The first is the import price f.o.b. at the foreign port of exportation, which is consistent with the basis for valuation of imports in the national accounts. The second is the import price c.i.f. (cost, insurance, and freight) at the U.S. port of importation, which also includes the other costs associated with bringing the product to the U.S. border. It does not, however, include duty charges.

Additional sources of information

For a discussion of the general method of computing International Price Indexes, see BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 8.

Additional detailed data and analyses of international price developments are presented in the Bureau's quarterly publication *U.S. Import and Export Price Indexes* and in occasional *Monthly Labor Review* articles prepared by BLS analysts. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

PRODUCTIVITY DATA
(Tables 2; 42–47)

U. S. productivity and related data

Description of the series

The productivity measures relate real physical output to real input. As such, they encompass a family of measures which include single factor input measures, such as output per unit of labor input (output per hour) or output per unit of capital input, as well as measures of multifactor productivity (output per unit of labor and capital inputs combined). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

Corresponding indexes of hourly compensation, unit labor costs, unit nonlabor payments, and prices are also provided.

Definitions

Output per hour of all persons (labor productivity) is the value of goods and services in constant prices produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the value of goods and services in constant dollars produced per unit of capital services input.

Multifactor productivity is the ratio output per unit of labor and capital inputs combined. Changes in this measure reflect changes in a number of factors which affect the production process such as changes in technology, shifts in the composition of the labor force, changes in capacity utilization, research and development, skill and efforts of the work force, management, and so forth. Changes in the output per hour measures reflect the impact of these factors as well as the substitution of capital for labor.

Compensation per hour is the wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, and the wages, salaries, and supplementary payments for the self-employed (except for nonfinancial corporations in which there are no self-employed)—the sum divided by hours paid for. **Real compensation per hour** is compensation per hour deflated by the change in the Consumer Price Index for All Urban Consumers.

Unit labor costs are the labor compensation costs expended in the production of a unit of output and are derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from current dollar value of output and dividing by output. **Unit nonlabor costs** contain all the components of unit nonlabor payments *except* unit profits.

Unit profits include corporate profits and the value of inventory adjustments per unit of output.

Hours of all persons are the total hours paid of payroll workers, self-employed persons, and unpaid family workers.

Capital services is the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories—weighted by rental prices for each type of asset.

Labor and capital inputs combined are derived by combining changes in labor and capital inputs with weights which represent each component's share of total output. The indexes for capital services and combined units of labor and capital are based on changing weights which are averages of the shares in the current and preceding year (the Tornquist index-number formula).

Notes on the data

Output measures for the business sector and the nonfarm businesss sector exclude the constant dollar value of owner-occupied housing, rest of world, households and institutions, and general government output from the constant dollar value of gross national product. The measures are derived from data supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are developed from data of the Bureau of Labor Statistics and the Bureau of Economic Analysis.

The productivity and associated cost measures in tables 42–44 describe the relationship between output in real terms and the labor time and capital services involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input. Although these measures relate output to hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; capital investment; level of output; utilization of capacity, energy, and materials; the organization of production; managerial skill; and the characteristics and efforts of the work force.

Additional sources of information

Descriptions of methodology underlying the measurement of output per hour and multifactor productivity are found in the BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 13. Historical data for selected industries are provided in the Bureau's *Handbook of Labor Statistics*, 1985, Bulletin 2217.

INTERNATIONAL COMPARISONS
(Tables 45–47)

Labor force and unemployment

Description of the series

Tables 45 and 46 present comparative measures of the labor force, employment, and unemployment—approximating U.S. concepts—for the United States, Canada, Australia, Japan, and six European countries. The unemployment statistics (and, to a lesser extent, employment statistics) published by other industrial countries are not, in most cases, comparable to U.S. unemployment statistics. Therefore, the Bureau adjusts the figures for selected countries, where necessary, for all known major definitional differences. Although precise comparability may not be achieved, these adjusted figures provide a better basis for international comparisons than the figures regularly published by each country.

Definitions

For the principal U.S. definitions of the **labor force**, **employment**, and **unemployment**, see the Notes section on EMPLOYMENT DATA: Household Survey Data.

Notes on the data

The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country, rather than to the U.S. standard of 16 years of age and over. Therefore, the adjusted statistics relate to the population age 16 and over in France, Sweden, and from 1973 onward, Great Britain; 15 and over in Canada, Australia, Japan, Germany, the Netherlands, and prior to 1973, Great Britain; and 14 and over in Italy. The institutional population is included in the denominator of the labor force participation rates and employment-population ratios for Japan and Germany; it is excluded for the United States and the other countries.

In the U.S. labor force survey, persons on layoff who are awaiting recall to their job are classified as unemployed. European and Japanese layoff practices are quite different in nature from those in the United States; therefore, strict application of the U.S. definition has not been made on this point. For further information, see *Monthly Labor Review*, December 1981, pp. 8–11.

The figures for one or more recent years for France, Germany, Great Britain, Italy, and the Netherlands are calculated using adjustment factors based on labor force surveys for earlier years and are considered preliminary. The recent-year measures for these countries are, therefore, subject to revision whenever data from more current labor force surveys become available.

Additional sources of information

For further information, see *International Comparisons of Unemployment*, Bulletin 1979 (Bureau of Labor Statistics, 1978), Appendix B and unpublished Supplements to Appendix B, available on request. The statistics are also analyzed periodically in the *Monthly Labor Review*. Additional historical data, generally beginning with 1959, are published in the *Handbook of Labor Statistics* and are available in unpublished statistical supplements to Bulletin 1979.

Manufacturing productivity and labor costs

Description of the series

Table 47 presents comparative measures of manufacturing labor productivity, hourly compensation costs, and unit labor costs for the United States, Canada, Japan, and nine European countries. These measures are limited to trend comparisons—that is, intercountry series of changes over time—rather than level comparisons because reliable international comparisons of the levels of manufacturing output are unavailable.

Definitions

Output is constant value output (value added), generally taken from the national accounts of each country. While the national accounting methods for measuring real output differ considerably among the 12 countries, the use of different procedures does not, in itself, connote lack of comparability—rather, it reflects differences among countries in the availability and reliability of underlying data series.

Hours refer to all employed persons including the self-employed in the United States and Canada; to all wage and salary employees in the other countries. The U.S. hours measure is hours paid; the hours measures for the other countries are hours worked.

Compensation (labor cost) includes all payments in cash or kind made directly to employees plus employer expenditures for legally required insurance programs and contractual and private benefit plans. In addition, for some countries, compensation is adjusted for other significant taxes on payrolls or employment (or reduced to reflect subsidies), even if they are not for the direct benefit of workers, because such taxes are regarded as labor costs. However, compensation does not include all items of labor cost. The costs of recruitment, employee training, and plant facilities and services—such as cafeterias and medical clinics—are not covered because data are not available for most countries. Self-employed workers are included in the U.S. and Canadian compensation figures by assuming that their hourly compensation is equal to the average for wage and salary employees.

Notes on the data

For most of the countries, the measures refer to total manufacturing as defined by the International Standard Industrial Classification. However, the measures for France (beginning 1959), Italy (beginning 1970), and the United Kingdom (beginning 1976), refer to manufacturing and mining less energy-related products and the figures for the Netherlands exclude petroleum refining from 1969 to 1976. For all countries, manufacturing includes the activities of government enterprises.

The figures for one or more recent years are generally based on current indicators of manufacturing output, employment, hours, and hourly compensation and are considered preliminary until the national accounts and other statistics used for the long-term measures become available.

Additional sources of information

For additional information, see the BLS *Handbook of Methods*, Bulletin 2134-1 (Bureau of Labor Statistics, 1982), chapter 16, and periodic *Monthly Labor Review* articles. Historical data are provided in the Bureau's *Handbook of Labor Statistics*, Bulletin 2217, 1985. The statistics are issued twice per year—in a news release (generally in May) and in a *Monthly Labor Review* article (generally in December).

OCCUPATIONAL INJURY AND ILLNESS DATA

(Table 48)

Description of the series

The Annual Survey of Occupational Injuries and Illnesses is designed to collect data on injuries and illnesses based on records which employers in the following industries maintain under the Occupational Safety and Health Act of 1970: agriculture, forestry, and fishing; oil and gas extraction; construction; manufacturing; transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. Excluded from the survey are self-employed individuals, farmers with fewer than 11 employees, employers regulated by other Federal safety and health laws, and Federal, State, and local government agencies.

Because the survey is a Federal–State cooperative program and the data must meet the needs of participating State agencies, an independent sample is selected for each State. The sample is selected to represent all private industries in the States and territories. The sample size for the survey is dependent upon (1) the characteristics for which estimates are needed; (2) the industries for which estimates are desired; (3) the characteristics of the population being sampled; (4) the target reliability of the estimates; and (5) the survey design employed.

While there are many characteristics upon which the sample design could be based, the total recorded case incidence rate is used because it is one of the most important characteristics and the least variable; therefore, it requires the smallest sample size.

The survey is based on stratified random sampling with a Neyman allocation and a ratio estimator. The characteristics used to stratify the establishments are the Standard Industrial Classification (SIC) code and size of employment.

Definitions

Recordable occupational injuries and illnesses are: (1) occupational deaths, regardless of the time between injury and death, or the length of the illness; or (2) nonfatal occupational illnesses; or (3) nonfatal occupational injuries which involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment (other than first aid).

Occupational injury is any injury such as a cut, fracture, sprain, amputation, and so forth, which results from a work accident or from exposure involving a single incident in the work environment.

Occupational illness is an abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. It includes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion, or direct contact.

Lost workday cases are cases which involve days away from work, or days of restricted work activity, or both.

Lost workday cases involving restricted work activity are those cases which result in restricted work activity only.

Lost workdays away from work are the number of workdays (consecutive or not) on which the employee would have worked but could not because of occupational injury or illness.

Lost workdays—restricted work activity are the number of workdays (consecutive or not) on which, because of injury or illness: (1) the employee was assigned to another job on a temporary basis; or (2) the employee worked at a permanent job less than full time; or (3) the employee worked at a permanently assigned job but could not perform all duties normally connected with it.

The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked even though able to work.

Incidence rates represent the number of injuries and/or illnesses or lost workdays per 100 full-time workers.

Notes on the data

Estimates are made for industries and employment-size classes and for severity classification: fatalities, lost workday cases, and nonfatal cases without lost workdays. Lost workday cases are separated into those where the employee would have worked but could not and those in which work activity was restricted. Estimates of the number of cases and the number of days lost are made for both categories.

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses, or lost workdays, per 100 full-time employees. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Only a few of the available measures are included in the *Handbook of Labor Statistics*. Full detail is presented in the annual bulletin, *Occupational Injuries and Illnesses in the United States, by Industry*.

Comparable data for individual States are available from the BLS Office of Occupational Safety and Health Statistics.

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration, respectively. Data from these organizations are included in BLS and State publications. Federal employee experience is compiled and published by the Occupational Safety and Health Administration. Data on State and local government employees are collected by about half of the States and territories; these data are not compiled nationally.

Additional sources of information

The Supplementary Data System provides detailed information describing various factors associated with work-related injuries and illnesses. These data are obtained from information reported by *employers* to State workers' compensation agencies. The Work Injury Report program examines selected types of accidents through an employee survey which focuses on the circumstances surrounding the injury. These data are not included in the *Handbook of Labor Statistics* but are available from the BLS Office of Occupational Safety and Health Statistics.

The definitions of occupational injuries and illnesses and lost workdays are from *Recordkeeping Requirements under the Occupational Safety and Health Act of 1970*. For additional data, see *Occupational Injuries and Illnesses in the United States, by Industry*, annual Bureau of Labor Statistics bulletin; BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 17; *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985), pp. 411–14; annual reports in the *Monthly Labor Review*; and annual U.S. Department of Labor press releases.

1. Labor market indicators

Selected indicators	1984	1985	1984	1985				1986	
			IV	I	II	III	IV	I	II
Employment data									
Employment status of the civilian noninstitutionalized population (household survey)[1]									
Labor Force participation rate	64.4	64.8	64.5	64.8	64.7	64.7	64.9	65.1	65.3
Employment-population ratio	59.5	60.1	59.8	60.1	60.0	60.1	60.4	60.5	60.6
Unemployment rate	7.5	7.2	7.2	7.3	7.3	7.2	7.0	7.1	7.2
Men	7.4	7.0	7.1	7.1	7.1	7.0	6.9	6.8	7.1
16 to 24 years	14.4	14.1	13.8	14.1	14.2	14.0	14.0	13.3	14.5
25 years and over	5.7	5.3	5.4	5.4	5.4	5.3	5.2	5.3	5.4
Women	7.6	7.4	7.5	7.6	7.5	7.4	7.2	7.3	7.3
16 to 24 years	13.3	13.0	12.9	13.1	13.0	12.7	13.1	13.2	13.2
25 years and over	6.0	5.9	5.9	6.0	6.0	5.9	5.5	5.7	5.7
Unemployment rate, 15 weeks and over	2.4	2.0	2.1	2.0	2.0	2.0	1.9	1.9	1.9
Employment, nonagricultural (payroll data), in thousands:[1]									
Total	94,496	97,614	94,064	96,581	97,295	97,897	97,295	99,403	99,848
Private sector	78,472	81,199	78,096	80,341	80,958	81,414	80,958	82,731	83,144
Goods-producing	24,727	24,930	24,690	24,970	24,947	24,866	24,947	25,028	24,952
Manufacturing	19,378	19,314	19,381	19,439	19,323	19,241	19,323	19,284	19,194
Service-producing	69,769	72,684	69,374	71,611	72,347	73,031	72,347	74,375	74,896
Average hours									
Private sector	35.2	34.9	35.2	35.0	34.9	34.9	34.9	34.9	34.8
Manufacturing	40.7	40.5	40.8	40.4	40.4	40.6	40.4	40.7	40.7
Overtime	3.4	3.3	3.5	3.3	3.2	3.3	3.2	3.4	3.4
Employment Cost Index									
Percent change in the ECI, compensation:									
All workers (excluding farm, household, and Federal workers)	5.2	4.3	1.2	1.3	.7	1.6	.6	1.1	.7
Private industry workers	4.9	3.9	1.3	1.2	.8	1.3	.6	1.1	.8
Goods-producing[2]	4.6	3.4	1.1	1.5	.7	.6	.6	1.1	.9
Servicing-producing[2]	5.1	4.4	1.4	1.0	1.0	1.8	.5	1.1	.6
State and local government workers	6.6	5.7	1.0	1.2	.2	3.4	.7	1.0	.6
Workers by bargaining status (private industry)									
Union	4.3	2.6	1.1	.7	.6	.8	.5	1.0	.2
Nonunion	5.2	4.6	1.3	1.6	1.0	1.4	.6	1.2	.9

[1] Quarterly data seasonally adjusted.

[2] Goods-producing industries include mining, construction, and manufacturing. Service-producing industries include all other private sector industries.

2. Annual and quarterly percent changes in compensation, prices, and productivity

Selected measures	1984	1985	1984	1985				1986		
			IV	I	II	III	IV	I	II	III
Compensation data [1], [2]										
Employment Cost Index--compensation (wages, salaries, benefits)										
Civilian nonfarm	5.2	4.3	1.2	1.3	0.7	1.6	0.6	1.1	0.7	1.1
Private nonfarm	4.9	3.9	1.3	1.2	.8	1.3	.6	1.1	.8	.7
Employment Cost Index--wages and salaries										
Civilian nonfarm	4.5	4.4	1.2	1.2	.9	1.7	.6	1.0	.6	1.1
Private nonfarm	4.1	4.1	1.2	1.2	1.1	1.3	.6	1.0	.9	.7
Price data[1]										
Consumer Price Index (All urban consumers): All items	4.0	3.8	.3	1.0	1.1	.7	.9	-.4	.6	.7
Producer Price Index										
Finished goods	1.7	1.8	.9	.0	.7	-1.4	2.5	-3.1	.5	-.6
Finished consumer goods	1.6	1.5	.8	-.3	.7	-1.4	2.5	-4.1	.4	-.6
Capital equipment	1.8	2.7	1.1	1.3	.4	-1.4	2.5	.2	.6	-.6
Intermediate materials, supplies, components	1.3	-.3	-.1	-.4	.2	-.5	.4	-2.9	-.9	-.2
Crude materials	-1.6	-5.6	-1.2	-3.1	-2.1	-4.5	4.3	-7.6	-1.5	-.5
Productivity data[3]										
Output per hour of all persons:										
Business sector	2.3	1.0	-.1	.9	2.7	3.4	-3.2	3.3	.5	.2
Nonfarm business sector	1.8	.5	-.4	.3	1.8	2.2	-3.5	4.3	.5	.2
Nonfinancial corporations [4]	2.0	1.2	1.1	.8	2.2	4.9	-2.8	-.5	-.3	.3

[1] Annual changes are December-to-December change. Quarterly changes are calculated using the last month of each quarter. Compensation and price data are not seasonally adjusted and the price data are not compounded.

[2] Excludes Federal and private household workers.

[3] Annual rates of change are computed by comparing annual averages. Quarterly percent changes reflect annual rates of change in quarterly indexes. The data are seasonally adjusted.

[4] Output per hour of all employees.

3. Alternative measures of wage and compensation changes

Components	Quarterly average						Four quarters ended--					
	1985			1986			1985			1986		
	II	III	IV	I	II	III	II	III	IV	I	II	III
Average hourly compensation:[1]												
All persons, business sector	5.1	4.4	3.8	2.5	2.8	2.9	4.5	4.4	4.4	3.9	3.4	3.0
All employees, nonfarm business sector	4.6	3.2	3.7	3.1	2.3	2.3	4.2	4.0	3.9	3.6	3.1	2.9
Employment Cost Index--compensation:												
Civilian nonfarm [2]	.7	1.6	.6	1.1	.7	1.1	4.6	4.9	4.3	4.1	4.0	3.6
Private nonfarm	.8	1.3	.6	1.1	.8	.7	4.2	4.7	3.9	3.8	3.8	3.2
Union	.6	.8	.5	1.0	.2	.5	3.1	3.2	2.6	2.9	2.5	2.3
Nonunion	1.0	1.4	.6	1.2	.9	.8	4.9	5.4	4.6	4.2	4.2	3.5
State and local governments	.2	3.4	.7	1.0	.6	2.8	6.1	6.0	5.7	5.5	5.8	5.2
Employment Cost Index--wages and salaries:												
Civilian nonfarm[2]	.9	1.7	.6	1.0	.8	1.1	4.5	5.0	4.4	4.2	4.1	3.5
Private nonfarm	1.1	1.3	.6	1.0	.9	.7	4.3	4.8	4.1	3.9	3.7	3.1
Union	1.1	.9	.5	.7	.4	.6	3.4	3.6	3.1	3.2	2.5	2.3
Nonunion	1.1	1.5	.6	1.1	.9	.7	4.8	5.4	4.6	4.3	4.1	3.4
State and local governments	.2	3.5	.8	1.0	.4	3.2	5.5	5.6	5.6	5.5	5.7	5.4
Total effective wage adjustments[3]	.8	1.2	.5	.6	.7	.6	3.5	3.5	3.3	3.1	2.9	2.3
From current settlements	.2	.2	.1	(4)	.2	.1	.9	.9	.7	.6	.5	.5
From prior settlements	.5	.5	.2	.4	.6	.5	1.9	1.8	1.8	1.7	1.8	1.6
From cost-of-living provision	.1	.4	.1	.2	(4)	(4)	.7	.8	.7	.8	.7	.2
Negotiated wage adjustments from settlements[3]												
First-year adjustments	2.5	2.0	2.1	.9	1.3	1.8	2.4	2.4	2.3	2.0	1.6	1.5
Annual rate over life of contract	2.8	3.1	1.9	1.5	2.0	2.0	2.4	2.5	2.7	2.5	2.2	1.9
Negotiated wage and benefit adjustments from settlements:[5]												
First-year adjustment	3.5	2.0	2.0	.4	.7	1.9	3.4	3.1	2.6	2.3	1.4	1.4
Annual rate over life of contract	3.4	3.0	1.4	1.2	1.6	1.9	2.7	2.7	2.7	2.6	2.0	1.6

[1] Seasonally adjusted.

[2] Excludes Federal and household workers.

[3] Limited to major collective bargaining units of 1,000 workers or more. The most recent data are preliminary.

[4] Data round to zero.

[5] Limited to major collective bargaining units of 5,000 workers or more. The most recent data are preliminary.

4. Employment status of the total population, by sex, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1985			1986									
	1984	1985	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
TOTAL															
Noninstitutional population [1], [2]	178,080	179,912	180,470	180,642	180,810	181,361	181,512	181,678	181,843	181,998	182,183	182,354	182,525	182,713	182,905
Labor force[2]	115,241	117,167	117,814	117,832	117,927	118,477	118,779	118,900	118,929	119,351	119,796	119,744	119,879	119,936	120,201
Participation rate [3]	64.7	65.1	65.3	65.2	65.2	65.3	65.4	65.4	65.4	65.6	65.8	65.7	65.7	65.6	65.7
Total employed [2]	106,702	108,856	109,513	109,671	109,904	110,646	110,252	110,481	110,587	110,797	111,353	111,554	111,852	111,607	111,959
Employment-population ratio [4]	59.9	60.5	60.7	60.7	60.8	61.0	60.7	60.8	60.8	60.9	61.1	61.2	61.3	61.1	61.2
Resident Armed Forces [1]	1,697	1,706	1,700	1,702	1,698	1,691	1,691	1,693	1,695	1,687	1,680	1,672	1,697	1,716	1,740
Civilian employed	105,005	107,150	107,813	107,969	108,206	108,955	108,561	108,788	108,892	109,110	109,673	109,882	110,155	109,891	110,219
Agriculture	3,321	3,179	3,058	3,070	3,151	3,299	3,096	3,285	3,222	3,160	3,165	3,112	3,048	3,121	3,148
Nonagricultural industries	101,685	103,971	104,755	104,899	105,055	105,655	105,465	105,503	105,670	105,950	106,508	106,769	107,107	106,770	107,071
Unemployed	8,539	8,312	8,301	8,161	8,023	7,831	8,527	8,419	8,342	8,554	8,443	8,190	8,027	8,329	8,242
Unemployment rate [5]	7.4	7.1	7.0	6.9	6.8	6.6	7.2	7.1	7.0	7.2	7.0	6.8	6.7	6.9	6.9
Not in labor force	62,839	62,744	62,656	62,810	62,883	62,885	62,733	62,778	62,914	62,647	62,387	62,610	62,646	62,777	62,704
Men, 16 years and over															
Noninstitutional population [1], [2]	85,156	86,025	86,293	86,374	86,459	86,882	86,954	87,035	87,120	87,195	87,288	87,373	87,460	87,556	87,682
Labor force[2]	65,386	65,967	66,227	66,176	66,139	66,679	66,838	66,864	66,757	66,943	66,964	66,936	66,944	67,094	67,132
Participation rate [3]	76.8	76.7	76.7	76.6	76.5	76.7	76.9	76.8	76.6	76.8	76.7	76.6	76.5	76.6	76.6
Total employed [2]	60,642	61,447	61,656	61,731	61,793	62,458	62,243	62,288	62,254	62,190	62,322	62,365	62,515	62,483	62,553
Employment-population ratio [4]	71.2	71.4	71.4	71.5	71.5	71.9	71.6	71.6	71.5	71.3	71.4	71.4	71.5	71.4	71.3
Resident Armed Forces [1]	1,551	1,556	1,551	1,552	1,549	1,539	1,539	1,540	1,541	1,533	1,525	1,518	1,541	1,560	1,582
Civilian employed	59,091	59,891	60,105	60,179	60,244	60,919	60,704	60,748	60,713	60,657	60,797	60,847	60,974	60,923	60,971
Unemployed	4,744	4,521	4,571	4,445	4,346	4,221	4,595	4,577	4,503	4,754	4,642	4,571	4,429	4,611	4,579
Unemployment rate [5]	7.3	6.9	6.9	6.7	6.6	6.3	6.9	6.8	6.7	7.1	6.9	6.8	6.6	6.9	6.8
Women, 16 years and over															
Noninstitutional population [1], [2]	92,924	93,886	94,177	94,268	94,351	94,479	94,558	94,643	94,723	94,803	94,895	94,981	95,065	95,156	95,223
Labor force[2]	49,855	51,200	51,587	51,655	51,788	51,797	51,941	52,036	52,172	52,408	52,832	52,808	52,935	52,842	53,069
Participation rate [3]	53.7	54.5	54.8	54.8	54.9	54.8	54.9	55.0	55.1	55.3	55.7	55.6	55.7	55.5	55.7
Total employed[2]	46,061	47,409	47,857	47,939	48,111	48,187	48,009	48,194	48,333	48,608	49,031	49,189	49,337	49,125	49,406
Employment-population ratio [4]	49.6	50.5	50.8	50.9	51.0	51.0	50.8	50.9	51.0	51.3	51.7	51.8	51.9	51.6	51.9
Resident Armed Forces [1]	146	150	149	149	149	152	152	153	154	154	155	154	156	156	158
Civilian employed	45,915	47,259	47,708	47,790	47,962	48,035	47,857	48,041	48,179	48,454	48,876	49,035	49,181	48,969	49,248
Unemployed	3,794	3,791	3,730	3,716	3,677	3,610	3,932	3,842	3,839	3,800	3,801	3,619	3,598	3,717	3,663
Unemployment rate [5]	7.6	7.4	7.2	7.2	7.1	7.0	7.6	7.4	7.4	7.3	7.2	6.9	6.8	7.0	6.9

[1] The population and Armed Forces figures are not adjusted for seasonal variation.

[2] Includes members of the Armed Forces stationed in the United States.

[3] Labor force as a percent of the noninstitutional population.

[4] Total employed as a percent of the noninstitutional population.

[5] Unemployment as a percent of the labor force (including the resident Armed Forces).

5. Employment status of the civilian population, by sex, age, race and Hispanic origin, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1985			1986									
	1984	1985	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
TOTAL															
Civilian noninstitutional population[1]	176,383	178,206	178,770	178,940	179,112	179,670	179,821	179,985	180,148	180,311	180,503	180,682	180,828	180,997	181,186
Civilian labor force	113,544	115,461	116,114	116,130	116,229	116,786	117,088	117,207	117,234	117,664	118,116	118,072	118,182	118,220	118,482
Participation rate	64.4	64.8	65.0	64.9	64.9	65.0	65.1	65.1	65.1	65.3	65.4	65.3	65.4	65.3	65.4
Employed	105,005	107,150	107,813	107,969	108,206	108,955	108,561	108,788	108,892	109,110	109,673	109,882	110,155	109,891	110,240
Employment-population ratio[2]	59.5	60.1	60.3	60.3	60.4	60.6	60.4	60.4	60.4	60.5	60.8	60.8	60.9	60.7	60.8
Unemployed	8,539	8,312	8,301	8,161	8,023	7,831	8,527	8,419	8,342	8,554	8,443	8,190	8,027	8,329	8,242
Unemployment rate	7.5	7.2	7.1	7.0	6.9	6.7	7.3	7.2	7.1	7.3	7.1	6.9	6.8	7.0	7.0
Not in labor force	62,839	62,744	62,656	62,810	62,883	62,885	62,733	62,778	62,914	62,647	62,387	62,610	62,646	62,777	62,704
Men, 20 years and over															
Civilian noninstitutional population[1]	76,219	77,195	77,496	77,566	77,651	78,101	78,171	78,236	78,309	78,387	78,484	78,586	78,634	78,722	78,802
Civilian labor force	59,701	60,277	60,526	60,553	60,548	61,212	61,183	61,268	61,053	61,208	61,387	61,323	61,235	61,345	61,391
Participation rate	78.3	78.1	78.1	78.1	78.0	78.4	78.3	78.3	78.0	78.1	78.2	78.0	77.9	77.9	77.9
Employed	55,769	56,562	56,849	56,897	56,982	57,706	57,384	57,459	57,391	57,312	57,560	57,499	57,607	57,547	57,559
Employment-population ratio[2]	73.2	73.3	73.4	73.4	73.4	73.9	73.4	73.4	73.3	73.1	73.3	73.2	73.3	73.1	73.0
Agriculture	2,418	2,276	2,188	2,210	2,278	2,349	2,256	2,411	2,347	2,278	2,320	2,266	2,173	2,272	2,288
Nonagricultural industries	53,351	54,284	54,661	54,687	54,704	55,356	55,127	55,048	55,043	55,034	55,241	55,233	55,435	55,275	55,271
Unemployed	3,932	3,715	3,677	3,656	3,566	3,507	3,799	3,809	3,663	3,897	3,827	3,824	3,628	3,798	3,831
Unemployment rate	6.6	6.2	6.1	6.0	5.9	5.7	6.2	6.2	6.0	6.4	6.2	6.2	5.9	6.2	6.2
Women, 20 years ond over															
Civilian noninstitutional population[1]	85,429	86,506	86,810	86,901	86,988	87,112	87,185	87,263	87,355	87,444	87,547	87,629	87,689	87,779	87,856
Civilian labor force	45,900	47,283	47,663	47,713	47,870	47,895	47,921	47,952	48,107	48,409	48,805	48,916	48,989	48,922	49,061
Participation rate	53.7	54.7	54.9	54.9	55.0	55.0	55.0	55.0	55.1	55.4	55.7	55.8	55.9	55.7	55.8
Employed	42,793	44,154	44,609	44,656	44,882	44,980	44,710	44,797	45,009	45,284	45,701	45,918	45,999	45,879	46,062
Employment-population ratio[2]	50.1	51.0	51.4	51.4	51.6	51.6	51.3	51.3	51.5	51.8	52.2	52.4	52.5	52.3	52.4
Agriculture	595	596	609	591	597	696	593	598	576	609	565	608	627	610	605
Nonagricultural industries	42,198	43,558	44,000	44,065	44,285	44,284	44,117	44,199	44,433	44,675	45,136	45,309	45,372	45,269	45,457
Unemployed	3,107	3,129	3,054	3,057	2,988	2,915	3,211	3,155	3,097	3,125	3,104	2,998	2,990	3,042	2,999
Unemployment rate	6.8	6.6	6.4	6.4	6.2	6.1	6.7	6.6	6.4	6.5	6.4	6.1	6.1	6.2	6.1
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	14,735	14,506	14,463	14,472	14,474	14,458	14,465	14,485	14,494	14,480	14,472	14,487	14,505	14,496	14,527
Civilian labor force	7,943	7,901	7,925	7,864	7,811	7,678	7,984	7,987	8,074	8,047	7,923	7,833	7,958	7,953	8,030
Participation rate	53.9	54.5	54.8	54.3	54.0	53.1	55.2	55.1	55.7	55.6	54.7	54.1	54.9	54.9	55.3
Employed	6,444	6,434	6,355	6,416	6,342	6,269	6,467	6,532	6,492	6,515	6,411	6,465	6,549	6,465	6,619
Employment-population ratio[2]	43.7	44.4	43.9	44.3	43.8	43.4	44.7	45.1	44.8	45.0	44.3	44.7	45.2	44.6	45.6
Agriculture	309	305	261	269	276	254	246	276	298	274	280	238	249	239	256
Nonagricultural industries	6,135	6,129	6,094	6,147	6,066	6,015	6,221	6,256	6,194	6,241	6,131	6,227	6,300	6,226	6,363
Unemployed	1,499	1,468	1,570	1,448	1,469	1,409	1,517	1,455	1,582	1,532	1,512	1,368	1,409	1,488	1,411
Unemployment rate	18.9	18.6	19.8	18.4	18.8	18.4	19.0	18.2	19.6	19.0	19.1	17.5	17.7	18.7	17.6
White															
Civilian noninstitutional population[1]	152,347	153,679	154,082	154,203	154,327	154,784	154,889	155,005	155,122	155,236	155,378	155,502	155,604	155,723	155,856
Civilian labor force	98,492	99,926	100,533	100,478	100,533	100,961	101,232	101,248	101,249	101,515	101,975	101,922	102,189	102,127	102,326
Participation rate	64.6	65.0	65.2	65.2	65.1	65.2	65.4	65.3	65.3	65.4	65.6	65.5	65.7	65.6	65.7
Employed	92,120	93,736	94,369	94,507	94,585	95,165	94,803	94,958	95,081	95,180	95,731	95,760	96,271	95,953	96,158
Employment-population ratio[2]	60.5	61.0	61.2	61.3	61.3	61.5	61.2	61.3	61.3	61.3	61.6	61.6	61.9	61.6	61.7
Unemployed	6,372	6,191	6,164	5,971	5,948	5,796	6,429	6,290	6,168	6,335	6,244	6,162	5,918	6,174	6,169
Unemployment rate	6.5	6.2	6.1	5.9	5.9	5.7	6.4	6.2	6.1	6.2	6.1	6.0	5.8	6.0	6.0
Black															
Civilian noninstitutional population[1]	19,348	19,664	19,761	19,790	19,819	19,837	19,863	19,889	19,916	19,943	19,974	20,002	20,028	20,056	20,089
Civilian labor force	12,033	12,364	12,412	12,457	12,522	12,548	12,545	12,656	12,740	12,781	12,754	12,601	12,473	12,630	12,732
Participation rate	62.2	62.9	62.8	62.9	63.2	63.3	63.2	63.6	64.0	64.1	63.9	63.0	62.3	63.0	63.4
Employed	10,119	10,501	10,566	10,518	10,657	10,737	10,690	10,791	10,856	10,889	10,825	10,836	10,654	10,757	10,893
Employment-population ratio[2]	52.3	53.4	53.5	53.1	53.8	54.1	53.8	54.3	54.5	54.6	54.2	54.2	53.2	53.6	54.2
Unemployed	1,914	1,864	1,846	1,939	1,865	1,810	1,855	1,865	1,884	1,892	1,929	1,766	1,819	1,873	1,838
Unemployment rate	15.9	15.1	14.9	15.6	14.9	14.4	14.8	14.7	14.8	14.8	15.1	14.0	14.6	14.8	14.4

See footnotes at end of table.

5. Continued— Employment status of the civilian population, by sex, age, race and Hispanic origin, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1985			1986								
	1984	1985	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Hispanic origin														
Civilian noninstitutional population[1]	11,478	11,915	12,040	12,075	12,111	12,148	12,184	12,219	12,255	12,290	12,326	12,362	12,397	12,432
Civilian labor force	7,451	7,698	7,854	7,782	7,772	7,787	7,943	7,920	7,975	8,002	8,110	8,123	8,102	8,170
Participation rate	64.9	64.6	65.2	64.4	64.2	64.1	65.2	64.8	65.1	65.1	65.8	65.7	65.4	65.7
Employed	6,651	6,888	6,982	6,953	6,962	6,998	6,969	7,105	7,144	7,123	7,251	7,274	7,213	7,264
Employment-population ratio[2]	57.9	57.8	58.0	57.6	57.5	57.6	57.2	58.2	58.3	58.0	58.8	58.8	58.2	58.4
Unemployed	800	811	872	829	810	789	974	815	832	878	858	849	889	906
Unemployment rate	10.7	10.5	11.1	10.7	10.4	10.1	12.3	10.3	10.4	11.0	10.6	10.5	11.0	11.1

[1] The population figures are not seasonally adjusted.

[2] Civilian employment as a percent of the civilian noninstitutional population.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" groups are not presented and Hispanics are inclu in both the white and black population groups.

6. Selected employment indicators, monthly data seasonally adjusted

(In thousands)

Selected categories	Annual average		1985			1986								
	1984	1985	Oct.	Nov.	Dec	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
CHARACTERISTIC														
Civilian employed, 16 years and over	105,005	107,150	107,813	107,969	108,206	108,955	108,561	108,788	108,892	109,110	109,673	109,882	110,155	109,891
Men	59,091	59,891	60,105	60,179	60,244	60,919	60,704	60,748	60,713	60,657	60,797	60,847	60,974	60,923
Women	45,915	47,259	47,708	47,790	47,962	48,035	47,857	48,041	48,179	48,454	48,876	49,035	49,181	48,969
Married men, spouse present	39,056	39,248	39,272	39,314	39,278	39,615	39,382	39,385	39,555	39,614	39,626	39,611	39,716	39,623
Married women, spouse present	25,636	26,336	26,702	26,721	26,804	26,958	26,593	26,656	26,802	26,920	27,427	27,523	27,438	27,203
Women who maintain families	5,465	5,587	5,514	5,605	5,683	5,702	5,733	5,771	5,812	5,718	5,888	5,829	5,826	5,927
MAJOR INDUSTRY AND CLASS OF WORKER														
Agriculture:														
Wage and salary workers	1,555	1,535	1,465	1,537	1,572	1,673	1,519	1,689	1,587	1,480	1,498	1,486	1,469	1,501
Self-employed workers	1,553	1,458	1,436	1,361	1,409	1,492	1,444	1,453	1,475	1,486	1,504	1,427	1,379	1,472
Unpaid family workers	213	185	172	158	164	163	156	172	180	166	154	171	178	157
Nonagricultural industries:														
Wage and salary workers	93,565	95,871	96,530	96,676	96,921	97,911	97,516	97,698	97,831	97,994	98,372	98,206	98,667	98,738
Government	15,770	16,031	16,213	16,157	16,194	16,418	16,104	16,095	16,187	16,325	16,387	16,647	16,479	16,307
Private industries	77,794	79,841	80,317	80,519	80,727	81,494	81,412	81,604	81,643	81,669	81,984	81,559	82,188	82,432
Private households	1,238	1,249	1,271	1,197	1,131	1,256	1,197	1,213	1,321	1,275	1,279	1,243	1,261	1,234
Other	76,556	78,592	79,046	79,322	79,596	80,238	80,216	80,390	80,322	80,394	80,705	80,317	80,927	81,198
Self-employed workers	7,785	7,811	7,991	8,013	7,903	7,655	7,669	7,644	7,571	7,757	7,807	8,081	7,982	7,927
Unpaid family workers	335	269	248	249	250	273	270	240	253	229	235	254	282	277
PERSONS AT WORK PART TIME[1]														
All industries:														
Part time for economic reasons	5,744	5,590	5,475	5,498	5,494	5,543	5,377	5,538	5,923	5,960	5,537	5,300	5,443	5,544
Slack work	2,430	2,430	2,251	2,306	2,303	2,364	2,369	2,330	2,603	2,659	2,434	2,484	2,411	2,498
Could only find part-time work	2,948	2,819	2,897	2,883	2,864	2,883	2,703	2,953	2,974	2,893	2,810	2,624	2,711	2,764
Voluntary part time	13,169	13,489	13,713	13,645	13,556	13,958	13,817	13,754	13,933	13,636	14,268	13,991	14,023	13,860
Nonagricultural industries:														
Part time for economic reasons	5,512	5,334	5,241	5,295	5,294	5,275	5,158	5,301	5,621	5,673	5,320	5,191	5,259	5,298
Slack work	2,291	2,273	2,115	2,196	2,195	2,208	2,224	2,159	2,430	2,523	2,308	2,323	2,286	2,327
Could only find part-time work	2,866	2,730	2,801	2,784	2,760	2,776	2,636	2,861	2,849	2,790	2,724	2,579	2,680	2,712
Voluntary part time	12,704	13,038	13,277	13,194	13,122	13,441	13,369	13,285	13,599	13,191	13,779	13,656	13,683	13,468

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

7. Selected unemployment indicators, monthly data seasonally adjusted

(Unemployment rates)

Selected categories	Annual average		1985			1986									
	1984	1985	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
CHARACTERISTIC															
Total, all civilian workers	7.5	7.2	7.1	7.0	6.9	6.7	7.3	7.2	7.1	7.3	7.1	6.9	6.8	7.0	7.0
Both sexes, 16 to 19 years	18.9	18.6	19.8	18.4	18.8	18.4	19.0	18.2	19.6	19.0	19.1	17.5	17.7	18.7	17.6
Men, 20 years and over	6.6	6.2	6.1	6.0	5.9	5.7	6.2	6.2	6.0	6.4	6.2	6.2	5.9	6.2	6.2
Women, 20 years and over	6.8	6.6	6.4	6.4	6.2	6.1	6.7	6.6	6.4	6.5	6.4	6.1	6.1	6.2	6.1
White, total	6.5	6.2	6.1	5.9	5.9	5.7	6.4	6.2	6.1	6.2	6.1	6.0	5.8	6.0	6.0
Both sexes, 16 to 19 years	16.0	15.7	17.0	15.5	15.9	14.9	16.2	14.5	16.4	16.0	16.2	15.0	15.2	16.1	15.4
Men, 16 to 19 years	16.8	16.5	18.5	15.8	16.2	14.7	16.5	15.3	17.2	17.3	17.8	15.3	16.7	17.0	15.4
Women, 16 to 19 years	15.2	14.8	15.3	15.1	15.5	15.1	15.8	13.7	15.6	14.7	14.4	14.7	13.5	15.2	15.4
Men, 20 years and over	5.7	5.4	5.2	5.2	5.1	5.0	5.4	5.5	5.2	5.5	5.4	5.5	5.0	5.4	5.4
Women, 20 years and over	5.8	5.7	5.5	5.4	5.4	5.3	5.9	5.8	5.5	5.5	5.4	5.3	5.2	5.3	5.2
Black, total	15.9	15.1	14.9	15.6	14.9	14.4	14.8	14.7	14.8	14.8	15.1	14.0	14.6	14.8	14.4
Both sexes, 16 to 19 years	42.7	40.2	39.7	40.8	41.6	41.9	39.1	43.7	42.6	40.8	40.2	38.6	39.5	38.3	34.8
Men, 16 to 19 years	42.7	41.0	41.0	45.2	41.0	41.3	38.7	44.1	41.4	40.8	38.5	41.6	37.4	38.9	38.1
Women, 16 to 19 years	42.6	39.2	38.2	36.0	42.3	42.4	39.5	43.4	43.7	40.8	41.9	35.1	41.8	37.8	31.6
Men, 20 years and over	14.3	13.2	13.7	13.7	13.1	12.7	13.3	12.6	12.6	12.7	13.3	12.7	13.2	13.7	13.5
Women, 20 years and over	13.5	13.1	12.1	13.6	12.6	12.0	12.5	12.2	12.5	12.8	12.8	11.9	12.5	12.5	12.4
Hispanic origin, total	10.7	10.5	11.1	10.7	10.4	10.1	12.3	10.3	10.4	11.0	10.8	10.5	11.0	11.1	10.5
Married men, spouse present	4.6	4.3	4.2	4.3	4.3	4.3	4.5	4.5	4.2	4.5	4.5	4.4	4.1	4.2	4.6
Married women, spouse present	5.7	5.6	5.3	5.5	5.3	5.1	5.5	5.6	5.3	5.4	5.2	5.3	5.1	5.0	5.0
Women who maintain families	10.3	10.4	10.4	10.0	9.4	9.9	9.9	10.1	9.4	10.2	10.1	9.2	10.3	10.1	8.8
Full-time workers	7.2	6.8	6.8	6.7	6.6	6.4	6.9	6.9	6.7	7.0	6.7	6.6	6.4	6.7	6.6
Part-time workers	9.3	9.3	9.6	8.8	9.0	8.4	9.4	9.1	9.6	9.2	9.1	9.0	9.3	9.3	9.2
Unemployed 15 weeks and over	2.4	2.0	2.0	1.9	1.9	1.8	2.0	1.9	1.8	1.9	2.0	1.9	1.9	2.0	1.8
Labor force time lost[1]	8.6	8.1	7.9	7.9	7.8	7.6	8.1	8.1	8.1	8.3	8.1	7.7	7.7	8.0	7.9
INDUSTRY															
Nonagricultural private wage and salary workers	7.4	7.2	7.1	7.0	6.9	6.7	7.2	7.2	7.2	7.3	7.1	7.2	6.9	7.0	7.0
Mining	10.0	9.5	7.7	7.3	10.3	10.9	9.2	10.4	12.8	13.7	17.6	17.0	16.7	13.3	14.4
Construction	14.3	13.1	13.5	13.4	12.6	12.9	13.2	13.0	12.0	13.3	12.1	13.2	12.2	12.7	14.1
Manufacturing	7.5	7.7	7.5	7.7	7.3	7.0	7.2	7.2	6.8	7.5	7.3	6.9	6.8	7.0	7.3
Durable goods	7.2	7.6	7.3	7.6	7.3	7.0	7.4	6.8	6.8	7.3	7.1	6.7	6.9	6.5	7.3
Nondurable goods	7.8	7.8	7.8	7.8	7.3	7.1	7.0	7.7	6.8	7.7	7.5	7.2	6.7	7.8	7.3
Transportation and public utilities	5.5	5.1	5.1	5.1	5.0	4.3	5.3	6.1	5.6	5.3	5.5	6.1	4.6	4.7	5.2
Wholesale and retail trade	8.0	7.6	7.7	7.5	7.6	7.2	7.8	7.6	8.1	8.1	7.7	7.8	7.4	7.6	7.4
Finance and service industries	5.9	5.6	5.4	5.4	5.3	5.2	5.9	5.7	5.9	5.5	5.4	5.7	5.7	5.6	5.3
Government workers	4.5	3.9	3.9	3.6	3.8	3.4	3.8	4.0	3.5	3.7	3.6	3.2	3.2	3.5	3.8
Agricultural wage and salary workers	13.5	13.2	12.9	12.5	10.6	10.9	14.3	11.9	13.4	15.8	13.2	11.6	13.8	13.5	11.7

[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

8. Unemployment rates by sex and age, monthly data seasonally adjusted

(Civilian workers)

Sex and age	Annual average		1985			1986								
	1984	1985	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Total, 16 years and over	7.5	7.2	7.1	7.0	6.9	6.7	7.3	7.2	7.1	7.3	7.1	6.9	6.8	7.0
16 to 24 years	13.9	13.6	13.9	13.5	13.3	13.0	13.6	13.2	13.9	14.2	13.5	13.0	12.8	13.8
16 to 19 years	18.9	18.6	19.8	18.4	18.8	18.4	19.0	18.2	19.6	19.0	19.1	17.5	17.7	18.7
16 to 17 years	21.2	21.0	22.7	21.4	21.1	20.9	21.8	19.4	20.9	21.1	20.6	19.4	19.8	20.3
18 to 19 years	17.4	17.0	17.8	16.9	17.5	16.4	17.2	17.1	18.9	17.5	17.9	15.7	16.6	17.4
20 to 24 years	11.5	11.1	10.9	11.0	10.6	10.4	10.8	10.6	10.9	11.7	10.7	10.8	10.2	11.2
25 years and over	5.8	5.6	5.4	5.4	5.3	5.1	5.7	5.7	5.4	5.5	5.6	5.4	5.3	5.4
25 to 54 years	6.1	5.8	5.7	5.6	5.5	5.4	5.9	5.9	5.8	5.9	5.9	5.8	5.6	5.6
55 years and over	4.5	4.1	3.9	3.8	3.9	3.9	4.4	4.3	3.9	3.6	3.7	3.8	3.7	4.1
Men, 16 years and over	7.4	7.0	7.1	6.9	6.7	6.5	7.0	7.0	6.9	7.3	7.1	7.0	6.8	7.0
16 to 24 years	14.4	14.1	14.6	13.9	13.5	12.8	13.6	13.6	14.5	15.0	14.0	13.5	13.3	14.5
16 to 19 years	19.6	19.5	21.5	19.4	19.3	18.2	19.3	18.9	20.2	20.4	20.1	18.2	19.2	19.4
16 to 17 years	21.9	21.9	24.0	20.9	21.6	20.9	23.2	20.0	21.2	21.6	19.4	20.0	21.0	21.9
18 to 19 years	18.3	17.9	19.9	18.7	18.0	16.2	16.6	17.8	19.7	19.6	20.4	16.1	18.1	17.4
20 to 24 years	11.9	11.4	11.1	11.2	10.6	10.3	10.7	11.0	11.6	12.2	11.0	11.2	10.3	12.0
25 years and over	5.7	5.3	5.3	5.2	5.1	5.0	5.5	5.5	5.2	5.4	5.5	5.5	5.3	5.3
25 to 54 years	5.9	5.6	5.5	5.4	5.4	5.3	5.7	5.7	5.5	5.8	5.8	5.8	5.5	5.5
55 years and over	4.8	4.1	4.1	4.0	3.9	3.9	4.4	4.3	3.9	3.8	4.1	3.9	4.1	4.3
Women, 16 years and over	7.6	7.4	7.3	7.2	7.1	7.0	7.6	7.4	7.4	7.3	7.2	6.8	6.8	7.1
16 to 24 years	13.3	13.0	13.1	13.1	13.2	13.2	13.6	12.7	13.2	13.3	13.0	12.5	12.1	12.9
16 to 19 years	18.0	17.6	17.9	17.4	18.3	18.5	18.6	17.5	19.0	17.6	18.0	16.6	16.0	17.9
16 to 17 years	20.4	20.0	21.2	22.0	20.6	20.8	20.2	18.7	20.5	20.5	21.9	18.7	18.1	18.5
18 to 19 years	15.6	16.0	15.5	15.1	16.9	16.5	17.7	16.3	18.1	15.3	15.1	15.3	15.0	17.3
20 to 24 years	10.3	10.7	10.7	10.8	10.6	10.5	11.0	10.1	10.0	11.1	10.4	10.4	10.1	10.3
25 years and over	6.0	5.9	5.6	5.6	5.4	5.3	5.9	5.9	5.8	5.7	5.7	5.4	5.4	5.5
25 to 54 years	6.3	6.2	5.9	5.9	5.7	5.6	6.2	6.3	6.2	6.1	6.1	5.7	5.8	5.8
55 years and over	4.2	4.1	3.7	3.6	3.9	3.6	4.4	4.4	3.8	3.4	3.1	3.6	3.1	3.8

9. Unemployed persons by reason for unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Reason for unemployment	Annual average		1985			1986								
	1984	1985	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Job losers	4,421	4,139	4,040	4,081	3,933	3,776	4,162	4,246	4,034	4,311	4,335	3,937	3,831	4,044
On layoff	1,171	1,157	1,161	1,175	1,132	1,163	1,152	1,164	1,028	1,133	1,066	1,079	990	1,014
Other job losers	3,250	2,982	2,879	2,906	2,801	2,613	3,010	3,082	3,006	3,178	3,269	2,858	2,841	3,030
Job leavers	823	877	911	808	876	996	1,001	1,002	1,110	975	1,013	1,034	978	1,043
Reentrants	2,184	2,256	2,237	2,226	2,225	2,066	2,292	2,197	2,191	2,217	2,064	2,223	2,232	2,118
New entrants	1,110	1,039	1,045	1,055	1,033	1,025	1,097	1,000	1,058	1,062	1,059	965	1,000	1,044
PERCENT OF UNEMPLOYED														
Job losers	51.8	49.8	49.1	50.0	48.8	48.0	48.7	50.3	48.1	50.3	51.2	48.3	47.6	49.0
On layoff	13.7	13.9	14.1	14.4	14.0	14.8	13.5	13.8	12.2	13.2	12.6	13.2	12.3	12.3
Other job losers	38.1	35.9	35.0	35.6	34.7	33.2	35.2	36.5	35.8	37.1	38.6	35.0	35.3	36.7
Job leavers	9.6	10.6	11.1	9.9	10.9	12.7	11.7	11.9	13.2	11.4	12.0	12.7	12.2	12.6
Reentrants	25.6	27.1	27.2	27.2	27.6	26.3	26.8	26.0	26.1	25.9	24.4	27.2	27.8	25.7
New entrants	13.0	12.5	12.7	12.9	12.8	13.0	12.8	11.8	12.6	12.4	12.5	11.8	12.4	12.7
PERCENT OF CIVILIAN LABOR FORCE														
Job losers	3.9	3.6	3.5	3.5	3.4	3.2	3.6	3.6	3.4	3.7	3.7	3.3	3.2	3.4
Job leavers	.7	.8	.8	.7	.8	.9	.9	.9	.9	.8	.9	.9	.8	.9
Reentrants	1.9	2.0	1.9	1.9	1.9	1.8	2.0	1.9	1.9	1.9	1.7	1.9	1.9	1.8
New entrants	1.0	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.8	.8	.9

10. Duration of unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Weeks of unemployment	Annual average		1985			1986								
	1984	1985	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Less than 5 weeks	3,350	3,498	3,430	3,465	3,374	3,311	3,562	3,589	3,626	3,705	3,384	3,394	3,427	3,407
5 to 14 weeks	2,451	2,509	2,536	2,448	2,460	2,441	2,622	2,640	2,685	2,737	2,708	2,486	2,379	2,533
15 weeks and over	2,737	2,305	2,277	2,205	2,188	2,056	2,340	2,258	2,135	2,209	2,320	2,256	2,295	2,405
15 to 26 weeks	1,104	1,025	1,057	894	973	969	1,149	1,099	1,001	1,072	1,036	1,066	1,086	1,114
27 weeks and over	1,634	1,280	1,220	1,311	1,215	1,087	1,191	1,159	1,134	1,137	1,284	1,190	1,209	1,291
Mean duration in weeks	18.2	15.6	15.4	15.7	15.4	14.9	15.3	14.4	14.3	14.4	15.2	15.0	15.8	15.6
Median duration in weeks	7.9	6.8	7.0	6.9	6.9	6.8	6.9	6.8	6.5	6.6	7.3	7.1	7.2	7.2

11. Unemployment rates of civilian workers by State, data not seasonally adjusted

State	Sept. 1985	Sept. 1986
Alabama	8.1	9.7
Alaska	7.3	9.7
Arizona	6.5	6.9
Arkansas	7.4	8.0
California	7.0	6.2
Colorado	5.3	6.7
Connecticut	4.3	3.8
Delaware	4.2	3.9
District of Columbia	8.2	8.5
Florida	6.5	6.3
Georgia	6.4	5.8
Hawaii	5.6	4.5
Idaho	8.4	7.1
Illinois	8.9	7.8
Indiana	6.9	6.3
Iowa	7.0	5.8
Kansas	4.4	5.2
Kentucky	8.2	7.0
Louisiana	11.4	12.5
Maine	4.3	4.2
Maryland	4.1	4.2
Massachusetts	3.9	4.3
Michigan	9.8	8.3
Minnesota	4.9	4.2
Mississippi	9.5	11.2
Missouri	5.4	5.9
Montana	6.1	6.6
Nebraska	4.7	3.9
Nevada	7.3	5.0
New Hampshire	3.2	2.6
New Jersey	4.8	4.3
New Mexico	8.4	9.0
New York	6.4	5.8
North Carolina	4.2	5.0
North Dakota	4.4	5.0
Ohio	9.0	8.4
Oklahoma	6.6	8.2
Oregon	7.5	7.7
Pennsylvania	7.1	6.4
Rhode Island	4.2	3.3
South Carolina	6.2	5.4
South Dakota	4.0	3.6
Tennessee	7.2	7.0
Texas	7.2	9.1
Utah	5.0	5.2
Vermont	3.7	3.4
Virginia	5.2	4.5
Washington	6.8	7.1
West Virginia	10.7	11.6
Wisconsin	5.8	6.1
Wyoming	5.9	8.0

NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the database.

12. Employment of workers on nonagricultural payrolls by State, data not seasonally adjusted

(In thousands)

State	Sept. 1985	Aug. 1986	Sept. 1986^p
Alabama	1,422.9	1,436.6	1,442.1
Alaska	244.9	242.7	237.4
Arizona	1,286.3	1,335.5	1,354.6
Arkansas	819.0	823.3	839.2
California	11,084.9	11,173.1	11,305.4
Colorado	1,426.8	1,445.8	1,441.6
Connecticut	1,583.6	1,607.6	1,623.2
Delaware	297.8	301.9	301.6
District of Columbia	627.0	667.2	648.9
Florida	4,414.8	4,508.5	4,575.6
Georgia	2,591.1	2,650.4	2,672.9
Hawaii	418.9	431.5	425.6
Idaho	348.7	333.0	344.2
Illinois	4,794.6	4,826.3	4,857.3
Indiana	2,218.6	2,266.3	2,296.3
Iowa	1,084.1	1,062.0	1,072.3
Kansas	985.4	989.7	989.3
Kentucky	1,280.1	1,274.6	1,289.4
Louisiana	1,603.9	1,504.3	1,517.8
Maine	471.7	485.6	484.9
Maryland	1,902.1	1,941.5	1,941.5
Massachusetts	2,938.6	2,967.5	2,991.1
Michigan	3,553.0	3,575.2	3,611.9
Minnesota	1,884.8	1,905.0	1,923.6
Mississippi	848.5	835.0	856.5
Missouri	2,133.1	2,183.2	2,186.0
Montana	282.8	273.8	273.9
Nebraska	656.3	657.1	663.7
Nevada	455.4	469.6	473.0
New Hampshire	479.2	494.8	495.4
New Jersey	3,451.6	3,564.3	3,550.0
New Mexico	524.9	523.7	524.6
New York	7,797.6	7,914.0	7,948.5
North Carolina	2,672.5	2,698.9	2,752.7
North Dakota	254.8	248.9	252.4
Ohio	4,437.7	4,526.0	4,570.1
Oklahoma	1,186.0	1,137.1	1,148.1
Oregon	1,047.2	1,058.6	1,088.8
Pennsylvania	4,777.9	4,835.3	4,852.2
Rhode Island	430.2	430.6	433.4
South Carolina	1,318.7	1,347.8	1,362.7
South Dakota	249.7	252.0	253.3
Tennessee	1,889.7	1,943.3	1,964.9
Texas	6,711.0	6,644.1	6,676.0
Utah	634.9	632.9	642.6
Vermont	227.1	224.3	227.8
Virginia	2,479.3	2,536.5	2,562.1
Washington	1,741.5	1,772.4	1,794.1
West Virginia	601.7	587.5	600.9
Wisconsin	2,016.1	2,031.4	2,047.5
Wyoming	211.8	201.1	201.0
Puerto Rico	679.0	696.9	704.2
Virgin Islands	35.5	37.2	35.8

^{p} = preliminary

NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the database.

13. Employment of workers on nonagricultural payrolls by industry, monthly data seasonally adjusted

[In thousands]

Industry	Annual average		1985			1986								
	1984	1985	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.[p]
TOTAL	94,496	97,614	98,428	98,666	98,910	99,296	99,429	99,484	99,783	99,918	99,843	100,105	100,283	100,448
PRIVATE SECTOR	78,472	81,199	81,853	82,073	82,281	82,659	82,748	82,785	83,072	83,198	83,161	83,508	83,655	83,705
GOODS PRODUCING	24,727	24,930	24,903	24,931	24,977	25,101	25,038	24,945	25,038	24,965	24,854	24,869	24,888	24,850
Mining	966	930	913	907	901	897	880	852	821	790	772	768	753	743
Oil and gas extraction	607	585	571	565	560	556	541	518	488	461	446	442	431	423
Construction	4,383	4,687	4,754	4,765	4,787	4,901	4,864	4,838	4,972	4,974	4,947	4,980	5,012	5,008
General building contractors	1,161	1,251	1,276	1,283	1,287	1,330	1,320	1,298	1,315	1,314	1,299	1,299	1,306	1,299
Manufacturing	19,378	19,314	19,236	19,259	19,289	19,303	19,294	19,255	19,245	19,201	19,135	19,121	19,123	19,099
Production workers	13,285	13,130	13,059	13,074	13,100	13,111	13,097	13,061	13,060	13,025	12,979	12,961	12,971	12,955
Durable goods	11,505	11,516	11,447	11,453	11,461	11,466	11,455	11,418	11,415	11,378	11,307	11,294	11,302	11,275
Production workers	7,739	7,660	7,594	7,594	7,595	7,595	7,579	7,545	7,547	7,519	7,462	7,441	7,458	7,439
Lumber and wood products	704	700	706	708	710	716	716	715	719	719	721	724	729	734
Furniture and fixtures	487	493	483	493	494	494	494	493	494	496	496	496	499	500
Stone, clay, and glass products	593	591	59.	591	593	596	597	594	600	599	597	593	592	594
Primary metal industries	857	813	797	801	803	798	795	787	785	780	761	758	751	749
Blast furnaces and basic steel products	334	305	304	302	300	300	299	293	291	288	286	285	272	270
Fabricated metal products	1,463	1,468	1,460	1,459	1,456	1,455	1,452	1,450	1,451	1,447	1,440	1,428	1,429	1,433
Machinery, except electrical	2,196	2,182	2,146	2,139	2,133	2,137	2,127	2,118	2,111	2,100	2,089	2,079	2,072	2,044
Electrical and electronic equipment	2,209	2,207	2,181	2,179	2,182	2,182	2,181	2,177	2,177	2,175	2,143	2,169	2,168	2,162
Transportation equipment	1,901	1,971	1,987	1,993	1,996	1,996	1,998	1,989	1,986	1,972	1,974	1,969	1,985	1,982
Motor vehicles and equipment	862	876	873	870	872	867	864	858	854	839	838	824	839	836
Instruments and related products	714	723	722	723	725	724	725	726	723	721	717	713	713	714
Miscellaneous manufacturing industries	382	369	366	367	367	368	370	369	369	369	369	363	364	363
Nondurable goods	7,873	7,798	7,789	7,806	7,828	7,837	7,839	7,837	7,830	7,823	7,828	7,827	7,821	7,824
Production workers	5,546	5,470	5,465	5,480	5,505	5,516	5,518	5,516	5,513	5,506	5,517	5,520	5,513	5,516
Food and kindred products	1,612	1,608	1,610	1,612	1,623	1,623	1,631	1,632	1,633	1,640	1,648	1,645	1,642	1,638
Tobacco manufactures	64	65	64	65	64	64	63	63	63	62	62	62	59	60
Textile mill products	746	704	699	701	702	702	705	707	703	705	707	710	711	710
Apparel and other textile products	1,185	1,125	1,121	1,122	1,130	1,133	1,122	1,117	1,119	1,113	1,106	1,108	1,108	1,109
Paper and allied products	681	683	683	687	686	687	687	688	689	689	690	687	685	690
Printing and publishing	1,376	1,435	1,447	1,454	1,457	1,461	1,467	1,469	1,472	1,474	1,477	1,483	1,481	1,485
Chemicals and allied products	1,049	1,046	1,040	1,037	1,035	1,034	1,032	1,031	1,029	1,024	1,026	1,025	1,026	1,023
Petroleum and coal products	189	178	171	170	169	168	167	166	166	166	164	163	163	162
Rubber and misc. plastics products	780	790	790	794	798	802	803	804	800	798	797	792	794	797
Leather and leather products	189	166	164	164	164	163	162	160	157	154	151	152	152	150
SERVICE-PRODUCING	69,769	72,684	73,525	73,735	73,933	74,195	74,391	74,539	74,745	74,953	74,989	75,236	75,395	75,596
Transportation and public utilities	5,159	5,242	5,260	5,272	5,277	5,286	5,277	5,280	5,266	5,265	5,167	5,288	5,255	5,308
Transportation	2,917	3,006	3,026	3,040	3,046	3,056	3,048	3,053	3,040	3,037	3,035	3,057	3,063	3,080
Communication and public utilities	2,242	2,236	2,234	2,232	2,231	2,230	2,229	2,227	2,226	2,228	2,132	2,231	2,192	2,228
Wholesale trade	5,555	5,740	5,796	5,796	5,809	5,830	5,843	5,841	5,864	5,872	5,829	5,849	5,863	5,858
Durable goods	3,276	3,409	3,442	3,451	3,460	3,470	3,482	3,480	3,485	3,488	3,454	3,483	3,485	3,485
Nondurable goods	2,279	2,331	2,354	2,345	2,349	2,360	2,361	2,361	2,379	2,384	2,375	2,366	2,378	2,373
Retail trade	16,545	17,360	17,543	17,589	17,622	17,734	17,795	17,828	17,851	17,911	17,944	17,992	18,030	18,030
General merchandise stores	2,267	2,320	2,329	2,326	2,317	2,328	2,333	2,330	2,342	2,344	2,350	2,354	2,359	2,364
Food stores	2,637	2,779	2,828	2,845	2,870	2,860	2,891	2,901	2,910	2,917	2,932	2,938	2,951	2,951
Automotive dealers and service stations	1,799	1,882	1,916	1,918	1,922	1,929	1,938	1,939	1,940	1,944	1,945	1,950	1,952	1,957
Eating and drinking places	5,388	5,715	5,772	5,780	5,801	5,831	5,854	5,868	5,859	5,889	5,918	5,931	5,923	5,918
Finance, insurance, and real estate	5,689	5,953	6,038	6,070	6,095	6,123	6,157	6,184	6,228	6,261	6,295	6,334	6,364	6,383
Finance	2,854	2,979	3,024	3,039	3,053	3,066	3,082	3,095	3,120	3,137	3,159	3,176	3,192	3,201
Insurance	1,757	1,830	1,852	1,862	1,868	1,878	1,889	1,900	1,910	1,918	1,927	1,945	1,952	1,962
Real estate	1,078	1,144	1,162	1,169	1,174	1,179	1,186	1,189	1,198	1,206	1,209	1,213	1,220	1,220
Services	20,797	21,974	22,313	22,415	22,501	22,585	22,638	22,707	22,825	22,924	23,072	23,176	23,255	23,275
Business services	4,057	4,452	4,567	4,604	4,631	4,660	4,687	4,698	4,750	4,755	4,792	4,835	4,848	4,887
Health services	6,122	6,310	6,375	6,401	6,424	6,447	6,471	6,497	6,511	6,543	6,571	6,601	6,634	6,650
Government	16,024	16,415	16,575	16,593	16,629	16,637	16,681	16,699	16,711	16,720	16,682	16,597	16,628	16,743
Federal	2,807	2,875	2,895	2,904	2,913	2,918	2,918	2,923	2,914	2,899	2,875	2,866	2,875	2,899
State	3,734	3,848	3,895	3,901	3,904	3,916	3,924	3,927	3,938	3,936	3,927	3,921	3,919	3,940
Local	9,482	9,692	9,785	9,788	9,812	9,803	9,839	9,849	9,859	9,885	9,880	9,810	9,834	9,904

[p] = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

14. Average weekly hours of production or nonsupervisory workers on private nonagricultural payrolls by industry, monthly data seasonally adjusted

Industry	Annual average		1985			1986									
	1984	1985	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.ᵖ	Oct.ᵖ
PRIVATE SECTOR	35.2	34.9	34.9	34.8	34.9	35.0	34.9	34.9	34.8	34.8	34.7	34.7	34.9	34.7	34.8
CONSTRUCTION	37.8	37.7	-	-	-	-	-	-	-	-	-	-	-	-	-
MANUFACTURING	40.7	40.5	40.7	40.7	40.9	40.8	40.7	40.7	40.7	40.7	40.6	40.6	40.8	40.8	40.6
Overtime hours	3.4	3.3	3.4	3.4	3.6	3.5	3.4	3.4	3.4	3.4	3.3	3.4	3.5	3.5	3.4
Durable goods	41.4	41.2	41.3	41.3	41.6	41.5	41.4	41.4	41.3	41.2	41.2	41.1	41.4	41.5	41.2
Overtime hours	3.6	3.5	3.5	3.6	3.7	3.6	3.5	3.6	3.6	3.4	3.5	3.5	3.5	3.6	3.5
Lumber and wood products	39.9	39.9	40.2	39.9	40.2	40.4	40.0	40.2	40.3	40.3	39.9	40.1	40.2	40.1	40.2
Furniture and fixtures	39.7	39.4	39.5	39.4	39.9	40.0	39.7	39.4	39.1	39.4	39.4	39.4	39.9	40.1	39.8
Stone, clay, and glass products	42.0	41.9	42.1	41.8	41.8	42.7	41.9	41.9	42.4	42.3	42.2	42.2	42.5	42.5	42.2
Primary metal industries	41.7	41.5	41.8	41.9	42.1	41.9	42.1	41.9	41.3	41.7	41.6	41.3	41.9	42.1	42.3
Blast furnaces and basic steel products	40.7	41.1	41.6	41.9	41.9	41.7	41.8	41.7	40.5	41.5	41.1	41.2	41.5	41.9	42.8
Fabricated metal products	41.4	41.3	41.5	41.5	41.6	41.5	41.5	41.4	41.2	41.1	41.1	41.1	41.2	41.5	41.0
Machinery except electrical	41.9	41.5	41.5	41.6	41.7	41.6	41.6	41.6	41.8	41.8	41.7	41.4	41.7	41.7	41.5
Electrical and electronic equipment	41.0	40.6	40.6	40.9	41.1	41.0	40.9	41.0	41.1	41.0	41.0	41.1	41.2	41.3	41.0
Transportation equipment	42.7	42.6	42.8	42.7	43.0	42.8	42.7	42.7	42.1	41.9	42.2	42.1	42.6	42.6	42.0
Motor vehicles and equipment	43.6	43.5	43.7	43.6	44.0	43.6	43.4	43.3	41.9	41.8	42.4	42.4	42.8	42.7	41.9
Instruments and related products	41.3	41.0	40.9	41.0	41.6	41.1	41.2	41.3	41.3	40.9	41.0	40.8	41.0	40.7	40.8
Miscellaneous manufacturing	39.4	39.4	-	-	-	-	-	-	-	-	-	-	-	-	-
Nondurable goods	39.7	39.6	39.8	39.8	40.0	39.9	39.7	39.8	39.9	39.9	39.8	39.8	40.0	39.9	39.8
Overtime hours	3.1	3.1	3.2	3.2	3.4	3.3	3.2	3.2	3.3	3.4	3.2	3.4	3.4	3.3	3.4
Food and kindred products	39.8	40.0	40.2	40.0	40.1	40.1	39.8	39.9	40.2	40.2	40.0	40.0	40.3	39.7	39.7
Tobacco manufactures	38.9	37.2	-	-	-	-	-	-	-	-	-	-	-	-	-
Textile mill products	39.9	39.7	40.7	40.8	41.0	40.8	40.6	40.7	41.3	41.1	40.8	40.9	41.4	41.5	41.2
Apparel and other textile products	36.4	36.4	36.6	36.6	36.8	36.7	36.3	36.5	36.9	36.5	36.5	36.6	36.5	36.7	36.6
Paper and allied products	43.1	43.1	43.2	43.3	43.5	43.6	43.5	43.5	43.0	43.2	43.1	43.2	43.5	43.1	42.9
Printing and publishing	37.9	37.8	37.9	37.9	38.1	38.0	38.0	38.0	38.0	38.0	37.8	37.9	38.0	38.0	37.8
Chemicals and allied products	41.9	41.9	41.8	41.9	42.0	41.9	41.8	41.9	41.9	42.0	41.9	41.9	42.1	42.0	42.1
Petroleum and coal products	43.7	43.0	44.2	43.2	43.6	43.5	43.7	43.8	43.6	43.4	44.0	43.5	44.3	43.2	43.4
Leather and leather products	36.8	37.2	-	-	-	-	-	-	-	-	-	-	-	-	-
TRANSPORTATION AND PUBLIC UTILITIES	39.4	39.5	39.5	39.4	39.5	39.4	39.5	39.6	39.2	39.2	39.1	39.2	39.1	38.9	38.8
WHOLESALE TRADE	38.5	38.4	38.4	38.4	38.4	38.5	38.4	38.5	38.5	38.4	38.3	38.3	38.4	38.2	38.3
RETAIL TRADE	29.8	29.4	29.3	29.3	29.2	29.3	29.3	29.3	29.2	29.2	29.1	29.2	29.2	29.2	29.1
SERVICES	32.6	32.5	32.5	32.4	32.5	32.6	32.6	32.5	32.5	32.5	32.4	32.4	32.4	32.4	32.3

- Data not available.
ᵖ = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark adjustment.

15. Average hourly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1985			1986									
	1984	1985	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.^{p}	Oct
PRIVATE SECTOR	$8.32	$8.57	$8.64	$8.66	$8.71	$8.72	$8.74	$8.73	$8.72	$8.72	$8.71	$8.69	$8.70	$8.81	$8.8
Seasonally adjusted	-	-	8.63	8.65	8.70	8.68	8.71	8.73	8.72	8.73	8.74	8.73	8.77	8.77	8.8
MINING	11.53	11.98	12.00	12.07	12.27	12.24	12.32	12.35	12.43	12.44	12.50	12.48	12.51	12.51	12.5
CONSTRUCTION	12.13	12.31	12.42	12.28	12.47	12.34	12.35	12.22	12.29	12.33	12.31	12.31	12.39	12.54	12.6
MANUFACTURING	9.19	9.53	9.56	9.63	9.74	9.70	9.70	9.72	9.70	9.71	9.70	9.74	9.68	9.73	9.7
Durable goods	9.74	10.10	10.15	10.22	10.34	10.27	10.29	10.30	10.28	10.28	10.26	10.27	10.22	10.30	10.2
Lumber and wood products	8.03	8.22	8.30	8.29	8.35	8.30	8.36	8.33	8.32	8.37	8.43	8.36	8.40	8.42	8.3
Furniture and fixtures	6.84	7.17	7.29	7.32	7.38	7.36	7.31	7.35	7.36	7.39	7.46	7.44	7.46	7.50	7.4
Stone, clay, and glass products	9.57	9.84	9.87	9.91	9.95	9.96	9.94	9.93	10.00	10.04	10.04	10.06	10.07	10.10	10.0
Primary metal industries	11.47	11.68	11.61	11.77	11.84	11.81	11.96	11.99	12.00	12.02	11.94	12.06	11.85	11.95	11.9
Blast furnaces and basic steel products	12.98	13.34	13.32	13.43	13.44	13.48	13.81	13.80	13.82	13.86	13.88	14.08	13.83	14.01	13.9
Fabricated metal products	9.40	9.70	9.71	9.76	9.91	9.85	9.85	9.88	9.84	9.85	9.88	9.84	9.82	9.87	9.8
Machinery, except electrical	9.96	10.29	10.41	10.48	10.55	10.50	10.53	10.58	10.55	10.55	10.55	10.57	10.57	10.58	10.5
Electrical and electronic equipment	9.04	9.47	9.55	9.61	9.68	9.60	9.60	9.62	9.62	9.64	9.61	9.68	9.67	9.72	9.6
Transportation equipment	12.20	12.72	12.78	12.85	13.06	12.91	12.87	12.90	12.83	12.79	12.78	12.78	12.75	12.89	12.8
Motor vehicles and equipment	12.73	13.42	13.44	13.52	13.81	13.66	13.59	13.66	13.54	13.47	13.41	13.40	13.36	13.53	13.51
Instruments and related products	8.84	9.16	9.24	9.27	9.39	9.32	9.39	9.41	9.41	9.40	9.41	9.47	9.45	9.50	9.4
Miscellaneous manufacturing	7.05	7.30	7.32	7.37	7.48	7.48	7.50	7.51	7.50	7.54	7.54	7.59	7.52	7.60	7.6
Nondurable goods	8.38	8.71	8.72	8.79	8.87	8.86	8.86	8.88	8.88	8.90	8.91	8.99	8.93	8.95	8.9
Food and kindred products	8.39	8.57	8.51	8.61	8.71	8.72	8.71	8.74	8.75	8.78	8.74	8.75	8.65	8.63	8.67
Tobacco manufactures	11.22	11.94	11.31	11.97	11.78	11.89	12.38	12.76	12.84	13.38	13.68	13.48	13.44	12.16	12.10
Textile mill products	6.46	6.71	6.76	6.79	6.83	6.85	6.83	6.86	6.87	6.88	6.87	6.90	6.99	7.05	7.03
Apparel and other textile products	5.55	5.73	5.74	5.75	5.80	5.82	5.79	5.80	5.81	5.78	5.79	5.78	5.79	5.87	5.8
Paper and allied products	10.41	10.82	10.91	10.97	11.07	11.02	10.99	11.03	11.05	11.12	11.15	11.31	11.17	11.19	11.27
Printing and publishing	9.41	9.71	9.78	9.83	9.92	9.85	9.86	9.90	9.87	9.91	9.88	9.96	10.00	10.10	10.0
Chemicals and allied products	11.07	11.56	11.70	11.80	11.85	11.86	11.81	11.78	11.82	11.89	11.94	12.04	11.99	12.00	12.0
Petroleum and coal products	13.44	14.06	13.99	14.07	14.24	14.26	14.21	14.22	14.16	14.02	14.14	14.16	14.07	14.22	14.13
Rubber and miscellaneous plastics products	8.29	8.54	8.54	8.63	8.73	8.69	8.69	8.72	8.68	8.75	8.75	8.82	8.81	8.75	8.76
Leather and leather products	5.71	5.82	5.77	5.83	5.83	5.86	5.83	5.86	5.89	5.88	5.86	5.89	5.90	5.93	5.91
TRANSPORTATION AND PUBLIC UTILITIES	11.12	11.40	11.48	11.59	11.61	11.59	11.64	11.62	11.55	11.54	11.57	11.61	11.61	11.72	11.72
WHOLESALE TRADE	8.89	9.16	9.16	9.23	9.33	9.28	9.36	9.33	9.29	9.29	9.32	9.30	9.31	9.37	9.3
RETAIL TRADE	5.85	5.94	5.95	5.97	5.99	6.03	6.04	6.03	6.01	6.00	5.99	5.97	5.97	6.06	6.06
FINANCE, INSURANCE, AND REAL ESTATE	7.63	7.94	8.01	8.06	8.15	8.14	8.28	8.30	8.29	8.31	8.37	8.30	8.33	8.40	8.40
SERVICES	7.59	7.89	7.99	8.05	8.12	8.12	8.17	8.18	8.12	8.10	8.10	8.04	8.05	8.19	8.25

- Data not available.

^{p} = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

16. Average weekly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1985			1986									
	1984	1985	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.[p]	Oct.[p]
PRIVATE SECTOR															
Current dollars	$292.86	$299.09	$301.54	$301.37	$306.59	$302.58	$300.66	$302.90	$301.71	$302.58	$303.98	$304.15	$305.37	$307.47	$306.40
Seasonally adjusted	-	-	301.19	301.02	303.63	303.80	303.98	304.68	303.46	303.80	303.28	302.83	305.20	304.32	305.17
Constant (1977) dollars	172.78	170.42	170.36	169.59	172.05	169.32	168.62	171.05	170.94	170.85	170.78	170.97	171.36	171.77	-
MINING	503.58	519.93	518.40	521.42	537.43	543.46	522.37	522.41	522.06	519.99	525.00	518.34	529.17	530.42	528.68
CONSTRUCTION	458.51	464.09	475.89	450.68	460.14	459.05	434.72	444.81	462.10	467.31	465.32	471.47	475.78	482.79	478.58
MANUFACTURING															
Current dollars	374.03	385.97	390.05	393.87	406.16	394.79	390.91	395.60	392.85	394.23	395.76	391.56	393.98	398.93	396.01
Constant (1977) dollars	220.67	219.93	220.37	221.65	227.92	220.92	219.49	223.38	222.58	222.60	222.34	220.10	221.09	222.87	-
Durable goods	403.24	416.12	419.20	424.13	439.45	425.18	421.89	426.42	423.54	423.54	424.76	417.99	420.04	428.48	424.56
Lumber and wood products	320.40	327.98	335.32	327.46	335.67	329.51	328.55	333.20	334.46	338.99	342.28	334.40	341.04	342.09	338.15
Furniture and fixtures	271.55	282.50	291.60	291.34	303.32	289.98	284.36	288.12	286.30	288.21	294.67	287.93	298.40	303.75	302.60
Stone, clay, and glass products	401.94	412.30	419.48	414.24	414.92	414.34	403.56	412.10	425.00	428.71	429.71	427.55	432.00	435.31	429.41
Primary metal industries	478.30	484.72	480.65	491.99	504.38	493.66	503.52	504.78	499.20	501.23	499.09	495.67	491.78	504.29	499.87
Blast furnaces and basic steel products	528.29	548.27	544.79	557.35	564.48	556.72	578.64	576.84	569.39	576.58	577.41	582.91	569.80	587.02	585.90
Fabricated metal products	389.16	400.61	403.94	406.02	422.17	407.79	403.85	409.03	403.44	404.84	408.04	398.52	402.62	410.59	405.68
Machinery, except electrical	417.32	427.04	430.97	438.06	452.60	437.85	437.00	442.24	437.83	437.83	439.94	431.28	436.54	441.19	438.01
Electrical and electronic equipment	370.64	384.48	387.73	396.89	408.50	394.56	389.76	395.38	392.50	393.31	394.01	391.07	395.50	402.41	396.47
Transportation equipment	520.94	541.87	545.71	551.27	577.25	555.13	545.69	552.12	542.71	537.18	540.59	530.37	531.68	545.25	540.09
Motor vehicles and equipment	557.57	583.77	585.98	588.12	625.59	595.58	583.01	592.84	574.10	567.09	572.61	560.12	555.78	575.03	566.07
Instruments and related products	365.09	375.56	376.07	382.65	400.01	383.05	384.99	389.57	385.81	382.56	385.81	382.59	384.62	386.55	384.08
Miscellaneous manufacturing	277.77	287.62	295.00	296.27	304.44	297.70	294.75	299.65	297.75	297.08	298.58	294.49	294.78	300.20	305.24
Nondurable goods	332.69	344.92	347.93	351.60	359.24	352.63	347.31	352.54	351.65	354.22	355.51	356.00	358.09	359.79	357.50
Food and kindred products	333.92	342.80	343.80	346.12	354.50	347.93	339.69	344.36	346.50	352.08	350.47	350.00	352.66	348.65	345.93
Tobacco manufactures	436.46	444.17	444.48	435.71	448.82	448.25	453.11	478.50	469.94	504.43	523.94	483.93	486.53	470.59	469.48
Textile mill products	257.75	266.39	276.48	279.75	283.45	278.80	274.57	276.52	278.92	282.08	283.04	278.07	290.78	294.69	291.04
Apparel and other textile products	202.02	208.57	211.23	212.75	215.18	213.01	207.28	211.70	211.48	210.97	213.65	209.09	211.91	215.43	215.28
Paper and allied products	448.67	466.34	472.40	477.20	490.40	479.37	472.57	477.60	474.05	479.27	480.57	486.33	483.66	485.65	484.61
Printing and publishing	356.64	367.04	371.64	375.51	384.90	371.35	370.74	377.19	374.07	374.60	370.50	374.50	381.00	386.83	382.41
Chemicals and allied products	463.83	484.36	486.72	495.60	503.63	495.75	492.48	494.76	495.26	499.38	502.67	502.07	501.18	504.00	505.36
Petroleum and coal products	587.33	604.58	619.76	610.64	622.29	616.03	612.45	621.41	615.96	605.66	622.16	618.79	623.30	624.26	614.66
Rubber and miscellaneous plastics products	345.69	350.99	350.99	356.42	366.66	359.77	356.29	360.14	356.75	360.50	361.38	357.21	362.97	363.13	362.66
Leather and leather products	210.13	216.50	216.95	219.21	220.96	217.41	209.88	212.72	213.81	215.80	221.68	217.83	216.53	218.22	216.31
TRANSPORTATION AND PUBLIC UTILITIES	438.13	450.30	453.46	457.81	460.92	452.01	456.29	457.83	450.45	450.06	455.86	457.43	457.43	458.25	454.74
WHOLESALE TRADE	342.27	351.74	351.74	355.36	360.14	355.42	355.68	357.34	355.81	356.74	358.82	358.05	358.44	358.87	359.25
RETAIL TRADE	174.33	174.64	173.74	173.73	178.50	173.06	172.74	174.27	173.69	174.60	176.71	178.50	178.50	176.95	175.74
FINANCE, INSURANCE, AND REAL ESTATE	278.50	289.02	290.76	291.77	299.11	296.30	304.70	304.61	301.78	301.65	306.34	302.95	304.88	305.76	306.60
SERVICES	247.43	256.43	259.68	260.02	263.90	263.09	264.71	265.03	263.09	262.44	264.06	263.71	264.04	265.38	266.48

- Data not available.
[p] = preliminary

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

17. The Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Not seasonally adjusted				Seasonally adjusted					
	Oct. 1985	Aug. 1986	Sept. 1986[p]	Oct. 1986[p]	Oct. 1985	June 1986	July 1986	Aug. 1986	Sept. 1986	Oct. 1986[p]
PRIVATE SECTOR (in current dollars)	166.2	168.5	170.0	170.3	166.2	169.2	168.9	169.3	169.6	170.3
Mining[1]	178.8	181.5	181.4	181.9	-	-	-	-	-	-
Construction	151.9	151.3	153.0	154.1	150.4	151.4	150.8	151.3	151.2	152.8
Manufacturing	169.3	172.2	172.6	172.8	169.7	172.5	172.7	172.9	172.8	173.3
Transportation and public utilities	167.7	169.6	171.6	171.7	167.4	170.7	170.3	170.1	170.9	171.3
Wholesale trade[1]	169.1	171.7	172.8	173.1	-	-	-	-	-	-
Retail trade	156.0	157.4	159.3	159.1	156.4	157.8	157.7	158.5	159.1	159.6
Finance, insurance, and real estate[1]	173.2	179.6	181.0	181.3	-	-	-	-	-	-
Services	170.1	172.6	175.1	175.9	169.9	174.3	173.4	174.3	174.4	175.7
PRIVATE SECTOR (in constant dollars)	93.9	94.6	94.9	-	94.0	95.2	95.1	95.1	95.0	-

[1] This series is not seasonally adjusted because the seasonal component is small relative to the trend-cycle, irregular components, or both, and consequently cannot be separated with sufficient precision.

- Data not available.

[p] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

18. Indexes of diffusion: Industries in which employment increased, data seasonally adjusted

(In percent)

Time span and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Over 1-month span:												
1984	67.8	72.7	67.8	67.8	62.4	65.4	62.2	55.9	50.5	63.0	53.5	57.0
1985	52.4	47.8	53.8	49.2	51.8	47.0	58.2	56.8	50.8	61.9	57.8	59.5
1986	59.7	50.5	45.1	54.1	49.2	48.2	54.6	54.3	52.2	55.1	–	–
Over 3-month span:												
1984	76.5	75.1	75.9	71.4	71.6	68.1	63.2	58.1	56.8	53.5	58.1	53.0
1985	51.1	49.7	46.2	46.2	45.1	51.4	49.7	51.1	55.1	55.9	61.4	60.5
1986	56.1	54.3	51.1	49.7	48.4	44.9	47.3	52.7	55.1	–	–	–
Over 6-month span:												
1984	78.1	78.5	77.0	75.1	69.2	65.1	60.2	59.2	58.6	53.2	49.7	54.9
1985	49.2	47.8	43.0	45.9	44.3	44.3	48.9	50.8	54.1	57.0	57.0	55.9
1986	53.8	53.8	47.6	45.9	45.9	46.4	48.9	–	–	–	–	–
Over 12-month span:												
1984	81.1	78.1	72.2	72.2	68.9	67.8	65.7	62.7	59.7	54.8	51.4	48.6
1985	46.2	45.7	46.6	43.8	44.9	47.3	47.6	48.9	47.3	48.5	48.9	48.6
1986	50.3	51.1	51.6	51.1	–	–	–	–	–	–	–	–

– Data not available.

NOTE: Figures are the percent of industries with employment rising. (Half of the unchanged components are counted as rising.) Data are centered within the spans. Data for the 2 most recent months shown in each span are preliminary. See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

19. Annual data: Employment status of the noninstitutional population

(Numbers in thousands)

Employment status	1977	1978	1979	1980	1981	1982	1983	1984	1985
Noninstitutional population	160,689	163,541	166,460	169,349	171,775	173,939	175,891	178,080	179,912
Labor force:									
Total (number)	100,665	103,882	106,559	108,544	110,315	111,872	113,226	115,241	117,167
Percent of population	62.6	63.5	64.0	64.1	64.2	64.3	64.4	64.7	65.1
Employed:									
Total (number)	93,673	97,679	100,421	100,907	102,042	101,194	102,510	106,702	108,856
Percent of population	58.3	59.7	60.3	59.6	59.4	58.2	58.3	59.9	60.5
Resident Armed Forces	1,656	1,631	1,597	1,604	1,645	1,668	1,676	1,697	1,706
Civilian									
Total	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005	107,150
Agriculture	3,283	3,387	3,347	3,364	3,368	3,401	3,383	3,321	3,179
Nonagricultural industries	88,734	92,661	95,477	95,938	97,030	96,125	97,450	101,685	103,971
Unemployed:									
Total (number)	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539	8,312
Percent of labor force	6.9	6.0	5.8	7.0	7.5	9.5	9.5	7.4	7.1
Not in labor force (number)	60,025	59,659	59,900	60,806	61,460	62,067	62,665	62,839	62,744

20. Annual data: Employment levels by industry

(Numbers in thousands)

Industry	1977	1978	1979	1980	1981	1982	1983	1984	1985
Total employment	82,471	86,697	89,823	90,406	91,156	89,566	90,200	94,496	97,614
Private sector	67,344	71,026	73,876	74,166	75,126	73,729	74,330	78,472	81,199
Goods-producing	24,346	25,585	26,461	25,658	25,497	23,813	23,334	24,727	24,930
Mining	813	851	958	1,027	1,139	1,128	952	966	930
Construction	3,851	4,229	4,463	4,346	4,188	3,905	3,948	4,383	4,687
Manufacturing	19,682	20,505	21,040	20,285	20,170	18,781	18,434	19,378	19,314
Service-producing	58,125	61,113	63,363	64,748	65,659	65,753	66,866	69,769	72,684
Transportation and public utilities	4,713	4,923	5,136	5,146	5,165	5,082	4,954	5,159	5,242
Wholesale trade	4,708	4,969	5,204	5,275	5,358	5,278	5,268	5,555	5,740
Retail trade	13,808	14,573	14,989	15,035	15,189	15,179	15,613	16,545	17,360
Finance, insurance, and real estate	4,467	4,724	4,975	5,160	5,298	5,341	5,466	5,689	5,953
Services	15,303	16,252	17,112	17,890	18,619	19,036	19,694	20,797	21,974
Government	15,127	15,672	15,947	16,241	16,031	15,837	15,869	16,024	16,415
Federal	2,727	2,753	2,773	2,866	2,772	2,739	2,774	2,807	2,875
State	3,377	3,474	3,541	3,610	3,640	3,640	3,662	3,734	3,848
Local	9,023	9,446	9,633	9,765	9,619	9,458	9,434	9,482	9,692

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

21. Annual data: Average hours and earnings of production or nonsupervisory workers on nonagricultural payrolls, by industry

Industry	1977	1978	1979	1980	1981	1982	1983	1984	1985
Private sector									
Average weekly hours	36.0	35.8	35.7	35.3	35.2	34.8	35.0	35.2	34.9
Average hourly earnings (in dollars)	5.25	5.69	6.16	6.66	7.25	7.68	8.02	8.32	8.57
Average weekly earnings (in dollars)	189.00	203.70	219.91	235.10	255.20	267.26	280.70	292.86	299.09
Mining									
Average weekly hours	43.4	43.4	43.0	43.3	43.7	42.7	42.5	43.3	43.4
Average hourly earnings (in dollars)	6.94	7.67	8.49	9.17	10.04	10.77	11.28	11.63	11.98
Average weekly earnings (in dollars)	301.20	332.88	365:07	397.06	438.75	459.88	479.40	503.58	519.93
Construction									
Average weekly hours	36.5	36.8	37.0	37.0	36.9	36.7	37.1	37.8	37.7
Average hourly earnings (in dollars)	8.10	8.66	9.27	9.94	10.82	11.63	11.94	12.13	12.31
Average weekly earnings (in dollars)	295.65	318.69	342.99	367.78	399.26	426.82	442.97	458.51	464.09
Manufacturing									
Average weekly hours	40.3	40.4	40.2	39.7	39.8	38.9	40.1	40.7	40.5
Average hourly earnings (in dollars)	5.68	6.17	6.70	7.27	7.99	8.49	8.83	9.19	9.53
Average weekly earnings (in dollars)	228.90	249.27	269.34	288.62	318.00	330.26	354.08	374.03	385.97
Transportation and public utilities									
Average weekly hours	39.9	40.0	39.9	39.6	39.4	39.0	39.0	39.4	39.5
Average hourly earnings (in dollars)	6.99	7.57	8.16	8.87	9.70	10.32	10.79	11.12	11.40
Average weekly earnings (in dollars)	278.90	302.80	325.58	351.25	382.18	402.48	420.81	438.13	450.30
Wholesale trade									
Average weekly hours	38.8	38.8	38.8	38.5	38.5	38.3	38.5	38.5	38.4
Average hourly earnings (in dollars)	5.39	5.88	6.39	6.96	7.56	8.09	8.55	8.89	9.16
Average weekly earnings (in dollars)	209.13	228.14	247.93	267.96	291.06	309.85	329.18	342.27	351.74
Retail trade									
Average weekly hours	31.6	31.0	30.6	30.2	30.1	29.9	29.8	29.8	29.4
Average hourly earnings (in dollars)	3.85	4.20	4.53	4.88	5.25	5.48	5.74	5.85	5.94
Average weekly earnings (in dollars)	121.66	130.20	138.62	147.38	158.03	163.85	171.05	174.33	174.64
Finance, insurance, and real estate									
Average weekly hours	36.4	36.4	36.2	36.2	36.3	36.2	36.2	36.5	36.4
Average hourly earnings (in dollars)	4.54	4.89	5.27	5.79	6.31	6.78	7.29	7.63	7.94
Average weekly earnings (in dollars)	165.26	178.00	190.77	209.60	229.05	245.44	263.90	278.50	289.02
Services									
Average weekly hours	33.0	32.8	32.7	32.6	32.6	32.6	32.7	32.6	32.5
Average hourly earnings (in dollars)	4.65	4.99	5.36	5.85	6.41	6.92	7.31	7.59	7.89
Average weekly earnings (in dollars)	153.45	163.67	175.27	190.71	208.97	225.59	239.04	247.43	256.43

22. Employment Cost Index, compensation,[1] by occupation and industry group

(June 1981 = 100)

Series	1984		1985				1986			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept. 1986	
Civilian workers [2]	122.4	123.9	125.5	126.4	128.4	129.2	130.6	131.5	133.0	1.1	3.6
Workers, by occupational group:											
White-collar workers	124.0	125.5	127.3	128.3	130.7	131.6	133.1	134.2	136.0	1.3	4.1
Blue-collar workers	119.8	120.9	122.2	123.1	124.4	124.9	126.2	126.8	127.8	.8	2.7
Service occupations	124.6	126.8	127.8	128.0	130.9	131.8	133.1	133.7	135.4	1.3	3.4
Workers, by industry division:											
Manufacturing	120.4	122.0	123.9	124.6	125.5	126.0	127.7	128.7	129.3	.5	3.0
Nonmanufacturing	123.3	124.8	126.2	127.2	129.7	130.6	131.9	132.8	134.6	1.4	3.8
Services	128.8	130.9	131.9	132.6	136.4	137.1	138.8	139.4	142.4	2.2	4.4
Public administration [3]	126.9	128.6	130.1	130.3	134.2	134.8	136.8	138.0	140.6	1.9	4.8
Private industry workers	121.1	122.7	124.2	125.2	126.8	127.5	128.9	129.9	130.8	.7	3.2
Workers, by occupational group:											
White-collar workers	122.4	123.9	125.8	127.1	128.8	129.8	131.3	132.5	133.5	.8	3.6
Blue-collar workers	119.3	120.6	121.9	122.8	124.0	124.4	125.7	126.3	127.2	.7	2.6
Service occupations	123.2	125.7	126.3	126.5	128.8	129.5	130.9	131.1	132.3	.9	2.7
Workers, by industry division:											
Manufacturing	120.4	122.0	123.9	124.6	125.5	126.0	127.7	128.7	129.3	.5	3.0
Nonmanufacturing	121.6	123.1	124.4	125.6	127.6	128.4	129.7	130.6	131.7	.8	3.2
State and local government workers	128.8	130.1	131.7	132.0	136.5	137.5	138.9	139.7	143.6	2.8	5.2
Workers, by occupational group:											
White-collar workers	129.7	131.1	132.5	132.9	137.6	138.6	140.0	140.5	145.0	3.2	5.4
Blue-collar workers	125.0	125.9	128.1	128.5	131.9	132.7	134.7	136.3	138.5	1.6	5.0
Workers, by industry division:											
Services	129.9	131.3	132.8	133.2	137.9	139.1	140.4	140.8	145.5	3.3	5.5
Schools	130.6	132.0	133.4	133.7	139.1	140.3	141.5	141.7	147.6	4.2	6.1
Elementary and secondary	132.1	133.5	134.4	134.6	140.9	142.0	143.0	143.2	149.4	4.3	6.0
Hospitals and other services[4]	127.9	129.2	131.1	131.5	134.1	135.2	136.8	137.9	139.4	1.1	4.0
Public administration[3]	126.9	128.6	130.1	130.3	134.2	134.8	136.8	138.0	140.6	1.9	4.8

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[1] Cost (cents per hour worked) measured in the Employment Cost Index consists of wages, salaries, and employer cost of employee benefits.

[2] Consist of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[3] Consists of legislative, judicial, administrative, and regulatory activities.

[4] Includes, for example, library, social, and health services.

23. Employment Cost Index, wages and salaries, by occupation and industry group

(June 1981 = 100)

Series	1984		1985				1986			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept. 1986	
Civilian workers [1]	120.3	121.7	123.1	124.2	126.3	127.0	128.3	129.3	130.7	1.1	3.5
Workers, by occupational group:											
White-collar workers	122.2	123.5	125.2	126.4	128.8	129.8	131.2	132.4	134.1	1.3	4.1
Blue-collar workers	117.0	118.2	119.3	120.5	122.0	122.3	123.4	124.1	125.0	.7	2.5
Service occupations	122.3	124.3	124.8	125.3	128.0	128.6	129.8	130.0	131.7	1.3	2.9
Workers, by industry division											
Manufacturing	118.0	119.5	121.0	122.3	123.2	123.8	125.3	126.5	127.2	.6	3.2
Nonmanufacturing	121.3	122.6	123.9	125.0	127.6	128.4	129.6	130.4	132.2	1.4	3.6
Services	127.2	128.9	129.7	130.5	134.2	134.8	136.4	137.0	139.9	2.1	4.2
Public administration [2]	124.4	125.7	127.0	127.2	131.4	132.0	133.8	134.6	137.5	2.2	4.6
Private industry workers	119.2	120.6	122.0	123.3	124.9	125.6	126.8	127.9	128.8	.7	3.1
Workers, by occupational group:											
White-collar workers	120.9	122.3	124.0	125.5	127.3	128.3	129.6	131.1	132.0	.7	3.7
Professional specialty and technical occupations	125.2	127.3	127.7	128.7	131.2	131.5	132.7	134.0	135.4	1.0	3.2
Executive, administrative, and managerial occupations	121.0	122.2	123.8	126.5	127.7	128.4	130.5	132.1	132.4	.2	3.7
Sales occupations	110.5	111.6	116.3	117.4	119.3	122.5	122.4	124.3	125.2	.7	4.9
Administrative support occupations, including clerical	122.0	122.9	124.7	125.6	127.1	127.9	129.6	130.8	131.7	.7	3.6
Blue-collar workers	116.7	118.0	119.1	120.3	121.7	122.0	123.1	123.7	124.5	.6	2.3
Precision production, craft, and repair occupations	118.0	119.4	120.8	122.0	123.7	123.8	125.3	125.7	126.7	.8	2.4
Machine operators, assemblers, and inspectors	116.6	117.9	118.9	120.1	121.1	121.6	122.6	123.6	124.1	.4	2.5
Transportation and material moving occupations	113.4	114.0	114.5	115.7	117.7	117.8	118.0	118.9	119.8	.8	1.8
Handlers, equipment cleaners, helpers, and laborers	114.7	115.9	116.7	118.5	118.6	119.8	120.0	120.3	120.9	.5	1.9
Service occupations	121.2	123.7	123.8	124.4	126.3	126.6	128.0	128.0	128.9	.7	2.1
Workers, by industry division:											
Manufacturing	118.0	119.5	121.0	122.3	123.2	123.8	125.3	126.5	127.2	.6	3.2
Durables	117.7	119.1	120.6	122.0	122.7	123.4	124.8	125.8	126.4	.5	3.0
Nondurables	118.6	120.2	121.6	122.6	124.0	124.6	126.1	127.9	128.5	.5	3.6
Nonmanufacturing	119.9	121.2	122.6	123.9	125.9	126.6	127.7	128.7	129.7	.8	3.0
Construction	114.3	114.4	115.5	116.6	117.3	117.9	118.3	119.8	120.5	.6	2.7
Transportation and public utilities	119.9	120.7	121.7	122.8	124.8	125.2	126.3	126.6	127.3	.6	2.0
Wholesale and retail trade	116.5	118.1	118.8	121.1	122.7	123.7	124.5	125.8	126.5	.6	3.1
Wholesale trade	120.7	122.9	123.7	126.8	127.7	128.3	129.7	131.2	131.8	.5	3.2
Retail trade	114.9	116.2	116.9	118.9	120.8	121.9	122.5	123.7	124.4	.6	3.0
Finance, insurance, and real estate	115.3	115.8	122.0	121.7	124.1	126.5	126.6	128.0	129.0	.8	3.9
Services	127.1	129.5	129.9	131.0	133.9	134.1	136.2	136.9	138.2	.9	3.2
State and local government workers	126.1	127.1	128.4	128.7	133.2	134.2	135.5	136.0	140.4	3.2	5.4
Workers, by occupational group											
White-collar workers	127.1	128.0	129.3	129.6	134.3	135.3	136.6	137.0	141.8	3.5	5.6
Blue-collar workers	121.9	122.5	124.2	124.5	127.9	128.4	130.4	131.9	134.5	2.0	5.2
Workers, by industry division											
Services	127.2	128.1	129.4	129.7	134.5	135.6	136.8	137.1	142.1	3.6	5.7
Schools	127.8	128.7	129.9	130.2	135.8	137.0	138.0	138.2	144.1	4.3	6.1
Elementary and secondary	129.3	130.2	130.8	131.1	137.5	138.5	139.4	139.4	145.7	4.5	6.0
Hospitals and other services [3]	125.1	125.9	127.7	128.0	130.2	130.9	132.4	133.3	135.8	1.9	4.3
Public administration [2]	124.4	125.7	127.0	127.2	131.4	132.0	133.8	134.6	137.5	2.2	4.6

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[1] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[2] Consists of legislative, judicial, administrative, and regulatory activities.

[3] Includes, for example, library, social and health services.

24. Employment Cost Index, private nonfarm workers, by bargaining status, region, and area size

(June 1981 = 100)

Series	1984		1985				1986			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept. 1986	
COMPENSATION											
Workers, by bargaining status[1]											
Union	122.6	123.9	124.8	125.5	126.5	127.1	128.4	128.7	129.4	0.5	2.3
Manufacturing	121.6	123.2	124.2	124.2	125.0	125.5	127.0	126.9	127.5	.5	2.0
Nonmanufacturing	123.6	124.5	125.3	126.6	127.8	128.6	129.7	130.4	131.2	.6	2.7
Nonunion	120.3	121.9	123.8	125.0	126.8	127.5	129.0	130.2	131.2	.8	3.5
Manufacturing	119.3	120.6	123.6	124.8	125.7	126.3	128.1	129.7	130.4	.5	3.7
Nonmanufacturing	120.7	122.4	123.9	125.1	127.3	128.1	129.5	130.4	131.6	.9	3.4
Workers, by region[1]											
Northeast	122.4	123.8	125.1	126.4	128.8	129.9	131.6	133.3	134.2	.7	4.2
South	120.7	122.2	124.2	125.2	126.5	127.2	128.7	129.6	130.7	.8	3.3
Midwest (formerly North Central)	119.7	120.8	122.0	122.7	124.2	124.6	125.9	126.2	127.3	.9	2.5
West	122.5	124.9	126.6	127.9	129.1	129.8	130.8	131.6	132.1	.4	2.3
Workers, by area size[1]											
Metropolitan areas	121.5	123.2	124.7	125.7	127.3	128.1	129.5	130.5	131.4	.7	3.2
Other areas	119.0	119.8	121.4	122.5	123.9	123.9	125.5	126.4	127.2	.6	2.7
WAGES AND SALARIES											
Workers, by bargaining status[1]											
Union	118.8	120.9	121.7	123.0	124.1	124.7	125.6	126.1	126.9	.6	2.3
Manufacturing	118.1	119.5	120.4	121.7	122.8	123.3	124.2	124.6	125.0	.3	1.8
Nonmanufacturing	121.3	122.1	122.8	124.1	125.3	125.8	126.9	127.4	128.5	.9	2.6
Nonunion	118.8	120.4	122.1	123.4	125.2	125.9	127.3	128.5	129.4	.7	3.4
Manufacturing	117.9	119.5	121.5	122.8	123.7	124.4	126.1	127.7	128.5	.6	3.9
Nonmanufacturing	119.2	120.7	122.3	123.6	125.9	126.6	127.8	128.9	129.8	.7	3.1
Workers, by region[1]											
Northeast	120.5	121.9	123.0	124.6	126.8	128.1	129.2	131.3	132.3	.8	4.3
South	119.0	120.2	122.3	123.4	124.8	125.4	126.8	127.8	128.8	.8	3.2
Midwest (formerly North Central)	117.8	118.7	119.6	121.1	122.5	122.9	124.2	124.4	125.3	.7	2.3
West	120.0	122.5	124.0	125.1	126.6	127.1	128.1	128.9	129.3	.3	2.1
Workers, by area size[1]											
Metropolitan areas	119.5	121.0	122.4	123.8	125.5	126.3	127.4	128.5	129.4	.7	3.1
Other areas	117.5	118.3	119.6	120.6	121.9	122.0	123.6	124.5	125.0	.4	2.5

[1] The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the *Monthly Labor Review* Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

25. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		Quarterly average							
	1984	1985	1984	1985				1986		
			IV	I	II	III	IV	I^p	II^p	III^p
Specified adjustments:										
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:										
First year of contract	3.6	2.6	3.7	3.6	3.5	2.0	2.0	0.4	0.7	1.9
Annual rate over life of contract	2.8	2.7	2.0	2.7	3.4	3.0	1.4	1.2	1.6	1.9
Wage adjustments, settlements covering 1,000 workers or more:										
First year of contract	2.4	2.3	2.3	3.3	2.5	2.0	2.1	.9	1.3	1.6
Annual rate over life of contract	2.4	2.7	1.5	3.2	2.8	3.1	1.9	1.5	2.0	2.0
Effective adjustments:										
Total effective wage adjustment [3]	3.7	3.3	.7	.7	.8	1.2	.5	.6	.7	.6
From settlements reached in period	.8	.7	.3	.1	.2	.2	.1	.0	.2	.1
Deferred from settlements reached in earlier periods	2.0	1.8	.2	.6	.5	.5	.2	.4	.6	.5
From cost-of-living-adjustments clauses	.9	.7	.2	.1	.1	.4	.1	.2	.0	.0

[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases, and no changes in compensation or wages.

[3] Because of rounding total may not equal sum of parts.

p = preliminary.

26. Average specified compensation and wage adjustments, major collective bargaining settlements in private industry situations covering 1,000 workers or more during 4-quarter periods (in percent)

Measure	Average for four quarters ending–							
	1984	1985				1986		
	IV	I	II	III	IV	I^p	II^p	III^p
Specified total compensation adjustments, settlements covering 5,000 workers or more, all industries:								
First year of contract	3.6	3.4	3.4	3.1	2.6	2.3	1.4	1.4
Annual rate over life of contract	2.8	2.6	2.7	2.7	2.7	2.6	2.0	1.6
Specified wage adjustments, settlements covering 1,000 workers or more:								
All industries								
First year of contract	2.4	2.4	2.4	2.4	2.3	2.0	1.6	1.5
Contracts with COLA clauses	2.9	2.5	2.3	1.9	1.6	1.6	1.8	2.2
Contracts without COLA clauses	2.1	2.4	2.4	2.7	2.7	2.2	1.5	1.2
Annual rate over life of contract	2.4	2.3	2.4	2.5	2.7	2.5	2.2	1.9
Contracts with COLA clauses	1.8	1.3	1.5	1.8	2.5	2.5	2.6	2.1
Contracts without COLA clauses	2.7	2.8	2.8	3.0	2.8	2.5	2.1	1.8
Manufacturing								
First year of contract	2.3	2.1	2.0	1.5	.8	.8	.1	-.1
Contracts with COLA clauses	2.1	2.0	1.9	1.5	.8	.8	.7	1.1
Contracts without COLA clauses	2.9	2.5	2.2	1.5	.9	.9	-.4	-.8
Annual rate over life of contract	1.5	1.4	1.5	1.6	1.8	1.8	1.4	.8
Contracts with COLA clauses	1.0	.9	1.0	1.4	2.1	2.1	2.0	1.2
Contracts without COLA clauses	3.3	3.2	3.0	2.4	1.6	1.5	.9	.6
Nonmanufacturing								
First year of contract	2.5	2.6	2.7	3.2	3.3	2.8	2.6	2.1
Contracts with COLA clauses	5.5	5.1	4.3	4.0	3.6	3.5	3.5	2.7
Contracts without COLA clauses	2.0	2.4	2.5	3.0	3.3	2.7	2.4	1.9
Annual rate over life of contract	2.9	2.8	2.9	3.3	3.3	3.0	2.8	2.3
Contracts with COLA clauses	4.8	4.0	3.8	3.9	3.6	3.6	3.4	2.5
Contracts without COLA clauses	2.6	2.7	2.8	3.2	3.3	2.9	2.7	2.2
Construction								
First year of contract	.5	.9	1.1	1.0	1.5	1.7	2.4	2.4
Contracts with COLA clauses	4.0	4.6	6.2	(1)	(1)	(1)	.9	1.4
Contracts without COLA clauses	.4	.8	1.0	(1)	(1)	(1)	2.4	2.5
Annual rate over life of contract	1.0	1.4	1.7	1.7	2.1	2.2	2.6	2.6
Contracts with COLA clauses	1.4	1.7	4.6	(1)	(1)	(1)	1.4	1.8
Contracts without COLA clauses	1.0	1.4	1.7	(1)	(1)	(1)	2.6	2.7

[1] Data do not meet publication standards.

p = preliminary.

27. Average effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more during 4-quarter periods (in percent)

Effective wage adjustment	Average for four quarters ending–						
	1985				1986		
	I	II	III	IV	Iᵖ	IIᵖ	IIIᵖ
For all workers:[1]							
Total	3.6	3.5	3.5	3.3	3.1	2.9	2.3
From settlements reached in period	.7	.9	.9	.7	.6	.5	.5
Deferred from settlements reached in earlier period	2.2	1.9	1.8	1.8	1.7	1.6	1.6
From cost-of-living-adjustments clauses	.7	.7	.8	.7	.8	.7	.2
For workers receiving changes:							
Total	4.5	4.2	4.3	4.1	4.0	3.8	3.1
From settlements reached in period	2.9	2.9	2.8	3.4	2.9	2.5	1.7
Deferred from settlements reached in earlier period	4.2	3.9	3.7	3.7	3.5	3.4	3.8
From cost-of-living-adjustments clauses	2.3	2.3	2.8	2.2	2.5	2.0	1.0

[1] Because of rounding total may not equal sum of parts.

ᵖ = preliminary.

28. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, State and local government collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		First 6 months 1986ᵖ
	1984	1985	
Specified adjustments:			
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:			
First year of contract	5.2	4.2	6.7
Annual rate over life of contract	5.4	5.1	6.4
Wage adjustments, settlements covering 1,000 workers or more:			
First year of contract	4.8	4.6	6.1
Annual rate over life of contract	5.1	5.4	6.0
Effective adjustments:			
Total effective wage adjustment [3]	5.0	5.7	1.8
From settlements reached in period	1.9	4.1	.6
Deferred from settlements reached in earlier periods	3.1	1.6	1.2
From cost-of-living-adjustment clauses	(4)	(4)	(4)

[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases, and no changes in compensation or wages.

[3] Because of rounding, total may not equal sum of parts.

[4] Less than 0.05 percent.

ᵖ = preliminary.

29. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1985			1986								
	1984	1985	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Mayᵖ	Juneᵖ	Julyᵖ	Aug.ᵖ	Sept.ᵖ
Number of stoppages:														
Beginning in period	62	54	6	3	2	4	3	2	4	6	11	13	10	7
In effect during period	68	61	20	13	9	7	7	6	8	10	15	22	22	17
Workers involved:														
Beginning in period (in thousands)	376.0	323.9	78.6	26.2	8.2	7.6	24.0	11.2	6.1	28.6	198.0	46.7	113.3	37.9
In effect during period (in thousands)	391.0	584.1	119.3	47.0	38.0	12.0	28.4	38.6	17.6	41.2	205.9	66.3	144.8	85.2
Days idle:														
Number (in thousands)	8,499.0	7,079.0	1,428.8	688.2	661.9	170.0	309.5	367.5	297.3	303.6	3,684.3	894.5	1,612.1	1,208.5
Percent of estimated working time[1]	.04	.03	.06	.04	.03	.01	.02	.02	.02	.02	.07	.04	.07	.06

[1] Agricultural and government employees are included in the total employed and total working time: private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time worked is found in "'Total economy' measure of strike idleness," *Monthly Labor Review*, Octo 1968, pp. 54-56.

ᵖ = preliminary

30. Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity or service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967=100, unless otherwise indicated)

Series	Annual average		1985			1986									
	1984	1985	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS:															
All items	311.1	322.2	325.5	326.6	327.4	328.4	327.5	326.0	325.3	326.3	327.9	328.0	328.6	330.2	330.5
All items (1957-59=100)	361.9	374.7	378.5	379.9	380.8	381.9	380.8	379.1	378.3	379.5	381.4	381.4	382.1	384.1	384.4
Food and beverages	295.1	302.0	302.5	303.6	305.6	307.9	307.7	307.8	308.5	309.4	309.5	312.2	314.6	315.1	315.6
Food	302.9	309.8	309.8	311.0	313.2	315.6	315.3	315.4	316.1	317.0	317.1	320.1	322.7	323.2	323.7
Food at home	292.6	296.8	295.3	296.6	299.3	302.5	301.5	301.2	301.5	302.1	301.6	305.5	308.9	309.0	309.5
Cereals and bakery products	305.3	317.0	318.9	319.9	321.9	322.0	322.5	322.7	322.5	323.8	326.1	326.3	328.2	328.5	328.4
Meats, poultry, fish, and eggs	266.6	263.4	261.1	266.1	269.9	271.5	268.4	267.7	264.2	263.4	265.1	274.9	283.0	284.7	284.9
Dairy products	253.2	258.0	257.1	257.1	256.9	257.2	257.3	256.8	256.8	257.1	257.2	258.4	258.3	258.5	260.0
Fruits and vegetables	317.4	325.7	317.1	314.3	323.9	334.4	320.7	319.2	329.5	336.5	327.8	330.3	332.1	329.1	328.6
Other foods at home	352.2	361.1	363.0	362.2	361.3	365.7	375.1	375.7	376.1	374.6	374.1	373.7	374.0	373.7	374.4
Sugar and sweets	389.1	398.8	402.6	401.4	402.2	405.1	408.6	408.4	411.4	411.2	411.5	412.4	413.1	413.7	413.4
Fats and oils	288.0	294.4	291.2	292.1	290.3	292.1	291.4	290.2	288.5	287.2	287.0	287.3	287.8	285.6	284.6
Nonalcoholic beverages	443.0	451.7	454.1	451.7	448.8	459.7	485.3	488.0	487.4	481.9	480.0	478.3	476.9	475.7	477.5
Other prepared foods	284.9	294.2	296.8	296.8	297.3	298.0	299.5	299.3	300.2	301.4	301.7	301.8	303.2	303.8	304.7
Food away from home	333.4	346.6	350.3	351.3	352.1	353.1	354.2	355.5	357.0	358.8	360.2	360.8	361.8	363.3	364.0
Alcoholic beverages	222.1	229.5	236.4	236.2	236.2	237.5	238.3	238.8	239.5	239.4	240.1	240.4	240.1	240.4	240.6
Housing	336.5	349.9	354.4	355.0	355.8	356.8	356.5	357.0	358.0	358.5	361.2	361.5	362.4	363.7	363.0
Shelter	361.7	382.0	389.1	391.3	392.3	393.8	394.8	397.0	400.1	400.9	401.6	403.5	405.2	407.6	409.5
Renters' costs (12/82=100)	108.6	115.4	117.9	118.4	118.3	118.8	119.0	119.6	120.9	121.1	121.6	122.5	122.9	123.6	124.0
Rent, residential	249.3	264.6	269.9	271.7	272.4	273.4	273.7	275.0	277.9	278.4	279.4	281.2	281.7	283.2	284.6
Other renters' costs	373.4	398.4	412.5	408.7	398.1	401.1	404.1	405.5	410.8	411.3	415.2	420.1	425.7	429.1	427.3
Homeowners' costs (12/82=100)	107.3	113.1	115.1	115.8	116.3	116.7	117.0	117.9	118.7	118.9	119.0	119.4	119.9	120.7	121.3
Owners' equivalent rent (12/82=100)	107.3	113.2	115.1	115.9	116.3	116.7	117.0	117.9	118.7	118.9	119.0	119.4	119.9	120.7	121.3
Household insurance (12/82=100)	107.5	112.4	114.6	114.5	115.0	115.7	117.4	118.0	118.3	118.8	118.9	119.9	119.9	120.2	120.6
Maintenance and repairs	359.2	368.9	368.5	372.7	373.7	379.1	379.6	367.5	367.6	367.1	366.6	369.2	376.4	376.2	379.0
Maintenance and repair services	409.7	421.1	422.2	426.4	426.2	432.6	432.8	422.4	424.6	425.5	427.4	430.1	434.2	437.0	437.5
Maintenance and repair commodities	262.7	269.6	268.0	271.5	273.3	277.1	277.8	266.1	264.5	262.9	260.7	262.7	271.3	268.7	273.0
Fuel and other utilities	387.3	393.6	395.6	392.1	393.3	394.6	390.0	385.5	381.8	382.5	393.8	389.4	389.5	388.3	379.1
Fuels	485.5	488.1	488.4	481.5	483.6	484.7	476.3	467.6	459.6	460.6	477.0	469.2	469.0	467.2	450.3
Fuel oil, coal, and bottled gas	641.8	619.5	615.3	641.6	657.3	650.3	591.2	549.9	518.3	496.8	486.6	459.4	447.3	453.5	451.9
Gas (piped) and electricity	445.2	452.7	453.9	440.5	439.9	442.6	444.5	442.3	439.2	444.6	466.0	462.3	464.5	461.1	441.4
Other utilities and public services	230.2	240.7	244.7	245.9	245.8	247.3	247.9	249.0	251.3	251.5	255.2	255.6	255.9	255.6	257.1
Household furnishings and operations	242.5	247.2	248.4	248.9	248.8	248.8	249.0	249.8	249.6	249.9	250.2	250.5	250.5	251.5	251.6
Housefurnishings	199.1	200.1	200.3	200.8	200.1	199.8	199.7	201.0	200.4	200.8	200.8	201.2	200.9	202.2	202.2
Housekeeping supplies	303.2	313.6	315.7	316.4	317.7	318.3	318.6	317.9	318.5	318.3	319.6	319.5	319.8	320.1	319.8
Housekeeping services	327.5	336.9	342.2	342.7	343.2	343.9	344.5	345.1	345.4	345.8	346.1	346.6	347.4	347.8	348.5
Apparel and upkeep	200.2	206.0	211.1	211.2	209.0	205.0	204.1	208.3	207.3	206.4	204.5	203.2	207.0	212.1	213.2
Apparel commodities	187.0	191.6	196.7	196.8	194.2	189.5	188.5	190.8	191.7	190.7	188.4	187.0	191.2	196.6	197.6
Men's and boys' apparel	192.4	197.9	203.2	203.6	202.0	198.6	196.8	198.3	199.7	200.2	198.1	195.8	197.8	203.2	204.3
Women's and girls' apparel	163.6	169.5	177.9	176.5	172.6	164.4	163.4	167.8	168.0	164.9	161.3	159.8	167.2	175.7	176.4
Infants' and toddlers' apparel	287.0	290.7	302.1	307.0	304.1	313.9	311.6	313.1	316.6	318.5	319.7	307.5	310.6	309.7	312.0
Footwear	209.5	212.1	212.3	215.5	213.1	209.1	207.9	210.1	211.4	211.5	210.0	209.1	209.6	212.0	215.1
Other apparel commodities	216.4	215.5	214.9	214.9	214.6	215.5	216.1	214.6	215.3	215.4	215.8	218.1	221.6	221.1	219.8
Apparel services	305.0	320.9	325.7	326.3	326.9	328.8	330.7	331.5	332.9	333.6	334.3	334.6	334.7	336.7	338.3
Transportation	311.7	319.9	320.9	323.2	324.0	323.9	319.2	308.6	303.3	305.7	308.6	304.7	301.3	302.2	302.6
Private transportation	306.6	314.2	314.7	317.0	317.8	317.3	312.2	302.1	295.3	297.8	300.8	296.5	292.8	293.7	294.1
New vehicles	208.0	214.9	215.9	218.2	219.2	219.7	220.2	220.1	221.0	222.8	224.0	224.5	224.5	224.2	226.7
New cars	208.5	215.2	216.2	218.4	219.4	219.9	220.4	220.3	221.2	223.0	224.2	224.7	224.7	224.5	227.1
Used cars	375.7	379.7	375.3	376.4	375.6	374.1	370.7	367.2	364.8	363.6	362.5	360.3	358.0	359.5	360.6
Motor fuel	370.7	373.8	374.6	376.7	377.5	373.3	351.5	308.5	279.5	289.3	289.4	280.2	265.9	271.1	263.2
Gasoline	370.2	373.3	374.2	376.1	376.8	372.5	350.8	307.7	278.6	288.7	290.1	279.8	265.3	270.6	262.6
Maintenance and repair	341.5	351.4	355.7	355.8	357.5	357.9	358.9	359.3	360.6	361.3	362.1	363.4	364.3	365.0	365.7
Other private transportation	273.3	287.6	289.6	293.9	296.2	297.7	299.2	301.5	301.6	301.3	303.0	304.5	304.5	302.3	307.6
Other private transportation commodities	201.5	202.6	202.8	201.6	202.1	203.4	202.9	203.6	202.2	202.4	201.5	201.6	201.8	200.3	199.9
Other private transportation services	295.0	312.8	315.4	321.2	322.7	325.5	327.6	330.3	330.9	330.4	332.8	334.6	334.6	332.3	339.3
Public transportation	385.2	402.8	411.5	412.8	412.9	419.6	422.2	421.2	422.2	423.7	425.4	428.0	428.0	428.5	428.7
Medical care	379.5	403.1	410.5	413.0	414.7	418.2	422.3	425.8	428.0	429.7	432.0	434.8	437.5	439.7	442.3
Medical care commodities	239.7	256.7	261.3	262.7	262.9	264.5	267.4	269.4	271.3	272.3	273.3	275.4	276.0	276.7	277.5
Medical care services	410.3	435.1	443.0	445.8	448.0	451.9	456.2	460.1	462.3	464.2	466.8	469.8	473.0	475.7	478.8
Professional services	346.1	367.3	373.2	375.5	377.1	378.9	381.6	385.0	386.9	388.3	390.3	391.7	393.3	396.1	398.0
Other medical care services	488.0	517.0	527.4	530.8	533.6	540.3	546.4	550.8	553.5	555.9	559.2	564.2	569.4	571.9	576.4
Entertainment	255.1	265.0	268.4	269.0	269.3	270.6	272.0	271.9	272.3	272.9	273.9	274.4	274.7	275.3	276.5
Entertainment commodities	253.3	260.6	264.0	264.0	262.5	264.7	265.2	265.0	264.8	265.3	266.1	265.8	266.1	265.9	266.7
Entertainment services	258.3	271.8	275.2	276.8	277.1	279.9	282.1	282.2	283.5	284.2	285.5	287.0	287.3	289.2	290.8
Other goods and services	307.7	326.6	334.9	335.3	336.5	339.1	340.3	341.1	341.8	342.1	342.6	344.9	346.4	353.3	354.6
Tobacco products	310.0	328.5	334.4	334.7	337.4	342.7	344.7	345.6	346.5	346.5	347.1	354.3	356.2	356.8	357.2
Personal care	271.4	281.9	285.0	285.4	286.3	288.1	289.1	290.3	290.5	290.9	291.0	291.1	292.3	292.0	293.1
Toilet goods and personal care appliances	269.6	278.5	281.4	281.1	282.5	285.3	286.0	287.3	287.7	287.9	287.0	287.1	289.1	289.2	289.9
Personal care services	274.1	286.0	289.2	290.2	290.6	291.8	293.0	294.0	294.1	294.7	295.7	295.8	296.2	296.5	297.1
Personal and educational expenses	365.7	397.1	414.7	415.4	415.5	416.8	417.7	417.9	418.9	419.5	420.4	421.2	422.9	445.2	447.6
School books and supplies	322.8	350.8	364.5	364.7	364.7	371.0	373.8	374.3	374.4	374.5	375.7	375.9	376.9	389.4	392.3
Personal and educational services	375.6	407.7	426.2	426.9	427.0	427.6	428.1	428.3	429.5	430.2	431.0	431.9	433.7	457.8	460.2

See footnotes at end of table.

30. Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity o service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967 = 100, unless otherwise indicated)

Series	Annual average		1985			1986								
	1984	1985	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
All items	311.1	322.2	325.5	326.6	327.4	328.4	327.5	326.0	325.3	326.3	327.9	328.0	328.6	330.2
Commodities	280.7	286.7	287.9	289.2	289.9	290.1	287.4	283.7	281.2	282.1	282.8	281.9	281.9	283.5
Food and beverages	295.1	302.0	302.5	303.6	305.6	307.9	307.7	307.8	308.5	309.4	309.5	312.2	314.6	315.1
Commodities less food and beverages	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nondurables less food and beverages	275.7	282.1	285.3	286.8	286.8	284.9	278.6	268.9	262.0	263.3	264.7	259.8	258.1	261.5
Apparel commodities	187.0	191.6	196.7	196.8	194.2	189.5	188.5	190.8	191.7	190.7	188.4	187.0	191.2	196.6
Nondurables less food, beverages, and apparel	325.8	333.3	335.6	337.8	339.1	338.7	329.5	313.6	302.6	305.2	308.4	301.7	296.9	299.5
Durables	266.5	270.7	270.2	271.5	271.4	271.4	270.5	269.7	269.2	269.6	269.9	269.6	269.0	269.3
Services	363.0	381.5	387.7	388.7	389.5	391.7	393.3	394.9	396.6	397.9	401.0	402.3	403.7	405.5
Rent of shelter	107.7	113.9	116.1	116.7	117.0	117.4	117.7	118.5	119.4	119.7	119.9	120.5	120.9	121.7
Household services less rent of shelter	108.1	111.2	112.1	110.8	110.8	111.4	111.8	111.6	111.6	112.3	115.2	114.9	115.3	114.9
Transportation services	321.1	337.0	341.1	344.7	346.1	349.0	351.0	352.4	353.2	353.4	355.3	357.1	357.3	356.2
Medical care services	410.3	435.1	443.0	445.8	448.0	451.9	456.2	460.1	462.3	464.2	466.8	469.8	473.0	475.7
Other services	298.0	314.1	321.4	322.5	322.9	324.8	326.1	326.6	327.6	328.2	329.2	330.1	330.8	337.9
Special indexes:														
All items less food	311.3	323.3	327.4	328.5	328.9	329.5	328.5	326.6	325.7	326.7	328.6	328.0	328.1	330.0
All items less shelter	295.1	303.9	306.3	307.2	307.9	308.8	307.4	305.2	303.6	304.7	306.5	306.1	306.4	307.9
All items less homeowners' costs	106.3	108.7	110.7	111.1	111.3	111.6	111.2	110.5	110.1	110.4	111.1	111.0	111.2	111.7
All items less medical care	307.3	317.7	320.8	321.9	322.6	323.4	322.2	320.5	319.7	320.6	322.2	322.1	322.6	324.2
Commodities less food	267.0	272.5	274.4	275.7	275.7	274.7	270.9	265.2	261.2	262.1	263.0	260.2	259.0	261.1
Nondurables less food	270.8	277.2	280.7	282.0	282.0	280.4	274.5	265.6	259.2	260.5	261.8	257.3	255.6	258.9
Nondurables less food and apparel	311.9	319.2	322.0	324.0	325.1	324.9	316.8	302.7	292.9	295.2	298.1	292.2	287.9	290.2
Nondurables	286.6	293.2	295.1	296.4	297.4	297.7	294.3	289.5	286.3	287.4	288.2	287.1	287.4	289.4
Services less rent of shelter	108.5	113.5	115.1	115.2	115.4	116.2	116.8	117.1	117.4	117.8	119.2	119.5	119.8	120.2
Services less medical care	355.6	373.3	379.3	380.1	380.8	382.7	384.0	385.4	387.2	388.3	391.3	392.5	393.6	395.4
Energy	423.6	426.5	427.1	425.1	426.5	424.7	408.9	381.3	361.8	367.6	380.6	366.5	356.6	360.6
All items less energy	302.9	314.8	318.4	319.8	320.5	321.8	322.3	323.3	324.4	325.0	325.5	326.9	328.3	330.0
All items less food and energy	301.2	314.4	318.9	320.4	320.7	321.6	322.3	323.6	324.8	325.3	325.9	326.9	327.9	329.9
Commodities less food and energy	253.1	259.7	262.0	262.7	262.2	261.8	261.6	262.0	262.1	262.2	262.0	262.0	262.9	264.5
Energy commodities	409.8	409.9	410.1	415.2	417.9	413.2	386.5	343.0	313.3	319.3	327.1	306.6	292.4	297.7
Services less energy	356.4	375.9	382.5	384.8	385.8	387.9	389.4	391.5	393.8	394.5	395.9	397.7	399.0	401.4
Purchasing power of the consumer dollar:														
1967 = $1.00	32.1	31.0	30.7	30.6	30.5	30.5	30.5	30.7	30.7	30.6	30.5	30.5	30.4	30.3
1957-59 = $1.00	27.6	26.7	26.4	26.3	26.3	26.2	26.3	26.4	26.4	26.4	26.2	26.2	26.2	26.0
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS:														
All items	307.6	318.5	321.3	322.6	323.4	324.3	323.2	321.4	320.4	321.4	323.0	322.9	323.4	324.9
All items (1957-59 = 100)	357.7	370.4	373.7	375.1	376.1	377.1	375.8	373.7	372.6	373.7	375.6	375.5	376.1	377.8
Food and beverages	296.2	301.8	302.2	303.4	305.4	307.7	307.5	307.6	308.3	309.0	309.3	312.0	314.5	315.0
Food	302.7	309.3	309.3	310.6	312.8	315.1	314.9	315.0	315.6	316.4	316.6	319.5	322.3	322.8
Food at home	291.2	295.3	293.7	295.2	297.9	300.9	300.1	299.7	299.9	300.4	300.0	303.9	307.3	307.5
Cereals and bakery products	303.7	315.4	317.3	318.2	320.4	320.4	320.9	321.1	320.9	322.1	324.5	324.6	326.7	326.8
Meats, poultry, fish, and eggs	266.0	262.7	260.4	265.4	269.2	270.7	267.7	267.2	263.5	262.6	264.2	274.0	282.2	284.0
Dairy products	252.2	256.9	255.9	255.9	255.7	256.0	256.0	255.5	255.5	255.8	255.9	257.0	256.9	257.1
Fruits and vegetables	312.5	320.3	311.2	309.4	319.3	329.7	316.0	314.6	325.0	331.6	323.5	325.6	327.2	324.2
Other foods at home	352.7	361.5	363.4	362.5	361.6	366.1	375.2	375.6	376.0	374.3	373.9	373.4	373.9	373.5
Sugar and sweets	388.6	398.3	402.2	400.9	401.8	404.7	406.1	407.8	410.9	410.6	410.9	411.9	412.6	413.0
Fats and oils	287.5	293.9	290.6	291.8	289.6	291.6	290.8	289.7	287.8	286.6	286.4	286.6	287.1	285.1
Nonalcoholic beverages	444.4	453.2	455.6	453.1	450.4	461.0	485.5	487.4	487.0	481.2	479.5	477.6	476.9	475.5
Other prepared foods	286.4	295.7	298.3	298.3	298.7	299.4	300.9	300.7	301.6	302.7	303.0	303.1	304.5	305.2
Food away from home	336.7	349.7	353.4	354.4	356.2	356.2	357.3	358.6	360.2	362.0	363.5	364.2	365.2	366.6
Alcoholic beverages	225.3	232.6	236.1	236.8	236.1	240.1	240.9	241.4	242.3	242.2	242.9	243.4	243.0	243.4
Housing	329.2	343.3	347.5	348.3	349.1	350.1	349.7	350.1	351.1	351.6	354.3	354.5	355.4	356.6
Shelter	350.0	370.4	377.1	379.3	380.4	381.8	382.9	385.0	386.1	386.8	389.4	391.5	392.9	395.2
Renters' costs (12/84 = 100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rent, residential	248.6	263.7	268.9	270.7	271.5	272.5	272.8	274.1	277.0	277.5	278.5	280.3	280.8	282.2
Other renters' costs	372.4	397.9	411.6	408.0	397.5	400.8	403.5	405.4	411.6	411.3	415.5	420.4	426.1	429.9
Homeowners' costs (12/84 = 100)	-	103.1	104.8	105.5	105.9	106.3	106.6	107.4	108.1	108.3	108.4	108.8	109.3	110.0
Owners' equivalent rent (12/84 = 100)	-	103.0	104.8	105.5	105.9	106.3	106.6	107.3	108.1	108.3	108.4	108.8	109.2	110.0
Household insurance (12/84 = 100)	-	103.2	105.2	105.2	105.7	106.3	107.8	108.2	108.5	109.0	109.1	110.1	110.1	110.4
Maintenance and repairs	356.3	364.1	364.6	367.7	368.5	373.2	374.0	364.7	364.6	363.8	363.2	366.7	371.5	370.6
Maintenance and repair services	403.5	415.0	417.4	420.9	420.1	426.2	426.5	416.6	419.2	420.0	422.6	425.2	428.6	430.7
Maintenance and repair commodities	257.2	261.1	260.5	262.7	264.2	267.2	268.1	261.1	259.4	258.0	255.7	259.0	263.5	261.1
Fuel and other utilities	388.6	394.7	396.3	393.2	394.3	396.6	390.9	386.3	382.6	383.0	384.9	390.3	390.6	389.1
Fuels	485.0	487.5	487.2	481.0	483.1	484.1	475.7	467.1	459.1	459.7	477.3	489.1	489.3	467.1
Fuel oil, coal, and bottled gas	644.3	622.0	618.1	644.3	659.9	652.7	593.6	552.8	521.5	489.9	489.9	462.9	450.7	456.6
Gas (piped) and electricity	444.1	451.6	452.0	439.5	438.8	441.4	443.2	441.2	438.0	443.0	465.7	461.4	464.1	460.3
Other utilities and public services	231.2	241.6	245.7	246.8	246.7	248.3	248.8	249.9	252.1	252.2	255.8	256.3	256.6	256.2
Household furnishings and operations	230.1	243.4	244.5	245.1	245.2	245.1	245.3	246.0	246.0	246.1	246.2	246.5	246.6	247.5
Housefurnishings	197.0	197.6	197.7	198.3	197.8	197.3	197.2	198.5	198.1	198.4	198.2	198.4	198.3	199.4
Housekeeping supplies	300.2	310.7	312.7	313.5	315.0	315.8	316.4	315.5	316.3	315.7	316.8	317.1	317.3	317.9
Housekeeping services	329.0	340.2	343.9	344.5	345.0	345.6	346.3	346.6	347.1	347.4	347.8	348.4	349.1	349.5
Apparel and upkeep	199.1	205.0	210.2	210.2	208.1	204.1	203.1	205.2	206.1	205.1	203.0	201.8	205.9	211.0

See footnotes at end of table.

30. Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity or service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967 = 100, unless otherwise indicated)

Series	Annual average		1985			1986									
	1984	1985	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
Apparel commodities	186.6	191.3	196.6	196.5	194.1	189.4	188.2	190.4	191.2	190.1	187.7	186.3	190.8	196.2	197.1
Men's and boys' apparel	182.9	199.2	203.5	203.7	202.2	198.8	196.6	198.0	199.3	200.0	198.0	195.4	197.1	202.3	203.6
Women's and girls' apparel	165.0	171.3	180.0	178.3	174.5	166.1	165.2	169.0	169.3	165.9	162.0	160.8	169.3	178.1	179.1
Infants' and toddlers' apparel	297.6	311.7	314.8	320.7	317.3	332.7	328.6	329.6	331.3	334.3	336.6	323.7	326.6	326.2	329.2
Footwear	210.0	212.5	212.6	215.9	213.6	209.9	208.4	210.7	212.1	212.0	210.6	209.6	209.9	212.0	215.3
Other apparel commodities	204.5	203.1	202.4	202.5	202.4	203.5	204.2	203.5	204.1	203.6	204.5	206.5	209.5	209.0	207.9
Apparel services	302.9	318.5	323.2	323.6	324.4	327.2	328.1	329.0	330.2	330.9	331.9	332.2	332.3	334.2	335.6
Transportation	313.9	321.6	322.2	324.6	325.3	325.1	320.1	310.3	303.5	305.9	308.7	304.6	300.9	301.8	302.2
Private transportation	310.1	317.4	317.6	320.1	320.8	320.2	314.8	304.5	297.4	299.9	302.8	298.3	294.4	295.3	295.7
New vehicles	207.3	214.2	215.3	217.5	218.6	219.0	219.4	219.4	220.2	222.0	223.2	223.7	223.6	223.3	225.7
New cars	207.9	214.5	215.5	217.8	218.8	219.2	219.7	219.5	220.4	222.3	223.4	223.9	223.9	223.7	226.3
Used cars	375.7	379.7	375.3	376.4	375.6	374.1	370.7	367.2	364.8	363.6	362.5	360.3	358.0	359.5	360.6
Motor fuel	372.2	375.4	376.3	378.7	379.6	375.3	353.0	309.6	280.1	290.3	300.6	280.9	266.7	271.9	264.0
Gasoline	371.8	375.0	375.8	378.1	378.9	374.6	352.3	308.8	279.1	289.6	300.3	280.5	266.1	271.4	263.4
Maintenance and repair	342.2	352.6	356.9	357.2	359.0	359.4	360.4	360.9	362.2	362.8	363.6	365.0	365.7	366.6	367.2
Other private transportation	274.2	287.7	289.2	293.7	294.7	298.9	298.4	300.6	300.4	299.8	301.2	302.4	302.2	299.7	306.2
Other private transportation commodities	203.9	204.7	205.0	203.7	204.3	205.6	205.4	206.0	204.6	204.9	203.9	203.8	204.0	202.7	201.1
Other private transportation services	295.4	312.3	314.1	320.2	321.3	323.7	325.7	328.3	328.5	327.7	329.6	331.2	330.9	328.1	335.4
Public transportation	376.8	391.7	399.3	400.1	400.2	408.6	412.6	412.0	413.0	413.8	415.1	418.0	418.4	418.8	418.9
Medical care	377.7	401.2	408.5	410.9	412.6	416.0	420.0	423.5	425.7	427.3	429.6	432.4	435.0	437.1	439.7
Medical care commodities	239.7	256.3	260.9	262.2	262.3	264.1	267.0	268.8	270.7	271.7	272.5	274.6	275.2	275.8	276.6
Medical care services	407.9	432.7	440.6	443.2	445.4	449.2	453.5	457.3	459.5	461.3	464.0	466.9	470.1	472.6	475.6
Professional services	346.5	367.7	373.7	375.8	377.6	379.3	382.2	385.6	387.4	388.8	390.8	392.3	394.0	396.6	398.4
Other medical care services	484.7	513.9	524.4	527.5	530.4	536.9	543.0	547.3	550.0	552.3	555.8	560.7	565.8	568.1	572.7
Entertainment	251.2	260.1	263.0	263.7	263.0	265.4	266.5	266.5	266.9	267.3	268.4	269.0	269.2	270.0	271.1
Entertainment commodities	247.7	254.2	257.1	257.2	256.7	257.8	258.3	258.3	258.4	258.7	259.8	259.6	259.8	259.8	260.6
Entertainment services	258.5	271.6	274.6	276.3	276.8	280.0	282.0	282.1	283.0	283.6	284.8	286.5	286.7	288.9	290.7
Other goods and services	304.9	322.7	330.1	330.5	331.9	334.9	336.1	337.0	337.6	338.0	338.4	341.2	342.6	347.5	348.8
Tobacco products	309.7	328.1	334.0	334.3	337.1	342.4	344.4	345.2	346.0	346.0	346.7	354.0	355.9	356.5	356.8
Personal care	269.4	279.6	282.7	283.1	284.0	285.9	286.8	288.0	288.2	288.6	288.6	288.8	289.9	289.5	290.8
Toilet goods and personal care appliances	270.3	279.0	282.0	281.9	283.3	285.9	286.7	288.1	288.4	288.6	287.6	287.8	289.7	288.7	290.5
Personal care services	268.8	280.5	283.7	284.8	285.2	286.4	287.4	288.4	288.4	289.0	290.0	290.2	290.5	290.8	291.6
Personal and educational expenses	368.2	399.3	416.5	417.3	417.4	418.9	419.9	420.1	421.2	422.0	422.9	423.8	425.1	446.1	448.7
School books and supplies	327.5	355.7	369.2	369.3	369.4	375.6	378.4	379.0	379.1	379.1	380.2	380.5	381.4	393.9	396.7
Personal and educational services	378.2	410.1	428.1	428.9	429.1	429.7	430.3	430.5	431.8	432.8	433.6	434.6	436.0	458.7	461.3
All items	307.6	318.5	321.3	322.6	323.4	324.3	323.2	321.4	320.4	321.4	323.0	322.9	323.4	324.9	325.0
Commodities	280.4	286.5	287.6	288.9	289.7	289.8	287.0	283.1	280.4	281.3	282.0	281.1	281.1	282.6	282.6
Food and beverages	295.2	301.8	302.2	303.4	305.4	307.7	307.5	307.6	308.3	309.0	309.3	312.0	314.5	315.0	315.4
Commodities less food and beverages	269.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nondurables less food and beverages	277.5	283.8	287.0	288.5	286.7	286.9	280.1	269.6	262.0	263.6	265.2	260.1	258.1	261.5	260.2
Apparel commodities	186.6	191.3	196.6	196.5	194.1	189.4	188.2	190.4	191.2	190.1	187.7	186.3	190.8	196.2	197.1
Nondurables less food, beverages, and apparel	327.0	334.2	336.5	338.8	340.1	339.6	330.1	313.2	301.6	304.5	308.0	301.0	295.9	298.4	296.0
Durables	261.1	265.2	264.5	265.7	265.7	265.6	264.6	263.7	263.3	263.5	263.6	263.2	262.6	263.0	264.0
Services	358.0	377.3	383.0	384.2	385.1	387.2	388.8	390.5	392.2	393.2	396.4	397.7	399.0	400.4	401.0
Rent of shelter (12/84 = 100)	-	103.2	105.1	105.8	106.1	106.4	106.7	107.4	108.3	108.5	108.7	109.2	109.6	110.3	110.8
Household services less rent of shelter (12/84 = 100)	-	102.6	103.3	102.1	102.0	102.6	103.0	102.8	102.7	103.4	106.4	106.0	106.4	106.0	103.8
Transportation services	317.2	332.2	335.5	339.3	340.5	343.3	345.4	347.0	347.5	347.3	348.9	350.6	350.7	349.2	353.8
Medical care services	407.9	432.7	440.6	443.2	445.4	449.2	453.5	457.3	459.5	461.3	464.0	466.9	470.1	472.6	475.6
Other services	292.9	310.1	316.7	317.8	318.3	320.4	321.6	322.1	322.9	323.6	324.6	325.6	326.0	332.2	333.8
Special indexes:															
All items less food	307.5	319.4	322.9	324.2	324.6	325.1	323.8	321.5	320.2	321.2	323.2	322.3	322.2	323.9	324.0
All items less shelter	295.1	303.4	305.4	306.4	307.2	307.9	306.4	303.8	302.1	303.0	304.8	304.3	304.6	305.9	305.7
All items less homeowners' costs (12/84 = 100)	-	101.8	102.6	103.0	103.2	103.5	103.0	102.3	101.8	102.1	102.7	102.6	102.7	103.2	103.2
All items less medical care	304.0	314.3	316.9	318.1	318.9	319.6	318.3	316.2	315.2	316.1	317.7	317.4	317.8	319.3	319.3
Commodities less food	267.1	272.8	274.5	275.9	275.9	275.0	270.9	264.9	260.7	261.6	262.6	259.6	258.3	260.3	260.0
Nondurables less food	272.6	279.0	282.4	283.8	283.9	282.3	276.1	266.4	259.4	260.9	262.4	257.7	255.8	259.1	257.8
Nondurables less food and apparel	313.2	320.3	323.1	325.0	326.3	325.9	317.5	302.6	292.2	294.9	298.0	291.8	287.3	289.6	287.4
Nondurables	287.4	293.9	295.7	297.1	298.2	298.4	295.0	289.8	286.3	287.5	288.4	287.2	287.5	289.5	289.0
Services less rent of shelter (12/84 = 100)	-	102.6	103.9	103.9	104.2	104.9	105.5	105.7	105.9	106.2	107.6	107.8	108.1	108.3	108.2
Services less medical care	350.5	369.0	374.5	375.5	376.2	378.2	379.5	381.0	382.7	383.6	386.8	387.9	389.0	390.3	390.6
Energy	423.3	426.3	426.6	425.4	426.8	424.7	408.1	379.0	358.4	364.6	378.1	363.1	354.8	356.9	344.8
All items less energy	298.3	309.9	313.0	314.5	315.3	316.5	316.9	317.8	318.8	319.2	319.7	321.1	322.4	323.9	325.3
All items less food and energy	295.8	308.7	312.7	314.2	314.6	315.4	316.1	317.2	318.3	318.6	319.1	320.1	321.0	322.7	324.4
Commodities less food and energy	250.5	256.8	258.8	259.5	259.2	258.8	258.5	258.7	258.8	258.8	258.5	258.5	259.3	260.9	261.7
Energy commodities	410.5	410.9	411.2	416.3	418.9	414.1	387.3	343.3	312.9	319.8	328.1	307.2	292.9	298.2	290.9
Services less energy	350.8	371.1	377.3	379.8	380.8	382.9	384.5	386.5	388.8	389.4	390.8	392.6	393.7	395.7	398.2
Purchasing power of the consumer dollar:															
1967 = $1.00	32.5	31.4	31.1	31.0	30.9	30.8	30.9	31.1	31.2	31.1	31.0	31.0	30.9	30.8	30.8
1957-59 = $1.00	28.0	27.0	26.8	26.7	26.6	26.5	26.6	26.8	26.8	26.8	26.6	26.6	26.6	26.5	26.5

- Data not available.

31. Consumer Price Index: U.S. city average and available local area data: all items

(1967 = 100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1985		1986					1985		1986				
			Oct.	Nov.	June	July	Aug.	Sept.	Oct.	Oct.	Nov.	June	July	Aug.	Sept.	Oct.
U.S. city average		-	325.5	326.6	327.9	328.0	328.6	330.2	330.5	321.3	322.6	323.0	322.9	323.4	324.9	325.0
Chicago, Ill.-Northwestern Ind.	M	-	322.6	324.2	330.4	331.1	331.4	333.9	328.7	308.9	310.9	315.6	316.0	316.2	318.3	313.4
Detroit, Mich.	M	-	319.7	323.1	321.0	318.4	323.2	321.1	324.3	309.7	313.2	310.2	307.5	312.8	310.5	313.6
Los Angeles-Long Beach, Anaheim, Calif.	M	-	326.1	325.0	331.3	330.9	330.9	334.6	336.2	320.0	319.1	324.5	323.8	323.5	326.8	328.3
New York, N.Y.-Northeastern N.J.	M	-	317.4	319.9	322.8	325.1	325.9	326.6	327.8	309.9	312.5	314.4	316.5	317.2	317.5	318.7
Philadelphia, Pa.-N.J.	M	-	317.4	318.8	321.7	323.0	323.1	325.8	324.7	320.3	321.5	323.5	324.6	324.4	326.7	326.1
Anchorage, Alaska (10/67 = 100)	1	10/67	-	286.9	-	286.3	-	286.2	-	-	280.1	-	278.4	-	277.9	-
Baltimore, Md.	1	-	-	327.3	-	330.2	-	334.0	-	-	326.3	-	327.9	-	330.9	-
Boston, Mass.	1	-	-	325.4	-	323.6	-	326.2	-	-	323.0	-	320.8	-	325.2	-
Cincinnati, Ohio-Ky.-Ind.	1	-	-	333.4	-	332.4	-	333.0	-	-	326.2	-	324.9	-	324.7	-
Denver-Boulder, Colo.	1	-	-	359.4	-	358.4	-	362.9	-	-	354.1	-	352.4	-	357.2	-
Miami, Fla. (11/77 = 100)	1	11/77	-	173.9	-	171.2	-	174.3	-	-	174.9	-	171.6	-	174.5	-
Milwaukee, Wis.	1	-	-	333.9	-	331.3	-	332.9	-	-	353.2	-	350.1	-	351.7	-
Northeast, Pa.	1	-	-	310.6	-	309.0	-	311.3	-	-	300.6	-	307.8	-	310.2	-
Portland, Oreg.-Wash.	1	-	-	317.1	-	314.7	-	318.0	-	-	307.3	-	303.4	-	306.3	-
St. Louis, Mo.-Ill.	1	-	-	321.6	-	325.6	-	325.7	-	-	318.5	-	320.6	-	320.7	-
San Diego, Calif.	1	-	-	379.0	-	383.1	-	385.9	-	-	341.9	-	345.0	-	347.4	-
Seattle-Everett, Wash.	1	-	-	324.0	-	323.7	-	326.3	-	-	310.8	-	310.1	-	312.3	-
Washington, D.C.-Md.-Va.	1	-	-	326.9	-	329.3	-	332.3	-	-	330.5	-	330.2	-	334.6	-
Alanta, Ga.	2	-	333.0	-	336.5	-	336.9	-	339.9	330.0	-	335.5	-	335.4	-	335.9
Buffalo, N.Y.	2	-	309.3	-	308.9	-	307.5	-	309.4	295.3	-	294.0	-	292.5	-	294.2
Cleveland, Ohio	2	-	348.6	-	350.6	-	352.7	-	352.1	327.0	-	328.2	-	329.9	-	320.3
Dallas-Ft. Worth, Tex.	2	-	343.9	-	344.7	-	346.2	-	345.9	337.5	-	337.4	-	339.1	-	338.5
Honolulu, Hawaii	2	-	295.6	-	299.2	-	301.5	-	302.2	302.7	-	306.5	-	308.3	-	308.8
Houston, Tex.	2	-	337.6	-	333.3	-	332.9	-	334.0	335.0	-	330.9	-	330.5	-	331.7
Kansas City, Mo.-Kansas	2	-	323.1	-	322.5	-	323.9	-	323.7	312.9	-	311.4	-	311.9	-	311.3
Minneapolis-St. Paul, Minn.-Wis.	2	-	340.6	-	342.1	-	340.3	-	340.9	336.0	-	336.2	-	334.5	-	334.6
Pittsburgh, Pa.	2	-	326.4	-	326.6	-	330.1	-	331.8	309.9	-	308.3	-	309.2	-	310.6
San Francisco-Oakland, Calif.	2	-	336.7	-	344.0	-	345.5	-	347.7	331.0	-	338.1	-	339.0	-	341.1
Region[3]																
Northeast	2	12/77	172.5	-	174.2	-	175.0	-	176.4	170.3	-	171.6	-	172.2	-	173.5
North Central	2	12/77	174.9	-	176.1	-	176.2	-	176.5	171.4	-	172.2	-	172.2	-	172.4
South	2	12/77	175.7	-	176.3	-	176.4	-	177.5	175.3	-	175.2	-	175.3	-	176.3
West	2	12/77	176.9	-	178.7	-	179.0	-	180.4	174.8	-	176.3	-	176.4	-	177.8
Population size class[3]																
A-1	2	12/77	172.9	-	175.7	-	176.6	-	177.6	168.7	-	171.0	-	171.8	-	172.5
A-2	2	12/77	177.6	-	178.9	-	179.1	-	179.9	174.6	-	175.2	-	175.3	-	176.0
B	2	12/77	176.3	-	177.0	-	176.6	-	178.3	173.6	-	174.1	-	173.5	-	175.1
C	2	12/77	173.8	-	174.7	-	175.0	-	175.9	174.1	-	174.6	-	174.8	-	175.7
D	2	12/77	173.8	-	173.4	-	173.8	-	174.5	174.9	-	174.2	-	174.5	-	175.1
Region/population size class cross classification[3]																
Class A:																
Northeast	2	12/77	169.6	-	171.8	-	173.1	-	174.2	166.1	-	167.7	-	168.8	-	169.7
North Central	2	12/77	178.2	-	180.3	-	180.7	-	180.3	173.1	-	174.7	-	175.0	-	174.5
South	2	12/77	175.6	-	176.8	-	176.7	-	177.6	175.7	-	176.1	-	176.1	-	176.9
West	2	11/77	179.1	-	181.8	-	182.0	-	184.2	174.6	-	177.1	-	176.9	-	179.0
Class B:																
Northeast	2	12/77	174.9	-	175.2	-	174.7	-	178.0	171.8	-	172.2	-	171.8	-	174.6
North Central	2	12/77	173.4	-	174.1	-	172.5	-	174.0	169.5	-	169.7	-	168.1	-	169.5
South	2	12/77	177.4	-	176.5	-	176.6	-	180.0	173.9	-	174.6	-	174.6	-	175.7
West	2	12/77	177.9	-	178.3	-	178.1	-	179.2	178.4	-	178.7	-	178.3	-	179.3

See footnotes at end of table.

31. Continued— Consumer Price Index: U.S. city average and available local area data: all items

(1967=100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1985		1986					1985		1986				
			Oct.	Nov.	June	July	Aug.	Sept.	Oct.	Oct.	Nov.	June	July	Aug.	Sept.	Oct.
Class C:																
Northeast	2	12/77	181.7	-	183.4	-	182.8	-	183.8	186.5	-	187.8	-	187.2	-	188.1
North Central	2	12/77	170.1	-	170.7	-	171.2	-	172.3	168.9	-	167.2	-	167.7	-	168.7
South	2	12/77	174.3	-	174.5	-	174.8	-	175.8	173.7	-	175.2	-	175.3	-	176.3
West	2	12/77	169.7	-	171.6	-	173.0	-	173.1	168.3	-	169.9	-	171.1	-	171.2
Class D:																
Northeast	2	12/77	175.6	-	176.1	-	176.8	-	178.1	175.3	-	175.5	-	176.2	-	177.2
North Central	2	12/77	171.6	-	171.3	-	171.4	-	171.7	173.1	-	172.6	-	172.4	-	172.7
South	2	12/77	174.8	-	173.9	-	174.3	-	175.4	176.2	-	174.6	-	175.0	-	175.9
West	2	12/77	174.5	-	174.1	-	174.9	-	175.3	176.0	-	175.4	-	176.3	-	176.7

[1] Area is generally the Standard Metropolitan Statistical Area (SMSA), exclusive of farms. L.A.-Long Beach, Anaheim, Calif. is a combination of two SMSA's, and N.Y., N.Y.-Northeastern N.J. and Chicago, Ill.-Northwestern Ind. are the more extensive Standard Consolidated Areas. Area definitions are those established by the Office of Management and Budget in 1973, except for Denver-Boulder, Colo. which does not include Douglas County. Definitions do not include revisions made since 1973.

[2] Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated:

M - Every month.
1 - January, March, May, July, September, and November.
2 - February, April, June, August, October, and December.

[3] Regions are defined as the four Census regions.

The population size classes are aggregations of areas which have urban population as defined:

A-1 - More than 4,000,000.
A-2 - 1,250,000 to 4,000,000.
B - 385,000 to 1,250,000.
C - 75,000 to 385,000.
D - Less than 75,000.

Population size class A is the aggregation of population size classes A-1 and A-2.

- Data not available.

NOTE: Local area CPI indexes are byproducts of the national CPI program. Because each local index is a small subset of the national index, it has a smaller sample size and is, therefore, subject to substantially more sampling and other measurement error than the national index. As a result, local area indexes show greater volatility than the national index, although their long-term trends are quite similar. Therefore, the Bureau of Labor Statistics strongly urges users to consider adopting the national average CPI for use in escalator clauses.

32. Annual data: Consumer Price Index all items and major groups

Series	1977	1978	1979	1980	1981	1982	1983	1984	1985
Consumer Price Index for All Urban Consumers:									
All items:									
Index	181.5	195.4	217.4	246.8	272.4	289.1	298.4	311.1	322.2
Percent change	6.5	7.7	11.3	13.5	10.4	6.1	3.2	4.3	3.6
Food and beverages:									
Index	188.0	206.3	228.5	248.0	267.3	278.2	284.4	295.1	302.0
Percent change	6.0	9.7	10.8	8.5	7.8	4.1	2.2	3.8	2.3
Housing:									
Index	186.5	202.8	227.6	263.3	293.5	314.7	323.1	336.5	349.9
Percent change	6.8	8.7	12.2	15.7	11.5	7.2	2.7	4.1	4.0
Apparel and upkeep:									
Index	154.2	159.6	166.6	178.4	186.9	191.8	196.5	200.2	206.0
Percent change	4.5	3.5	4.4	7.1	4.8	2.6	2.5	1.9	2.9
Transportation:									
Index	177.2	185.5	212.0	249.7	280.0	291.5	298.4	311.7	319.9
Percent change	7.1	4.7	14.3	17.8	12.1	4.1	2.4	4.5	2.6
Medical care:									
Index	202.4	219.4	239.7	265.9	294.5	328.7	357.3	379.5	403.1
Percent change	9.6	8.4	9.3	10.9	10.8	11.6	8.7	6.2	6.2
Entertainment:									
Index	167.7	176.6	188.5	205.3	221.4	235.8	246.0	255.1	265.0
Percent change	4.9	5.3	6.7	8.9	7.8	6.5	4.3	3.7	3.9
Other goods and services:									
Index	172.2	183.3	196.7	214.5	235.7	259.9	288.3	307.7	326.6
Percent change	5.8	6.4	7.3	9.0	9.9	10.3	10.9	6.7	6.1
Consumer Price Index for Urban Wage Earners and Clerical Workers:									
All items:									
Index	181.5	195.3	217.7	247.0	272.3	288.6	297.4	307.6	318.5
Percent change	6.5	7.6	11.5	13.5	10.2	6.0	3.0	3.4	3.5

33. Producer Price Indexes, by stage of processing

(1967=100)

Grouping	Annual average		1985		1986									
	1984	1985	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.
Finished goods	291.1	293.7	296.4	297.2	296.0	291.9	289.0	287.2	288.9	289.3	288.0	288.3	287.5	290.5
Finished consumer goods	290.3	291.8	294.4	295.4	293.8	288.4	283.4	281.9	284.1	284.5	282.7	283.1	282.7	284.9
Finished consumer foods	273.3	271.2	271.8	275.0	275.0	272.0	271.6	271.9	274.8	275.1	280.7	283.6	282.2	282.9
Finished consumer goods excluding foods	294.1	297.3	300.7	300.7	298.3	291.8	284.6	282.2	284.0	284.4	278.8	278.0	278.1	281.0
Nondurable goods less food	337.3	339.3	342.6	343.2	339.6	328.0	315.4	309.6	313.0	313.5	303.4	302.0	304.8	301.9
Durable goods	236.8	241.5	245.0	244.3	243.5	243.9	243.7	245.7	245.5	245.9	246.3	246.2	242.7	253.6
Capital equipment	294.0	300.5	303.6	303.7	303.9	304.3	304.3	305.6	305.7	306.1	306.4	306.3	304.2	310.1
Intermediate materials, supplies, and components	320.0	318.7	318.1	318.9	317.4	313.5	309.5	307.1	306.7	306.6	305.0	304.5	306.1	304.9
Materials and components for manufacturing	301.8	299.5	297.7	297.9	297.1	296.5	296.4	295.5	295.4	295.1	295.8	296.0	296.2	296.5
Materials for food manufacturing	271.1	258.8	254.0	254.3	252.8	249.2	246.7	244.8	248.7	247.9	251.6	255.7	254.3	253.2
Materials for nondurable manufacturing	290.5	285.9	282.8	283.1	283.8	282.4	282.5	279.3	278.2	277.8	278.2	277.2	277.3	277.7
Materials for durable manufacturing	325.1	320.2	317.5	317.6	313.4	313.1	313.6	313.7	313.2	312.9	313.3	313.4	314.5	315.4
Components for manufacturing	287.5	291.5	292.3	292.4	293.1	293.6	293.7	294.1	294.1	294.1	294.6	294.9	295.1	294.9
Materials and components for construction	310.3	315.2	315.0	315.7	316.2	316.5	317.0	318.3	318.3	317.8	318.0	317.6	317.9	317.3
Processed fuels and lubricants	566.2	548.9	550.5	557.2	540.6	500.8	453.4	428.5	424.2	426.7	401.6	395.2	409.1	395.1
Containers	302.3	311.2	309.8	310.6	311.2	310.9	312.3	312.8	313.6	314.0	314.2	316.4	317.8	318.4
Supplies	283.4	284.2	285.6	285.7	286.6	286.4	286.8	287.2	287.1	287.3	287.4	287.1	287.9	287.5
Crude materials for further processing	330.8	306.1	304.7	304.3	301.0	289.0	281.1	273.7	279.4	276.9	278.0	275.5	275.5	276.7
Foodstuffs and feedstuffs	259.5	235.0	236.6	236.8	231.7	227.2	224.4	220.3	229.9	227.1	233.6	236.3	231.9	233.7
Nonfood materials[1]	484.5	459.2	451.6	450.0	450.6	422.7	403.9	389.4	386.9	384.8	374.1	360.0	369.6	369.8
Special groupings														
Finished goods, excluding foods	294.8	299.0	302.4	302.4	300.7	296.3	291.2	289.9	291.2	291.6	287.8	287.2	288.6	290.5
Finished energy goods	750.3	720.9	729.5	733.8	700.9	629.3	554.1	517.2	534.1	536.4	467.8	459.1	477.2	454.9
Finished goods less energy	265.1	269.2	271.6	272.2	272.7	272.2	272.1	273.1	274.0	274.3	276.4	277.2	275.4	279.7
Finished consumer goods less energy	257.8	261.3	263.4	264.3	264.8	264.0	263.9	264.9	266.1	266.3	269.0	270.0	268.4	272.2
Finished goods less food and energy	262.3	266.7	271.8	271.4	272.1	272.5	272.5	273.9	274.0	274.3	275.0	275.0	273.1	278.8
Finished consumer goods less food and energy	245.9	252.1	255.0	254.6	255.5	256.0	256.0	257.3	257.5	257.7	258.6	258.6	258.9	262.4
Consumer nondurable goods less food and energy	239.0	246.2	248.5	248.3	250.5	251.1	251.2	252.0	252.3	252.5	253.8	253.8	253.6	254.4
Intermediate materials less foods and feeds	325.0	325.0	324.5	325.3	323.6	319.7	315.5	313.0	312.4	312.5	310.5	309.9	311.5	310.4
Intermediate foods and feeds	253.1	232.8	231.4	232.7	232.6	228.9	227.8	227.0	229.3	229.0	230.3	232.4	233.3	229.8
Intermediate energy goods	545.0	528.3	529.3	536.2	520.0	482.0	437.0	413.3	400.1	411.1	387.1	380.8	393.8	380.5
Intermediate goods less energy	303.8	304.0	303.2	303.5	303.4	303.0	303.3	303.1	303.0	302.9	303.4	303.5	304.0	303.9
Intermediate materials less foods and energy	303.6	305.2	304.2	304.5	304.3	304.2	304.5	304.3	304.0	303.8	304.2	304.2	304.7	304.9
Crude energy materials	785.2	748.1	737.1	735.6	732.8	662.9	614.5	577.0	570.6	563.9	538.7	524.5	544.1	530.2
Crude materials less energy	255.5	233.2	233.2	233.0	229.8	226.5	224.7	221.9	229.2	227.3	232.0	231.1	228.5	230.5
Crude nonfood materials less energy	266.1	249.7	244.6	242.9	245.8	246.5	247.9	249.1	249.3	250.1	249.2	236.1	239.2	242.3

[1] Crude nonfood materials except fuel.

34. Producer Price Indexes, by durability of product

(1967 = 100)

Grouping	Annual average		1985		1986								
	1984	1985	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Total durable goods	293.6	297.3	298.5	299.5	299.1	298.4	298.6	299.7	299.6	299.7	300.0	300.1	299.2
Total nondurable goods	323.3	317.2	317.6	318.8	316.8	308.4	300.7	296.0	297.9	297.7	294.9	294.0	295.6
Total manufactures	302.9	304.3	305.4	306.0	304.8	301.1	297.3	296.1	296.7	296.9	295.4	295.6	296.2
Durable	293.9	298.1	299.5	299.5	299.0	299.3	299.4	300.5	300.4	300.5	300.9	300.9	300.1
Nondurable	312.3	310.5	311.4	312.5	310.6	302.9	294.9	291.2	292.6	293.0	290.2	290.7	292.0
Total raw or slightly processed goods	346.6	327.9	326.2	327.6	326.0	316.3	310.3	303.0	306.2	304.2	304.3	299.7	299.2
Durable	286.7	252.2	245.2	244.3	248.2	251.2	252.4	253.1	252.1	251.2	249.9	252.4	253.2
Nondurable	351.4	332.4	331.2	332.7	330.6	320.2	313.6	305.8	309.3	307.2	307.4	302.3	301.7

35. Annual data: Producer Price Indexes, by stage of processing

(1967 = 100)

Index	1977	1978	1979	1980	1981	1982	1983	1984	1985
Finished goods:									
Total	181.7	195.9	217.7	247.0	269.8	280.7	285.2	291.1	293.7
Consumer goods	180.7	194.9	217.9	248.9	271.3	281.0	284.6	290.3	291.8
Capital equipment	184.6	199.2	216.5	239.8	264.3	279.4	287.2	294.0	300.5
Intermediate materials, supplies, and components:									
Total	201.5	215.6	243.2	280.3	306.0	310.4	312.3	320.0	318.7
Materials and components for manufacturing	195.4	208.7	234.4	265.7	286.1	289.8	293.4	301.8	299.5
Materials and components for construction	203.4	224.7	247.4	268.3	287.6	293.7	301.8	310.3	315.2
Processed fuels and lubricants	262.5	295.3	364.8	503.0	595.4	591.7	564.8	566.2	548.9
Containers	188.3	202.8	226.8	254.5	276.1	285.6	286.6	302.3	311.2
Supplies	188.7	198.5	218.2	244.5	263.8	272.1	277.1	283.4	284.2
Crude materials for further processing:									
Total	209.2	234.4	274.3	304.6	329.0	319.5	323.6	330.8	306.1
Foodstuffs and feedstuffs	192.1	216.2	247.9	259.2	257.4	247.8	252.2	259.5	235.0
Nonfood materials except fuel	245.0	272.3	330.0	401.0	482.3	473.9	477.4	484.5	459.2
Fuel	372.1	426.8	507.6	615.0	751.2	886.1	931.5	931.3	909.6

36. U.S. export price indexes by Standard International Trade Classification

(June 1977 = 100, unless otherwise indicated)

Category	1974 SITC	1984				1985				1986		
		Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.
ALL COMMODITIES (9/83 = 100)		100.2	101.5	99.3	98.1	97.5	97.5	96.5	96.7	97.0	96.7	95.1
Food (3/83 = 100)	0	108.2	109.6	103.5	96.5	95.8	94.0	90.2	93.6	90.5	89.5	77.2
Meat (3/83 = 100)	01	108.9	108.7	105.6	104.4	103.9	104.7	106.1	112.2	111.5	114.7	122.0
Fish (3/83 = 100)	03	99.8	98.7	98.0	98.7	101.0	103.6	102.6	101.8	102.2	106.2	111.2
Grain and grain preparations (3/80 = 100)	04	102.7	107.4	101.2	92.9	92.4	90.3	82.6	87.1	82.1	79.1	59.0
Vegetables and fruit (3/83 = 100)	05	116.2	126.9	125.6	114.7	119.5	120.2	126.9	118.9	115.3	125.8	131.4
Feedstuffs for animals (3/83 = 100)	08	106.9	98.8	83.5	82.4	72.8	68.6	75.7	83.4	88.5	85.5	90.2
Misc. food products (3/83 = 100)	09	104.9	110.6	109.5	108.4	110.6	109.2	108.1	107.7	106.0	104.7	106.6
Beverages and tobacco (6/83 = 100)	1	101.6	101.9	102.8	101.3	99.9	100.1	99.7	98.6	95.6	96.5	96.3
Beverages (9/83 = 100)	11	102.3	102.9	103.3	103.7	104.0	105.3	101.8	100.9	101.9	103.0	102.2
Tobacco and tobacco products (6/83 = 100)	12	101.6	101.8	102.7	101.1	99.5	99.6	99.5	98.4	95.1	95.9	95.8
Crude materials (6/83 = 100)	2	112.5	118.3	105.2	101.4	97.5	96.8	93.3	92.5	95.8	95.6	92.3
Raw hides and skins (6/80 = 100)	21	145.6	154.7	153.7	133.6	121.0	126.2	129.0	139.9	138.9	148.9	138.0
Oilseeds and oleaginous fruit (9/77 = 100)	22	93.9	104.3	79.9	74.8	71.0	71.2	64.2	63.9	66.9	65.8	64.5
Crude rubber (including synthetic and reclaimed) (9/83 = 100)	23	103.3	106.0	104.1	104.0	106.4	106.3	107.1	106.0	106.0	106.1	105.3
Wood	24	131.1	129.4	123.8	125.4	128.7	125.7	124.5	128.1	128.7	128.7	129.7
Pulp and waste paper (6/83 = 100)	25	112.5	122.1	120.6	114.2	100.5	96.1	93.8	92.7	98.8	109.7	120.7
Textile fibers	26	120.5	125.6	109.4	106.7	102.4	105.8	103.6	97.7	101.6	98.6	74.7
Crude fertilizers and minerals	27	146.6	147.7	163.0	163.2	165.6	167.9	169.4	165.5	168.0	166.1	164.3
Metalliferous ores and metal scrap	28	100.2	98.5	93.2	92.4	89.2	82.0	80.1	78.7	83.4	80.5	84.6
Mineral fuels	3	99.1	99.7	99.7	99.7	100.1	99.2	97.6	96.6	91.9	86.7	65.7
Animal and vegetables oils, fats, and waxes	4	129.8	164.5	145.7	147.9	142.0	144.5	114.5	101.4	90.8	84.4	76.5
Fixed vegetable oils and fats (6/83 = 100)	42	133.2	176.4	159.0	156.7	152.9	164.8	128.8	108.7	95.4	95.3	80.8
Chemicals (3/83 = 100)	5	101.4	99.7	98.3	97.7	97.0	96.8	97.1	96.6	96.5	95.4	93.1
Organic chemicals (12/83 = 100)	51	100.2	101.0	97.4	94.7	93.8	96.5	97.1	95.4	93.5	89.3	88.0
Fertilizers, manufactured (3/83 = 100)	56	108.3	96.9	97.4	94.8	92.5	87.9	89.8	90.0	88.6	84.0	77.4
Intermediate manufactured products (9/81 = 100)	–	101.0	101.3	102.0	100.4	99.4	99.2	99.2	99.1	100.3	101.2	102.2
Leather and furskins (9/78 = 100)	6	83.5	81.2	80.8	79.0	82.5	79.2	75.9	78.5	77.8	82.5	84.2
Rubber manufactures	61	146.7	147.5	148.9	148.5	150.2	149.0	148.3	148.7	151.0	150.0	150.4
Paper and paperboard products (6/78 = 100)	62	150.2	154.7	160.0	159.5	155.0	151.6	149.6	148.2	152.2	158.7	165.3
Iron and steel (3/82 = 100)	64	95.9	98.1	96.8	96.5	95.5	95.3	95.9	98.2	98.4	99.4	100.2
Nonferrous metals (9/81 = 100)	–	94.2	92.9	90.4	82.5	79.7	79.6	79.8	78.2	80.2	79.1	79.4
Metal manufactures, n.e.s. (3/82 = 100)	–	103.1	104.5	105.1	105.0	105.4	105.2	105.4	104.4	105.3	105.5	105.6
Machinery and transport equipment, excluding military and commercial aircraft (12/78 = 100)	67	138.5	139.4	140.1	141.5	142.3	142.9	143.1	143.3	144.0	144.1	144.4
Power generating machinery and equipment (12/78 = 100)	68	158.4	156.9	160.6	167.5	165.3	167.4	167.1	167.5	169.1	169.2	169.5
Machinery specialized for particular industries (9/78 = 100)	69	152.3	152.8	153.7	153.4	155.0	155.7	156.0	156.2	155.5	154.7	155.0
Metalworking machinery (6/78 = 100)	7	150.8	151.2	151.7	151.9	153.4	155.1	156.3	158.4	159.0	158.9	160.4
General industrial machines and parts n.e.s. 9/78 = 100)	71	148.6	149.0	149.3	150.2	152.4	152.0	152.4	152.2	152.3	153.3	154.4
Office machines and automatic data processing equipment	72	101.4	101.5	99.8	101.4	100.9	100.0	99.9	99.4	99.9	99.2	98.8
Telecommunications, sound recording and reproducing equipment	73	133.0	132.3	134.4	134.3	133.3	133.3	134.1	134.5	136.5	137.0	137.8
Electrical machinery and equipment	74	110.2	112.6	113.8	114.6	114.9	116.1	115.3	113.8	115.1	114.2	114.2
Road vehicles and parts (3/80 = 100)	75	130.2	131.2	131.0	131.8	133.1	133.9	133.8	135.0	135.5	136.4	136.5
Other transport equipment, excl. military and commercial aviation	76	183.1	187.7	189.6	191.7	195.5	196.6	199.3	200.7	203.3	205.6	206.0
Other manufactured articles	77	100.6	100.4	100.7	99.3	99.5	100.4	100.3	100.3	102.6	103.4	104.1
Apparel (9/83 = 100)	78	101.9	102.1	103.9	103.4	104.7	104.7	105.0	105.3	–	–	–
Professional, scientific, and controlling instruments and apparatus	79	171.8	172.0	175.8	171.7	175.5	178.3	178.7	178.8	182.1	183.8	183.8
Photographic apparatus and supplies, optical goods, watches and clocks (12/77 = 100)	8	132.0	131.3	132.7	130.3	128.0	129.1	127.5	128.5	131.6	132.9	132.7
Miscellaneous manufactured articles, n.e.s.	84	98.5	97.9	95.2	94.1	92.4	93.1	93.1	92.4	95.6	95.6	97.6
Gold, non-monetary (6/83 = 100)	971	95.8	93.5	81.7	79.5	69.1	75.4	77.4	77.5	81.8	82.2	97.5

– Data not available.

37. U.S. import price indexes by Standard International Trade Classification

(June 1977 = 100, unless otherwise indicated)

Category	1974 SITC	1984		1985				1986		
		Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.
ALL COMMODITIES (9/82 = 100)		96.7	95.7	93.5	93.0	92.9	94.2	88.5	83.2	83.8
Food (9/77 = 100)	0	102.0	98.1	96.5	96.8	94.9	102.8	113.4	104.7	109.1
Meat	01	135.4	132.3	130.4	118.2	120.6	131.2	122.7	118.5	126.9
Dairy products and eggs (6/81 = 100)	02	98.9	96.4	98.3	97.9	99.1	100.5	106.7	107.1	109.4
Fish	03	134.2	133.9	132.9	129.4	129.7	132.7	139.3	144.8	149.6
Bakery goods, pasta products, grain and grain preparations (9/77 = 100)	04	132.9	132.8	131.8	132.3	136.3	141.9	146.9	149.2	154.0
Fruits and vegetables	05	135.4	117.2	127.1	129.4	120.2	131.3	119.4	119.4	127.1
Sugar, sugar preparations, and honey (3/82 = 100)	06	119.0	118.5	118.4	122.6	123.1	111.9	124.6	121.6	123.9
Coffee, tea, cocoa	07	60.3	58.4	57.0	56.0	54.4	64.6	65.9	69.2	71.8
Beverages and tobacco	1	157.1	156.5	156.2	157.1	158.0	162.1	163.2	165.5	165.8
Beverages	11	153.5	152.8	154.2	154.3	156.0	159.1	161.8	163.9	165.5
Crude materials	2	100.6	98.9	94.0	93.6	91.5	91.2	94.2	95.3	98.2
Crude rubber (inc. synthetic & reclaimed) (3/84 = 100)	23	90.7	83.8	77.6	76.4	68.9	73.2	78.8	75.5	76.9
Wood (9/81 = 100)	24	99.6	104.0	100.7	106.9	101.6	99.4	104.3	106.3	109.4
Pulp and waste paper (12/81 = 100)	25	96.3	93.2	84.0	80.4	76.8	75.8	74.9	79.9	86.0
Crude fertilizers and crude minerals (12/83 = 100)	27	98.0	98.6	100.3	101.7	102.7	102.1	101.5	100.0	100.4
Metalliferous ores and metal scrap (3/84 = 100)	28	100.1	95.6	90.4	87.6	89.5	90.1	94.5	95.6	98.2
Crude vegetable and animal materials, n.e.s.	29	101.1	106.4	104.3	104.9	102.5	102.5	103.6	104.4	104.8
Fuels and related products (6/82 = 100)	3	86.9	85.2	82.9	80.9	79.8	79.1	55.3	37.5	33.3
Petroleum and petroleum products (6/82 = 100)	33	87.0	85.2	83.8	81.6	80.3	80.1	54.7	36.1	31.8
Fats and oils (9/83 = 100)	4	124.4	114.9	89.9	76.7	57.6	50.6	41.4	39.3	35.5
Vegetable oils (9/83 = 100)	42	125.3	115.3	89.5	75.9	58.2	48.9	39.3	37.4	33.5
Chemicals (9/82 = 100)	5	98.8	97.1	95.7	94.9	94.5	94.2	94.6	93.3	93.4
Medicinal and pharmaceutical products (3/84 = 100)	54	96.4	94.6	91.6	95.1	95.3	96.7	102.9	104.9	110.0
Manufactured fertilizers (3/84 = 100)	56	98.5	92.9	94.2	82.0	80.8	78.5	79.2	79.7	77.4
Chemical materials and products, n.e.s. (9/84 = 100)	59	100.0	97.5	96.1	95.6	96.9	97.8	99.9	100.3	101.0
Intermediate manufactured products (12/77 = 100)	6	137.2	136.8	133.1	132.4	133.6	133.4	134.0	135.6	138.8
Leather and furskins	61	144.0	140.4	135.3	133.3	137.0	141.3	141.6	143.0	147.4
Rubber manufactures, n.e.s.	62	139.6	140.5	139.5	136.6	137.3	138.1	136.5	137.7	138.1
Cork and wood manufactures	63	126.4	126.1	121.3	121.2	123.4	124.0	130.8	134.3	137.4
Paper and paperboard products	64	156.1	157.5	157.6	157.2	157.8	156.5	157.1	157.1	157.5
Textiles	65	131.6	132.9	130.4	127.5	126.5	126.1	131.2	132.9	135.4
Nonmetallic mineral manufactures, n.e.s.	66	156.6	159.4	154.2	151.7	157.6	162.2	164.2	169.6	178.2
Iron and steel (9/78 = 100)	67	124.7	123.7	121.0	120.1	119.1	118.3	117.3	118.1	119.0
Nonferrous metals (12/81 = 100)	68	90.2	87.3	81.9	82.3	83.7	80.4	79.4	78.9	83.5
Metal manufactures, n.e.s.	69	119.3	119.3	117.4	117.8	119.5	121.6	124.4	127.8	129.1
Machinery and transport equipment (6/81 = 100)	7	102.6	102.9	101.6	102.6	103.5	107.2	111.5	115.3	118.1
Machinery specialized for particular industries (9/78 = 100)	72	98.8	98.0	96.2	97.0	101.4	104.9	112.1	115.4	120.1
Metalworking machinery (3/80 = 100)	73	92.1	89.9	86.3	90.5	94.2	98.1	105.0	107.7	110.7
General industrial machinery and parts, n.e.s. (6/81 = 100)	74	92.4	91.3	89.2	91.1	94.3	98.0	103.8	109.0	112.8
Office machines and automatic data processing equipment (3/80 = 100)	75	94.1	92.2	89.6	89.4	90.3	93.7	96.9	100.8	102.1
Telecommunications, sound recording and reproducing apparatus (3/80 = 100)	76	93.6	91.3	90.0	88.8	88.3	88.6	89.4	91.6	93.7
Electrical machinery and equipment (12/81 = 100)	77	87.0	86.4	82.1	83.9	81.4	83.1	84.5	87.5	89.5
Road vehicles and parts (6/81 = 100)	78	109.8	111.3	111.5	112.1	112.7	117.8	123.4	127.1	129.8
Misc. manufactured articles (3/80 = 100)	8	99.7	100.0	97.0	98.0	99.6	100.8	103.3	104.8	109.5
Plumbing, heating, and lighting fixtures (6/80 = 100)	81	110.7	111.6	113.9	114.1	117.8	115.0	120.1	123.5	125.5
Furniture and parts (6/80 = 100)	82	138.4	142.5	137.4	136.7	142.1	142.7	147.0	142.2	145.8
Clothing (9/77 = 100)	84	135.4	138.5	136.7	133.9	134.5	134.5	133.4	135.3	137.8
Footwear	85	138.4	142.5	137.4	136.7	142.1	142.7	147.0	142.2	145.8
Professional, scientific, and controlling instruments and apparatus (12/79 = 100)	87	95.6	92.9	89.2	92.3	98.8	102.4	106.4	112.5	118.5
Photographic apparatus and supplies, optical goods, watches, and clocks (3/80 = 100)	88	91.2	91.3	88.9	89.5	91.1	94.5	99.3	103.2	106.8
Misc. manufactured articles, n.e.s. (6/82 = 100)	89	98.3	96.3	91.2	95.2	96.4	97.9	102.1	103.4	112.3
Gold, non-monetary (6/82 = 100)	971	106.4	103.6	90.1	98.3	101.1	101.0	106.7	107.3	126.9

38. U.S. export price indexes by end-use category

(September 1983 = 100 unless otherwise indicated)

Category	Percentage of 1980 trade value	1984		1985				1986		
		Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.
Foods, feeds, and beverages	16.294	88.8	83.0	81.5	80.9	76.2	77.5	75.5	74.7	86.0
Raw materials	30.696	100.5	99.1	97.6	97.2	96.5	95.9	96.0	94.9	93.4
Raw materials, nondurable	21.327	102.8	101.4	99.6	98.5	98.7	97.9	97.5	96.1	93.7
Raw materials, durable	9.368	95.0	93.3	92.6	91.6	91.1	91.0	92.5	91.9	92.5
Capital goods (12/82=100)	30.186	104.6	105.6	106.2	106.6	106.6	106.6	107.4	107.5	107.6
Automotive vehicles, parts and engines (12/82=100)	7.483	105.3	105.7	106.7	108.0	108.1	109.2	109.5	110.4	110.8
Consumer goods	7.467	101.3	100.8	100.9	101.1	101.9	101.4	103.7	104.5	104.5
Durables	3.965	99.4	99.3	99.1	99.2	100.4	99.5	101.8	101.8	102.1
Nondurables	3.501	103.0	102.3	102.7	103.0	103.3	103.3	105.5	107.2	106.9

39. U.S. import price indexes by end-use category

(December 1982=100)

Category	Percentage of 1980 trade value	1984		1985				1986		
		Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.
Foods, feeds, and beverages	7.477	105.6	101.8	102.1	100.4	99.0	106.0	115.8	108.2	112.3
Petroleum and petroleum products, excl. natural gas	31.108	87.5	85.7	84.4	82.1	80.9	80.5	55.4	36.8	32.3
Raw materials, excluding petroleum	19.205	102.5	101.1	96.3	95.8	95.4	93.9	94.5	94.0	95.3
Raw materials, nondurable	9.391	101.7	100.7	95.0	90.9	93.5	91.8	91.1	89.7	89.5
Raw materials, durable	9.814	103.3	101.6	97.7	97.8	97.4	96.2	98.1	98.7	101.4
Capital goods	13.164	98.0	97.8	94.8	96.3	97.6	100.0	102.8	106.7	109.4
Automotive vehicles, parts and engines	11.750	104.0	105.2	105.4	105.9	106.4	111.4	115.6	119.0	121.0
Consumer goods	14.250	100.6	101.1	99.5	99.4	101.0	102.4	104.5	106.5	110.1
Durable	5.507	98.8	98.5	97.0	97.0	98.9	100.7	103.4	106.5	111.2
Nondurable	8.743	103.0	104.6	103.0	102.5	103.9	104.7	106.0	106.6	108.6

40. U.S. export price indexes by Standard Industrial Classification [1]

Industry group	1984		1985				1986		
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.
Manufacturing:									
Food and kindred products (6/83=100)	105.6	103.3	99.5	99.5	96.7	98.1	97.0	95.0	95.2
Lumber and wood products, except furniture (6/83=100)	97.0	97.9	99.9	99.5	98.3	101.2	101.5	101.2	102.1
Furniture and fixtures (9/83=100)	103.5	104.9	105.2	106.5	107.1	108.4	109.2	109.7	110.1
Paper and allied products (3/81=100)	106.1	103.6	97.1	94.7	93.2	92.1	95.7	101.5	106.4
Chemicals and allied products (12/84=100)	101.3	100.7	100.3	99.6	99.7	99.2	98.9	98.3	98.2
Petroleum and coal products (12/83=100)	100.7	100.4	101.3	102.7	102.0	99.1	93.5	83.1	83.1
Primary metal products (3/82=100)	100.0	95.8	91.2	92.7	93.6	93.6	96.4	96.6	101.6
Machinery, except electrical (9/78=100)	138.0	139.9	140.4	140.5	140.6	140.5	140.6	140.3	140.5
Electrical machinery (12/80=100)	110.7	111.1	111.3	112.4	111.9	111.2	112.6	112.3	112.5
Transportation equipment (12/78=100)	157.7	158.8	160.4	161.8	162.6	164.1	165.1	166.8	167.1
Scientific instruments; optical goods; clocks (6/77=100)	156.0	153.0	154.9	156.6	156.2	156.7	159.7	161.2	161.5

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[1] SIC - based classification.

41. U.S. import price indexes by Standard Industrial Classification [1]

Industry group	1984		1985				1986		
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.
Manufacturing:									
Food and kindred products (6/77 = 100)	124.1	122.6	118.8	115.0	114.2	115.1	117.7	115.6	118.1
Textile mill products (9/82 = 100)	104.3	104.7	102.8	101.0	100.4	101.8	104.7	106.4	107.4
Apparel and related products (6/77 = 100)	133.9	138.2	135.6	133.0	133.9	134.4	133.4	135.1	137.8
Lumber and wood products, except furniture (6/77 = 100)	117.3	120.0	116.3	120.6	117.5	115.8	122.1	124.8	127.9
Furniture and fixtures (6/80 = 100)	96.2	95.6	93.9	96.1	97.7	98.2	101.2	103.5	105.4
Paper and allied products (6/77 = 100)	146.1	145.5	141.5	139.8	138.7	137.4	137.6	139.4	142.2
Chemicals and allied products (9/82 = 100)	99.8	98.2	95.3	93.9	93.3	95.8	98.6	102.1	103.6
Rubber and miscellaneous plastic products (12/80 = 100)	97.8	98.0	98.9	98.7	98.6	97.5	100.9	100.6	101.9
Leather and leather products	141.6	144.2	139.1	138.9	142.3	144.0	145.8	144.6	147.7
Primary metal products (6/81 = 100)	88.3	86.6	82.2	83.0	83.4	81.9	82.0	82.4	86.4
Fabricated metal products (12/84 = 100)	-	100.0	99.0	99.1	101.0	102.6	104.9	108.5	110.3
Machinery, except electrical (3/80 = 100)	95.5	94.1	91.8	93.4	96.6	100.0	105.5	108.9	112.5
Electrical machinery (9/84 = 100)	100.0	98.6	95.1	95.8	94.5	95.8	97.0	100.2	102.6
Transportation equipment (6/81 = 100)	110.7	112.9	113.1	114.2	114.8	119.6	123.9	128.0	130.4
Scientific instruments; optical goods; clocks (12/79 = 100)	94.4	93.2	90.7	91.7	94.6	98.8	103.9	109.1	113.7
Miscellaneous manufactured commodities (9/82 = 100)	95.8	96.4	95.1	95.1	96.6	98.7	99.9	101.7	106.9

[1] SIC - based classification.

- Data not available.

42. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

(1977 = 100)

Item	Annual average	Quarterly indexes										
	1984	1984				1985				1986		
		I	II	III	IV	I	II	III	IV	I	II	III
Business:												
Output per hour of all persons	105.3	104.9	105.6	105.5	106.5	105.7	106.4	107.3	106.4	107.3	107.4	107.4
Compensation per hour	168.1	165.9	167.1	169.0	170.6	172.3	174.5	176.4	178.0	179.1	180.4	181.7
Real compensation per hour	98.1	98.1	97.9	98.1	98.2	98.4	98.7	99.1	99.0	99.2	100.3	100.4
Unit labor costs	159.7	158.2	158.3	160.2	161.7	163.1	164.0	164.4	167.3	167.0	168.0	169.1
Unit nonlabor payments	156.3	154.1	156.7	157.0	157.7	158.3	160.0	161.4	159.6	162.2	161.9	163.7
Implicit price deflator	158.5	156.7	157.7	159.0	160.3	161.4	162.6	163.4	164.6	165.3	165.8	167.2
Nonfarm business:												
Output per hour of all persons	104.3	103.9	104.6	104.4	104.3	104.4	104.9	105.4	104.5	105.6	105.7	106.8
Compensation per hour	167.9	165.6	166.9	168.7	170.4	172.1	174.0	175.4	177.0	178.3	179.3	180.4
Real compensation per hour	98.0	97.9	97.8	98.0	98.1	98.2	98.4	98.5	98.4	98.8	99.8	99.7
Unit labor costs	161.0	159.4	159.5	161.5	163.3	164.8	165.9	166.3	169.3	168.8	169.6	170.5
Unit nonlabor payments	156.1	153.2	156.4	157.2	157.9	158.9	160.8	163.0	160.3	163.9	163.7	165.9
Implicit price deflator	159.3	157.2	158.4	160.0	161.4	162.7	164.1	165.2	166.2	167.1	167.5	168.9
Nonfinancial corporations:												
Output per hour of all employees	105.6	105.3	105.9	105.5	105.8	106.0	106.5	107.8	107.0	106.9	106.8	106.9
Compensation per hour	165.9	163.6	164.8	166.6	168.3	169.9	171.6	173.1	174.5	175.4	176.1	176.8
Real compensation per hour	96.8	96.8	96.6	96.7	96.8	97.0	97.0	97.2	97.0	97.1	97.9	97.7
Total unit costs	161.5	159.4	160.1	162.6	163.8	164.9	165.8	165.0	167.2	168.3	168.6	169.8
Unit labor costs	157.0	155.4	155.7	157.9	159.1	160.3	161.1	160.5	163.0	164.0	164.8	165.4
Unit nonlabor costs	174.6	171.1	173.1	176.4	177.5	178.5	179.8	178.3	179.8	181.1	179.9	182.8
Unit profits	133.4	134.4	138.5	130.3	130.5	129.3	130.2	141.7	131.2	131.7	132.3	134.4
Unit nonlabor payments	160.1	158.3	161.0	160.3	161.0	161.3	162.5	165.5	162.8	163.6	163.2	165.9
Implicit price deflator	158.1	156.4	157.5	158.7	159.8	160.6	161.6	162.2	162.9	164.0	164.3	165.6
Manufacturing:												
Output per hour of all persons	116.6	114.7	115.7	117.8	118.2	119.3	121.7	123.0	122.9	123.7	124.7	125.8
Compensation per hour	168.2	165.4	166.8	169.1	171.5	173.8	175.6	178.1	179.3	180.2	181.4	182.5
Real compensation per hour	98.1	97.8	97.8	98.2	98.7	99.2	99.3	100.0	99.7	99.8	100.9	100.9
Unit labor costs	144.2	144.1	144.2	143.5	145.1	145.7	144.3	144.8	145.8	145.7	145.5	145.0

43. Annual indexes of multifactor productivity and related measures, selected years

(1977 = 100)

Item	1960	1970	1973	1974	1976	1978	1979	1980	1981	1982	1983	1984
Private business												
Productivity:												
Output per hour of all persons	67.3	88.4	95.9	93.8	98.4	100.8	99.5	99.2	100.6	100.3	103.0	105.4
Output per unit of capital services	102.4	102.0	105.3	98.8	97.2	102.0	99.8	94.2	92.4	86.6	88.3	92.4
Multifactor productivity	78.2	92.9	99.1	95.6	98.0	101.2	99.7	97.4	97.7	95.2	97.6	100.6
Output	55.3	80.2	93.0	91.2	94.5	105.8	107.9	106.6	108.9	105.4	108.9	118.9
Inputs:												
Hours of all persons	82.2	90.8	96.9	97.2	96.1	105.0	108.4	107.5	108.2	105.2	106.7	112.8
Capital services	54.0	78.7	88.3	92.4	97.2	103.8	108.0	113.1	117.8	121.7	124.4	128.7
Combined units of labor and capital input	70.7	86.3	93.8	95.5	96.5	104.5	108.2	109.4	111.5	110.7	112.6	118.1
Capital per hour of all persons	65.7	86.7	91.1	95.0	101.2	98.8	99.7	105.3	108.8	115.7	116.7	114.1
Private nonfarm business												
Productivity:												
Output per hour of all persons	70.7	89.2	96.4	94.3	98.5	100.8	99.2	98.7	98.6	99.1	102.4	104.3
Output per unit of capital services	103.7	102.8	106.0	99.2	97.3	101.9	99.0	93.4	91.1	85.1	87.3	90.9
Multifactor productivity	80.9	93.7	99.6	96.0	98.1	101.2	99.1	96.9	96.7	94.1	97.0	99.6
Output	54.4	79.9	92.9	91.1	94.4	106.0	107.9	106.6	108.4	104.8	110.0	118.9
Inputs:												
Hours of all persons	77.0	89.6	96.3	96.6	95.8	105.1	108.8	108.0	108.8	105.7	107.4	114.0
Capital services	52.5	77.7	87.6	91.9	97.0	104.0	109.0	114.1	119.0	123.2	126.1	130.8
Combined units of labor and capital input	67.3	85.3	93.3	95.0	96.2	104.7	108.9	110.0	112.2	111.4	113.5	119.4
Capital per hour of all persons	68.2	86.8	91.0	95.1	101.3	98.9	100.1	105.6	109.4	116.5	117.4	114.7
Manufacturing												
Productivity:												
Output per hour of all persons	62.2	80.8	93.4	90.6	97.1	101.5	101.4	101.4	103.6	105.9	112.0	116.6
Output per unit of capital services	102.5	98.6	111.4	101.2	96.2	102.1	99.7	91.2	89.2	81.8	86.9	94.4
Multifactor productivity	71.9	85.2	97.9	93.3	96.8	101.7	101.0	98.7	99.8	99.2	105.1	110.7
Output	52.5	78.6	96.3	91.7	93.1	106.0	108.1	103.2	104.8	98.4	104.7	116.0
Inputs:												
Hours of all persons	84.4	97.3	103.1	101.2	95.9	104.4	106.5	101.7	101.1	92.9	93.5	99.5
Capital services	51.2	79.7	86.4	90.6	96.7	103.7	108.4	113.1	117.5	120.3	120.6	122.9
Combined units of labor and capital inputs	73.0	92.2	98.4	98.3	96.1	104.2	107.0	104.5	105.0	99.2	99.7	104.8
Capital per hour of all persons	60.7	82.0	83.8	89.5	100.9	99.4	101.7	111.2	116.2	120.4	129.0	123.6

44. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years

(1977 = 100)

Item	1960	1970	1973	1974	1976	1978	1979	1980	1981	1982	1983	1984	1985
Business:													
Output per hour of all persons	67.6	88.4	95.9	93.9	98.3	100.8	99.6	99.3	100.7	100.3	103.0	105.3	106.4
Compensation per hour	33.6	57.8	70.9	77.6	92.8	108.5	119.1	131.5	143.7	154.9	161.5	168.1	175.3
Real compensation per hour	68.9	90.2	96.7	95.4	98.7	100.8	99.4	96.7	95.7	97.3	98.2	98.1	98.8
Unit labor costs	49.7	65.4	73.9	82.7	94.3	107.6	119.5	132.5	142.7	154.5	156.8	159.7	164.8
Unit nonlabor payments	46.4	59.4	72.5	76.4	93.3	106.7	112.5	118.7	134.6	136.6	146.3	156.3	159.7
Implicit price deflator	48.5	63.2	73.4	80.5	94.0	107.3	117.0	127.6	139.8	148.1	153.0	158.5	163.0
Nonfarm business:													
Output per hour of all persons	71.0	89.3	96.4	94.3	98.5	100.8	99.3	98.8	99.8	99.2	102.4	104.3	104.8
Compensation per hour	35.3	58.2	71.2	78.0	92.8	108.6	118.9	131.3	143.6	154.8	161.5	167.9	174.6
Real compensation per hour	72.3	90.8	97.1	95.9	98.8	100.9	99.2	96.6	95.7	97.2	98.2	98.0	98.4
Unit labor costs	49.7	65.2	73.9	82.7	94.3	107.7	119.7	132.9	144.0	156.0	157.7	161.0	166.7
Unit nonlabor payments	46.3	60.0	69.3	74.0	93.0	105.6	110.5	118.5	133.5	136.5	148.1	156.1	160.6
Implicit price deflator	48.5	63.4	72.3	79.7	93.8	107.0	116.5	127.8	140.3	149.2	154.3	159.3	164.6
Nonfinancial corporations:													
Output per hour of all employees	73.4	91.1	97.5	94.6	98.4	100.6	99.8	99.1	99.6	100.4	103.5	105.6	106.8
Compensation per hour	36.9	59.2	71.6	78.2	92.9	108.4	118.7	131.1	143.3	154.3	159.9	165.9	172.3
Real compensation per hour	75.5	92.4	97.6	96.1	98.9	100.7	99.1	96.4	95.5	96.9	97.3	96.8	97.0
Unit labor costs	50.2	65.0	73.4	82.6	94.3	107.8	119.0	132.3	143.8	153.8	154.5	157.0	161.2
Unit nonlabor payments	51.5	60.1	68.9	73.1	93.8	104.4	108.4	118.6	137.8	142.1	152.1	160.1	163.0
Implicit price deflator	50.7	63.3	71.9	79.4	94.2	106.6	115.4	127.6	141.7	149.8	153.7	158.1	161.8
Manufacturing:													
Output per hour of all persons	62.2	80.8	93.4	90.6	97.1	101.5	101.4	101.4	103.6	105.9	112.0	116.6	121.7
Compensation per hour	36.5	57.4	68.8	76.2	92.1	108.2	118.6	132.4	145.2	157.5	162.4	168.2	176.7
Real compensation per hour	74.8	89.5	93.8	93.6	98.1	100.5	99.1	97.4	96.7	98.9	98.8	98.1	99.5
Unit labor costs	58.7	71.0	73.7	84.1	94.9	106.6	117.0	130.6	140.1	148.7	145.0	144.2	145.1
Unit nonlabor payments	60.0	64.1	70.7	67.7	93.5	101.9	98.9	97.8	111.8	114.0	128.5	136.9	134.4
Implicit price deflator	59.1	69.0	72.8	79.3	94.5	105.2	111.7	121.0	131.8	138.6	140.2	142.1	142.0

45. Unemployment rates in nine countries, quarterly data seasonally adjusted

Country	Annual average		1985				1986		
	1984	1985	I	II	III	IV	I	II	III
Total labor force basis									
United States	7.4	7.1	7.2	7.2	7.1	6.9	7.0	7.1	6.8
Canada	11.2	10.4	11.0	10.5	10.2	10.1	9.7	9.5	9.6
Australia	8.9	8.2	8.5	8.4	8.1	7.8	7.9	-	-
Japan	2.7	2.6	2.6	2.5	2.6	2.9	2.6	2.8	-
France	9.7	10.1	10.2	10.1	10.2	9.9	10.0	10.3	10.4
Germany	7.6	7.7	7.7	7.8	7.7	7.7	7.6	7.5	7.3
Great Britain	12.8	13.0	12.9	13.0	13.2	12.8	13.0	13.1	-
Italy [1], [2]	5.8	5.9	5.8	5.7	5.9	6.2	6.2	6.3	6.0
Sweden	3.1	2.8	3.0	2.9	2.7	2.7	2.8	2.6	2.6
Civilian labor force basis									
United States	7.5	7.2	7.3	7.3	7.2	7.0	7.1	7.2	6.9
Canada	11.3	10.5	11.1	10.6	10.2	10.1	9.7	9.6	9.7
Australia	9.0	8.3	8.6	8.5	8.2	7.9	8.0	-	-
Japan	2.8	2.6	2.6	2.6	2.7	2.9	2.7	2.8	-
France	9.9	10.4	10.5	10.4	10.4	10.1	10.2	10.5	10.7
Germany	7.8	7.9	7.9	7.9	7.9	7.8	7.8	7.6	7.5
Great Britain	12.9	13.1	13.1	13.2	13.4	13.0	13.1	13.3	-
Italy	5.9	6.0	5.9	5.8	6.0	6.3	6.3	6.5	6.1
Sweden	3.1	2.8	3.0	2.9	2.8	2.7	2.8	2.6	2.6

[1] Quarterly rates are for the first month of the quarter.

[2] Major changes in the Italian labor force survey, introduced in 1977, resulted in a large increase in persons enumerated as unemployed. However, many persons reported that they had not actively sought work in the past 30 days, and they have been provisionally excluded for comparability with U.S. concepts. Inclusion of such persons would more than double the Italian unemployment rate shown.

- Data not available.

NOTE: Quarterly figures for France, Germany, and Great Britain are calculated by applying annual adjustment factors to current published data and therefore should be viewed as less precise indicators of unemployment under U.S. concepts than the annual figures.

46. Annual data: Employment status of the civilian working-age population, 10 countries

(Numbers in thousands)

Employment status and country	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Labor force										
United States	96,158	99,009	102,251	104,962	106,940	108,670	110,204	111,550	113,544	115,461
Canada	10,203	10,500	10,895	11,231	11,573	11,904	11,958	12,183	12,399	12,639
Australia	6,244	6,358	6,443	6,519	6,693	6,810	6,910	6,997	7,133	7,272
Japan	53,100	53,820	54,610	55,210	55,740	56,320	56,980	58,110	58,480	58,820
France	22,000	22,300	22,470	22,670	22,790	22,930	23,150	23,130	23,290	23,330
Germany	25,900	25,870	26,000	26,250	26,520	26,650	26,710	26,740	26,880	27,090
Great Britain	25,290	25,430	25,620	25,710	25,870	25,870	25,880	26,010	26,530	26,960
Italy	20,300	20,530	20,630	20,910	21,210	21,410	21,450	21,610	21,680	21,800
Netherlands	4,890	4,950	5,010	5,100	5,290	5,500	5,560	5,720	5,740	5,690
Sweden	4,149	4,168	4,203	4,282	4,312	4,326	4,350	4,369	4,385	4,418
Participation rate										
United States	61.6	62.3	63.2	63.7	63.8	63.9	64.0	64.0	64.4	64.8
Canada	61.1	61.6	62.7	63.4	64.1	64.8	64.1	64.4	64.8	65.2
Australia	62.7	62.7	62.0	61.7	62.2	62.0	61.8	61.5	61.5	61.8
Japan	62.4	62.5	62.8	62.7	62.6	62.6	62.7	63.1	62.7	62.3
France	57.3	57.6	57.5	57.5	57.2	57.1	57.1	56.6	56.6	56.4
Germany	53.8	53.4	53.3	53.3	53.2	52.9	52.7	52.5	52.6	53.2
Great Britain	63.2	63.2	63.3	63.2	63.2	62.2	61.9	61.9	62.7	63.6
Italy	47.8	48.0	47.7	47.8	48.0	48.0	47.4	47.2	47.3	47.2
Netherlands	49.1	49.0	48.8	49.0	50.0	51.3	51.2	52.1	52.0	51.2
Sweden	66.0	65.9	66.1	66.6	67.0	66.8	66.8	66.7	66.8	67.2
Employed										
United States	88,752	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005	107,150
Canada	9,477	9,651	9,987	10,395	10,708	11,006	10,644	10,734	11,000	11,311
Australia	5,946	6,000	6,038	6,111	6,284	6,416	6,415	6,300	6,490	6,670
Japan	52,020	52,720	53,370	54,040	54,600	55,080	55,620	56,550	56,870	57,280
France	21,010	21,180	21,260	21,300	21,220	21,200	21,230	21,170	20,980	20,910
Germany	25,010	24,970	25,130	25,470	[illegible]	25,560	25,130	24,750	24,790	24,960
Great Britain	23,810	23,840	24,040	24,360	24,100	23,190	22,820	22,680	23,100	23,420
Italy	19,600	19,800	19,870	20,100	20,380	20,480	20,430	20,470	20,390	20,490
Netherlands	4,630	4,700	4,750	4,830	4,960	4,990	4,930	4,890	4,880	4,890
Sweden	4,083	4,093	4,109	4,174	4,226	4,218	4,213	4,218	4,249	4,293
Employment-population ratio										
United States	56.8	57.9	59.3	59.9	59.2	59.0	57.8	57.9	59.5	60.1
Canada	56.7	56.6	57.5	58.7	59.3	59.9	57.0	56.7	57.4	58.4
Australia	59.7	59.2	58.1	57.9	58.4	58.4	57.3	55.4	56.0	56.6
Japan	61.1	61.2	61.3	61.4	61.3	61.2	61.2	61.4	61.0	60.6
France	54.8	54.7	54.4	54.0	53.5	52.8	52.3	51.8	51.0	50.5
Germany	52.0	51.6	51.5	51.7	51.7	50.8	49.6	48.6	48.5	49.0
Great Britain	59.5	59.3	59.4	59.8	58.9	55.8	54.6	54.0	54.6	55.2
Italy	46.1	46.3	45.9	45.9	46.1	45.9	45.2	44.7	44.5	44.4
Netherlands	46.5	46.5	46.3	46.4	46.9	46.5	45.4	44.5	44.2	44.0
Sweden	64.9	64.8	64.6	65.3	65.6	65.1	64.7	64.4	64.7	65.3
Unemployed										
United States	7,406	6,991	6,202	[illegible]137	7,637	8,273	10,678	10,717	8,539	8,312
Canada	726	849	908	836	865	898	1,314	1,448	1,399	1,328
Australia	298	358	405	408	409	394	495	697	642	602
Japan	1,080	1,100	1,240	1,170	1,140	1,260	1,360	1,560	1,610	1,560
France	990	1,120	1,210	1,370	1,470	1,730	1,920	1,960	2,310	2,420
Germany	890	900	870	780	770	1,090	1,580	1,990	2,090	2,130
Great Britain	1,480	1,590	1,580	1,350	1,770	2,680	3,060	3,330	3,430	3,540
Italy	700	740	760	810	830	920	1,020	1,140	1,280	1,310
Netherlands	260	250	260	270	330	510	630	830	860	800
Sweden	66	75	94	88	86	108	137	151	136	125
Unemployment rate										
United States	7.7	7.1	6.1	5.8	7.1	7.6	9.7	9.6	7.5	7.2
Canada	7.1	8.1	8.3	7.4	7.5	7.5	11.0	11.9	11.3	10.5
Australia	4.8	5.6	6.3	6.3	6.1	5.8	7.2	10.0	9.0	8.3
Japan	2.0	2.0	2.3	2.1	2.0	2.2	2.4	2.7	2.8	2.6
France	4.5	5.0	5.4	6.0	6.4	7.5	8.3	8.5	9.9	10.4
Germany	3.4	3.5	3.4	3.0	2.9	4.1	5.9	7.4	7.8	7.9
Great Britain	5.9	6.3	6.2	5.3	6.8	10.4	11.8	12.8	12.9	13.1
Italy	3.4	3.6	3.7	3.9	3.9	4.3	4.8	5.3	5.9	6.0
Netherlands	5.3	5.0	5.2	5.3	6.2	9.3	11.3	14.5	15.0	14.1
Sweden	1.6	1.8	2.2	2.1	2.0	2.5	3.1	3.5	3.1	2.8

47. Annual indexes of productivity and related measures, 12 countries

(1977 = 100)

Item and country	1960	1970	1973	1974	1976	1977	1979	1980	1981	1982	1983	1984	1985
Output per hour													
United States	62.2	80.8	93.4	90.6	97.1	100.0	101.4	101.4	103.6	105.9	112.9	118.5	121.8
Canada	50.3	76.8	91.3	93.4	96.2	100.0	104.2	101.9	104.0	101.0	107.6	111.5	115.1
Japan	23.2	64.8	83.1	86.5	94.3	100.0	114.8	122.7	127.2	135.0	142.3	152.2	158.9
Belgium	32.8	60.0	78.7	83.2	95.3	100.0	111.8	119.3	127.2	132.8	141.0	145.5	-
Denmark	37.2	65.5	83.2	86.0	98.2	100.0	106.5	112.3	114.2	114.6	117.3	118.3	118.4
France	36.4	69.6	82.2	86.2	95.0	100.0	110.3	112.0	116.4	123.5	129.3	135.0	140.2
Germany	40.3	71.2	84.0	87.4	96.5	100.0	108.2	108.6	111.0	112.6	119.0	124.7	131.9
Italy	36.5	72.7	90.9	95.3	98.9	100.0	110.5	116.9	121.0	123.4	126.6	135.0	139.1
Netherlands	32.4	64.3	81.5	88.1	95.8	100.0	112.3	113.9	116.9	119.4	126.1	139.3	-
Norway	54.6	81.7	94.6	97.7	99.7	100.0	107.1	109.3	109.7	112.6	119.2	122.3	125.0
Sweden	42.3	80.7	94.8	98.8	101.7	100.0	110.9	112.7	113.2	116.5	125.5	132.6	135.2
United Kingdom	53.8	77.6	92.9	95.2	99.1	100.0	102.2	101.2	107.9	112.7	121.2	126.2	129.7
Output													
United States	52.5	78.6	96.3	91.7	93.1	100.0	106.1	103.2	104.8	98.4	106.6	117.9	121.0
Canada	41.5	75.1	94.6	98.0	96.1	100.0	110.9	107.7	108.8	96.4	101.7	110.1	115.2
Japan	19.2	69.8	91.9	91.7	94.8	100.0	113.9	124.1	129.8	137.3	148.2	166.2	175.8
Belgium	41.7	78.1	95.8	99.6	99.5	100.0	104.2	107.2	105.9	109.1	110.7	112.8	-
Denmark	49.2	82.0	95.9	97.4	99.6	100.0	105.4	110.1	106.6	108.3	112.2	118.6	122.3
France	35.4	73.3	88.6	91.8	96.1	100.0	106.1	106.6	105.9	106.0	107.4	108.4	109.0
Germany	50.0	86.6	96.1	95.4	98.0	100.0	106.6	106.6	104.9	102.4	103.5	107.4	113.0
Italy	37.4	78.0	90.5	98.3	97.9	100.0	108.6	115.4	114.3	111.6	109.2	113.2	115.3
Netherlands	44.8	84.4	95.8	100.0	99.0	100.0	106.1	106.6	106.7	105.0	105.3	110.8	-
Norway	55.1	87.0	99.5	104.0	101.4	100.0	100.3	101.3	100.1	99.8	98.8	101.3	103.7
Sweden	52.6	92.5	100.3	105.7	106.1	100.0	103.6	104.0	100.6	100.1	105.2	112.4	114.6
United Kingdom	71.0	94.7	104.7	103.5	98.2	100.0	100.5	91.7	86.2	86.4	86.9	92.4	95.0
Total hours													
United States	84.4	97.3	103.1	101.2	95.9	100.0	106.5	101.7	101.1	92.9	93.5	99.5	99.3
Canada	82.6	97.7	103.6	105.0	102.0	100.0	106.4	105.7	104.6	95.4	94.6	98.7	100.1
Japan	82.7	107.8	110.7	106.1	100.6	100.0	99.3	101.2	102.0	101.7	104.2	108.5	110.0
Belgium	127.0	130.1	121.8	119.7	104.4	100.0	93.2	89.9	83.3	82.1	78.5	77.5	-
Denmark	132.4	125.1	115.2	113.2	101.4	100.0	99.0	98.1	93.4	94.5	95.7	100.2	103.3
France	97.2	105.3	107.8	107.8	101.2	100.0	96.2	95.2	91.0	85.9	83.0	80.3	77.8
Germany	123.8	121.7	114.4	109.2	101.6	100.0	98.5	98.1	94.6	91.0	87.0	86.2	85.7
Italy	102.3	107.4	99.6	101.0	99.0	100.0	98.2	98.7	94.5	90.4	86.2	83.9	82.9
Netherlands	138.4	131.2	117.6	113.5	103.3	100.0	94.4	93.6	91.2	88.0	83.5	79.5	-
Norway	101.0	106.4	105.1	106.5	101.7	100.0	93.6	92.6	91.3	88.6	82.9	82.8	83.0
Sweden	124.4	114.6	105.7	107.0	104.3	100.0	93.4	92.3	88.9	85.9	83.9	84.8	84.8
United Kingdom	131.9	122.1	112.7	108.7	99.0	100.0	98.3	90.7	79.9	76.7	73.3	73.2	73.3
Compensation per hour													
United States	36.5	57.3	68.8	76.2	92.1	100.0	118.6	132.4	145.2	157.5	163.2	169.1	176.6
Canada	27.1	46.5	59.2	68.5	89.9	100.0	118.3	130.6	151.5	167.1	179.3	182.1	191.4
Japan	8.9	33.9	56.1	72.3	90.7	100.0	113.4	120.7	129.8	136.6	140.7	144.8	148.3
Belgium	13.8	34.9	53.5	66.2	89.5	100.0	117.6	130.4	144.6	152.0	163.7	176.6	-
Denmark	12.6	38.3	56.1	67.9	90.4	100.0	123.1	135.9	149.6	162.9	174.3	183.9	195.5
France	15.1	36.6	52.3	62.0	88.9	100.0	129.3	147.5	170.3	200.8	226.2	246.5	262.7
Germany	18.8	48.0	67.5	76.9	91.3	100.0	116.1	125.6	134.5	141.0	148.4	155.3	164.7
Italy	8.3	26.1	43.7	54.5	84.2	100.0	134.7	160.2	197.1	237.3	278.4	303.0	334.0
Netherlands	12.5	39.0	60.5	71.8	91.9	100.0	117.0	123.6	129.1	137.6	144.7	152.8	-
Norway	15.8	37.9	54.5	60.6	88.8	100.0	118.0	128.0	142.8	156.0	173.5	186.3	206.2
Sweden	14.7	38.5	54.2	63.8	91.5	100.0	120.1	133.6	148.1	158.9	173.3	190.7	205.8
United Kingdom	14.8	30.8	44.8	56.9	88.4	100.0	137.7	165.8	186.9	206.4	222.4	237.2	257.0
Unit labor costs: National currency basis													
United States	58.7	70.9	73.7	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.8	145.0
Canada	53.9	60.6	64.8	73.3	93.5	100.0	113.5	128.1	145.7	165.4	166.7	163.2	166.3
Japan	38.4	52.3	66.4	83.6	96.2	100.0	98.8	98.4	102.0	101.2	98.9	95.1	92.7
Belgium	42.0	58.1	68.0	78.3	93.9	100.0	105.2	109.3	113.6	114.4	116.1	121.4	-
Denmark	33.8	55.4	67.4	79.0	92.1	100.0	115.7	121.0	131.1	142.2	148.6	155.5	165.1
France	41.6	52.6	63.6	72.8	93.6	100.0	117.3	131.7	146.3	162.6	175.0	182.5	187.4
Germany	46.6	67.4	80.3	88.0	94.6	100.0	107.3	115.7	121.2	125.2	124.7	124.6	124.9
Italy	22.8	36.0	48.1	57.2	85.1	100.0	121.9	137.0	162.9	192.4	218.3	224.5	240.1
Netherlands	38.5	60.7	74.3	81.6	96.0	100.0	104.1	108.5	110.4	115.2	114.7	109.7	-
Norway	29.0	46.4	57.6	65.2	89.1	100.0	108.2	117.0	130.2	138.6	145.5	154.0	164.2
Sweden	34.8	47.7	57.2	64.6	90.0	100.0	108.3	118.6	130.9	136.3	138.1	143.8	152.2
United Kingdom	27.6	39.7	48.2	58.7	89.2	100.0	134.7	163.8	175.1	183.1	183.5	187.9	198.1
Unit labor costs: U.S. dollar basis													
United States	58.7	70.9	73.7	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.8	145.0
Canada	58.0	61.7	68.8	79.7	100.7	100.0	103.0	116.4	129.1	142.3	143.7	133.9	129.4
Japan	28.5	39.1	65.6	76.8	86.9	100.0	121.3	116.8	123.8	108.8	111.5	107.2	104.2
Belgium	30.2	42.0	62.8	72.1	87.2	100.0	128.5	134.1	109.9	89.5	81.3	75.3	-
Denmark	29.5	44.4	67.2	77.9	91.5	100.0	132.0	129.0	110.3	102.3	97.5	90.1	93.5
France	41.7	46.8	70.4	74.5	96.3	100.0	135.5	153.4	132.2	121.5	112.9	102.7	102.6
Germany	25.9	42.9	70.4	79.1	87.3	100.0	135.9	147.9	124.9	119.7	113.4	101.6	98.6
Italy	32.5	50.6	73.1	77.6	90.5	100.0	129.5	141.4	126.3	125.4	126.8	112.8	111.1
Netherlands	25.1	41.2	65.6	74.6	89.1	100.0	127.4	134.2	108.9	105.8	98.6	83.9	-
Norway	21.7	34.5	53.4	62.8	86.9	100.0	113.8	126.2	120.6	114.2	106.1	100.4	101.7
Sweden	30.1	41.1	58.7	65.1	92.3	100.0	112.9	125.3	115.4	98.9	80.4	77.7	79.1
United Kingdom	44.4	54.4	67.7	80.1	92.3	100.0	163.9	218.3	203.1	183.5	159.4	143.9	147.3

- Data not available.

48. Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]								
	1976	1977	1978	1979	1980	1981	1982	1983	1984
PRIVATE SECTOR[3]									
Total cases	9.2	9.3	9.4	9.5	8.7	8.3	7.7	7.6	8.0
Lost workday cases	3.5	3.8	4.1	4.3	4.0	3.8	3.5	3.4	3.7
Lost workdays	60.5	61.6	63.5	67.7	65.2	61.7	58.7	58.5	63.4
Agriculture, forestry, and fishing[3]									
Total cases	11.0	11.5	11.6	11.7	11.9	12.3	11.8	11.9	12.0
Lost workday cases	4.7	5.1	5.4	5.7	5.8	5.9	5.9	6.1	6.1
Lost workdays	83.3	81.1	80.7	83.7	82.7	82.8	86.0	90.8	90.7
Mining									
Total cases	11.0	10.9	11.5	11.4	11.2	11.6	10.5	8.4	8.7
Lost workday cases	5.8	6.0	6.4	6.8	6.5	6.2	5.4	4.5	5.3
Lost workdays	114.4	128.8	143.2	150.5	163.6	146.4	137.3	125.1	160.2
Construction									
Total cases	15.3	15.5	16.0	16.2	15.7	15.1	14.6	14.8	15.5
Lost workday cases	5.5	5.9	6.4	6.8	6.5	6.3	6.0	6.3	6.9
Lost workdays	105.0	111.5	109.4	120.4	117.0	113.1	115.7	118.2	128.1
General building contractors:									
Total cases	14.5	15.0	15.9	16.3	15.5	15.1	14.1	14.4	15.4
Lost workday cases	5.2	5.7	6.3	6.8	6.5	6.1	5.9	6.2	6.9
Lost workdays	100.0	100.2	105.3	111.2	113.0	107.1	112.0	113.0	121.3
Heavy construction contractors:									
Total cases	16.2	16.0	16.6	16.6	16.3	14.9	15.1	15.4	14.9
Lost workday cases	5.5	5.7	6.2	6.7	6.3	6.0	5.8	6.2	6.4
Lost workdays	109.2	116.7	110.9	123.1	117.6	106.0	113.1	122.4	131.7
Special trade contractors:									
Total cases	15.3	15.6	15.8	16.0	15.5	15.2	14.7	14.8	15.8
Lost workday cases	5.6	6.1	6.6	6.9	6.7	6.6	6.2	6.4	7.1
Lost workdays	106.8	115.5	111.0	124.3	118.9	119.3	118.6	119.0	130.1
Manufacturing									
Total cases	13.2	13.1	13.2	13.3	12.2	11.5	10.2	10.0	10.6
Lost workday cases	4.8	5.1	5.6	5.9	5.4	5.1	4.4	4.3	4.7
Lost workdays	79.5	82.3	84.9	90.2	86.7	82.0	75.0	73.5	77.9
Durable goods									
Lumber and wood products:									
Total cases	22.1	22.3	22.6	20.7	18.6	17.6	16.9	18.3	19.6
Lost workday cases	9.7	10.4	11.1	10.8	9.5	9.0	8.3	9.2	9.9
Lost workdays	167.3	178.0	178.8	175.9	171.8	158.4	153.3	163.5	172.0
Furniture and fixtures:									
Total cases	16.9	17.2	17.5	17.6	16.0	15.1	13.9	14.1	[illegible]
Lost workday cases	6.0	6.0	6.9	7.1	6.6	6.2	5.5	5.7	[illegible]
Lost workdays	94.5	92.0	95.9	99.6	97.6	91.9	85.6	83.0	[illegible]
Stone, clay, and glass products:									
Total cases	16.1	16.9	16.8	16.8	15.0	14.1	13.0	13.1	13.6
Lost workday cases	6.4	6.9	7.6	8.0	7.1	6.9	6.1	6.0	6.6
Lost workdays	114.1	120.4	126.3	133.7	126.1	122.2	112.2	112.0	120.8
Primary metal industries:									
Total cases	16.6	16.2	17.0	17.3	15.2	14.4	12.4	12.4	13.3
Lost workday cases	6.3	6.8	7.5	8.1	7.1	6.7	5.4	5.4	6.1
Lost workdays	114.8	119.4	123.6	134.7	126.3	121.3	101.6	103.4	115.3
Fabricated metal products:									
Total cases	18.9	19.1	19.3	19.9	18.5	17.5	15.3	15.1	16.1
Lost workday cases	6.8	7.2	8.0	8.7	8.0	7.5	6.4	6.1	6.7
Lost workdays	108.8	109.0	112.4	124.2	118.4	109.9	102.5	96.5	104.9
Machinery, except electrical:									
Total cases	14.2	14.0	14.4	14.7	13.7	12.9	10.7	9.8	10.7
Lost workday cases	4.6	4.7	5.4	5.9	5.5	5.1	4.2	3.6	4.1
Lost workdays	70.6	69.9	75.1	83.6	81.3	74.9	66.0	58.1	65.8
Electric and electronic equipment:									
Total cases	8.5	8.6	8.7	8.6	8.0	7.4	6.5	6.3	6.8
Lost workday cases	2.6	3.0	3.3	3.4	3.3	3.1	2.7	2.6	2.8
Lost workdays	44.9	46.7	50.3	51.9	51.6	46.4	42.2	41.4	45.0
Transportation equipment:									
Total cases	12.4	11.8	11.5	11.6	10.6	9.8	9.2	8.4	9.3
Lost workday cases	4.7	5.0	5.1	5.5	4.9	4.6	4.0	3.6	4.2
Lost workdays	73.8	70.3	78.0	85.9	82.4	78.1	72.2	64.5	68.8
Instruments and related products:									
Total cases	7.2	7.0	6.9	7.2	6.8	6.5	5.6	5.2	5.4
Lost workday cases	2.4	2.4	2.6	2.8	2.7	2.7	2.3	2.1	2.2
Lost workdays	36.7	37.4	37.0	40.0	41.8	39.2	37.0	35.6	37.5
Miscellaneous manufacturing industries:									
Total cases	11.7	11.5	11.8	11.7	10.9	10.7	9.9	9.9	10.5
Lost workday cases	4.0	4.0	4.5	4.7	4.4	4.4	4.1	4.0	4.3
Lost workdays	59.4	58.7	66.4	67.7	67.9	66.3	69.9	66.3	70.2

See footnotes at end of table.

48. Continued— Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]								
	1976	1977	1978	1979	1980	1981	1982	1983	1984
Nondurable goods									
Food and kindred products:									
Total cases	19.3	19.5	19.4	19.9	18.7	17.8	16.7	16.5	16.7
Lost workday cases	8.0	8.5	8.9	9.5	9.0	8.6	8.0	7.9	8.1
Lost workdays	123.8	130.1	132.2	141.8	136.8	130.7	129.3	131.2	131.6
Tobacco manufacturing:									
Total cases	10.0	9.1	8.7	9.3	8.1	8.2	7.2	6.5	7.7
Lost workday cases	4.1	3.8	4.0	4.2	3.8	3.9	3.2	3.0	3.2
Lost workdays	62.5	66.7	58.6	64.8	45.8	56.8	44.6	42.8	51.7
Textile mill products:									
Total cases	10.5	10.2	10.2	9.7	9.1	8.8	7.6	7.4	8.0
Lost workday cases	2.7	2.9	3.4	3.4	3.3	3.2	2.8	2.8	3.0
Lost workdays	55.5	57.4	61.5	61.3	62.8	58.2	53.8	51.4	54.0
Apparel and other textile products:									
Total cases	6.7	6.7	6.5	6.5	6.4	6.3	6.0	6.4	6.7
Lost workday cases	1.9	2.0	2.2	2.2	2.2	2.2	2.1	2.4	2.5
Lost workdays	31.0	31.7	32.4	34.1	34.9	35.0	36.4	40.6	40.9
Paper and allied products:									
Total cases	13.7	13.6	13.5	13.5	12.7	11.6	10.6	10.0	10.4
Lost workday cases	4.7	5.0	5.7	6.0	5.8	5.4	4.9	4.5	4.7
Lost workdays	94.8	101.6	100.3	108.4	112.3	103.6	99.1	90.3	93.8
Printing and publishing:									
Total cases	6.8	6.8	7.0	7.1	6.9	6.7	6.6	6.6	6.5
Lost workday cases	2.6	2.7	2.9	3.1	3.1	3.0	2.8	2.9	2.9
Lost workdays	40.3	41.7	43.8	45.1	46.5	47.4	45.7	44.6	46.0
Chemicals and allied products:									
Total cases	8.2	8.0	7.8	7.7	6.8	6.6	5.7	5.5	5.3
Lost workday cases	3.1	3.1	3.3	3.5	3.1	3.0	2.5	2.5	2.4
Lost workdays	50.6	51.4	50.9	54.9	50.3	48.1	39.4	42.3	40.8
Petroleum and coal products:									
Total cases	7.9	8.1	7.9	7.7	7.2	6.7	5.3	5.5	5.1
Lost workday cases	3.2	3.3	3.4	3.8	3.5	2.9	2.5	2.4	2.4
Lost workdays	62.5	59.2	58.3	62.0	59.1	51.2	46.4	46.8	53.5
Rubber and miscellaneous plastics products:									
Total cases	16.8	16.8	17.1	17.1	15.5	14.6	12.7	13.0	13.6
Lost workday cases	7.1	7.6	8.1	8.2	7.4	7.2	6.0	6.2	6.4
Lost workdays	113.3	118.1	125.5	127.1	118.6	117.4	100.9	101.4	104.3
Leather and leather products:									
Total cases	11.6	11.5	11.7	11.5	11.7	11.5	9.9	10.0	10.5
Lost workday cases	4.1	4.4	4.7	4.9	5.0	5.1	4.5	4.4	4.7
Lost workdays	69.0	66.9	72.5	76.2	82.7	82.6	86.5	87.3	94.4
Transportation and public utilities									
Total cases	9.8	9.7	10.1	10.0	9.4	9.0	8.5	8.2	8.8
Lost workday cases	5.0	5.3	5.7	5.9	5.5	5.3	4.9	4.7	5.2
Lost workdays	94.0	95.9	102.3	107.0	104.5	100.6	96.7	94.9	105.1
Wholesale and retail trade									
Total cases	7.5	7.7	7.9	8.0	7.4	7.3	7.2	7.2	7.4
Lost workday cases	2.8	2.9	3.2	3.4	3.2	3.1	3.1	3.1	3.3
Lost workdays	43.2	44.0	44.9	49.0	46.7	45.3	45.5	47.8	50.5
Wholesale trade:									
Total cases	8.1	8.5	8.9	8.8	8.2	7.7	7.1	7.0	7.2
Lost workday cases	3.3	3.6	3.9	4.1	3.9	3.6	3.4	3.2	3.5
Lost workdays	51.8	52.5	57.5	59.1	58.2	54.7	52.1	50.6	55.5
Retail trade:									
Total cases	7.2	7.4	7.5	7.7	7.1	7.1	7.2	7.3	7.5
Lost workday cases	2.6	2.7	2.8	3.1	2.9	2.9	2.9	3.0	3.2
Lost workdays	39.7	40.5	39.7	44.7	44.5	41.1	42.6	46.7	48.4
Finance, insurance, and real estate									
Total cases	2.0	2.0	2.1	2.1	2.0	1.9	2.0	2.0	1.9
Lost workday cases	.7	.8	.8	.9	.8	.8	.9	.9	.9
Lost workdays	11.6	10.4	12.5	13.3	12.2	11.6	13.2	12.8	13.6
Services									
Total cases	5.3	5.5	5.5	5.5	5.2	5.0	4.9	5.1	5.2
Lost workday cases	2.0	2.2	2.4	2.5	2.3	2.3	2.3	2.4	2.5
Lost workdays	36.4	35.4	36.2	38.1	35.8	35.9	35.8	37.0	41.1

[1] Total cases include fatalities.

[2] The incidence rates represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as: (N/EH) X 200,000, where:

N = number of injuries and illnesses or lost workdays.

EH = total hours worked by all employees during calendar year.

200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year.)

[3] Excludes farms with fewer than 11 employees since 1976.

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Women's role in the family

At the extremes, . . . the economic conditions of the United States and Mexico have different effects on the employment behavior of married women. The higher cost of living in the United States compels women to seek work, even over the initial objections of their husbands. The specific conditions of that employment must, however, mesh with wives' dual role as wage-earner and housekeeper/babysitter. In contrast, the lower cost of living and lack of alternative employment in Mexico bolster husbands' traditional objections to wives' employment.

. . . the type and duration of employment experienced by married farm worker women is strongly influenced by their generally disadvantaged status, by their role in the family, and by the economic position of the family. In almost all instances, women's work careers are organized in such a way as to carry out the traditional duties of wife and mother, in addition to that of wage earner. A wife's wage may represent an integral part of the family budget, particularly in the case of families living in the United States and border areas, but the range of work opportunities and the duration of employment are limited by her subordinate status in the family. Thus, the availability of work in low skill, seasonal production allows women to carry out the dual roles of wife and wage-earner. At the same time, however, the availability of this attractive labor pool facilitates expansion of those jobs.

—Robert J. Thomas,
Citizenship, Gender, and Work:
Social Organization of Industrial Agriculture
(Berkeley, University of California Press, 1985), p. 193.

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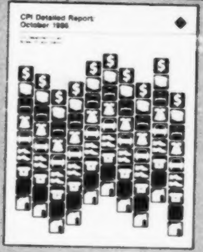

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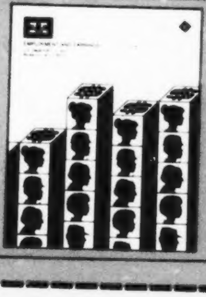

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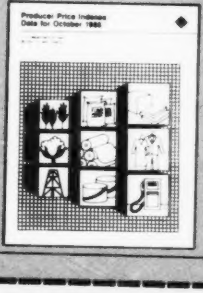

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